Lina Markauskaite, Peter Freebody
Jude Irwin
*Editors*

Methodos Series 9

# Methodological Choice and Design

## Scholarship, Policy and Practice in Social and Educational Research

Springer

# Methodological Choice and Design

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# Methodological Choice and Design

## Scholarship, Policy and Practice in Social and Educational Research

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*Editors*
Dr. Lina Markauskaite
The University of Sydney
Fac. Education & Social Work
Education Bldg. A35 Sydney, New South Wales 2006
Australia
lina.markauskaite@sydney.edu.au

Professor Peter Freebody
The University of Sydney
Fac. Education & Social Work
Education Bldg. A35 Sydney, New South Wales 2006
Australia
peter.freebody@sydney.edu.au

Associate Professor Jude Irwin
The University of Sydney
Fac. Education & Social Work
Education Bldg. A35 Sydney, New South Wales 2006
Australia
jude.irwin@sydney.edu.au

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This book emerged from methodological discussions among researchers from education, social work and social policy as part of a series of methodology colloquia under the heading 'Bridging and Blending Disciplines of Inquiry: Approaching Research and Research Approaches in Education and Social Work', held at The University of Sydney, Australia, during 2009. These researchers were concerned with the methodological challenges that faced research students and experienced researchers who aim to design projects that have the potential both to advance scholarly knowledge and to contribute to solving contemporary social problems. Successful scholars doing research projects that make a practical difference were invited to discuss the nature and consequences of their methodological and design choices. This book is one legacy of the resulting debates.

A number of people have contributed to this project along the way. First, members of the colloquia steering committee – Professor Andrew J. Martin, Associate Professor Debra Hayes, Professor Susan Groundwater-Smith and Dr Aek Phakiti – helped to start this project. Second, the Faculty's Associate Deans (Research), Professor Gabrielle Meagher and Associate Professor Janette Bobis, the then Dean, Professor Robyn Ewing, and the Research Division supported and sponsored the series of colloquia. Our special thanks go to the Research Manager Patrick Brownlee whose contributions to shaping this project, to assisting with the colloquium series, and to preparing this book were invaluable. Kick-starting the program were Dr John Ainley from The Australian Council of Educational Research and Professor Raewyn Connell from the University of Sydney, and concluding the series with as forward-looking a presentation was Professor Robert Tierney, former Dean of the Faculty of Education at the University of British Columbia, and now Dean at The University of Sydney. Several visiting scholars joined to the series along the way: Professors Ardra Cole and Gary Knowles from the University of Toronto and Professor Herb Marsh from the University of Oxford gave presentations and our colleagues Dr Ray Debus, Professor Robyn Ewing, and Professor Phillip Jones responded to these presentations. While only some of these contributions became part of this volume, they left significant traces in this book. We thank the

audiences who attended the colloquia and who helped make the sessions lively and productive.

Finally, we thank Sonia Bartoluzzi for the competence and diligence she has shown in helping prepare the manuscript.

Lina Markauskaite, Peter Freebody, and Jude Irwin

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# Contributors

**Tim Allender** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, tim.allender@sydney.edu.au

**Michael Anderson** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, michael.anderson@sydney.edu.au

**Nigel Bagnall** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, nigel.bagnall@sydney.edu.au

**Patrick Brownlee** Research Division, Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, patrick.brownlee@sydney.edu.au

**Ardra L. Cole** Department of Adult Education and Counselling Psychology, Ontario Institute for Studies in Education, University of Toronto, Toronto, ON, Canada, acole@oise.utoronto.ca

**Susan Colmar** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, susan.colmar@sydney.edu.au

**Amanda Elliot** Department of Sociology and Social Policy, Faculty of Arts, University of Sydney, NSW, Australia, amanda.elliot@sydney.edu.au

**Robyn Ewing** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, robyn.ewing@sydney.edu.au

**Barbara Fawcett** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, barbara.fawcett@sydney.edu.au

**Peter Freebody** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, peter.freebody@sydney.edu.au

**Jill Freiberg** School of Education and Professional Studies, Faculty of Education, Griffith University, Mt Gravatt, QLD, Australia, j.freiberg@griffith.edu.au

**Paul Ginns** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, paul.ginns@sydney.edu.au

**Susan Goodwin** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, susan.goodwin@sydney.edu.au

**Peter Goodyear** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, peter.goodyear@sydney.edu.au

**Jasmine Green** Kambala School, Rose Bay, NSW, Australia, jasmine_green@kambala.nsw.edu.au

**Susan Groundwater-Smith** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, susangs@iinet.net.au

**Debra Hayes** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, deb.hayes@sydney.edu.au

**Jude Irwin** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, jude.irwin@sydney.edu.au

**Ken Johnston** Honorary Associate, Faculty of Education and Social Work, University of Sydney, Sydney, NSW, Australia, kmjohnston@westnet.com.au

**J. Gary Knowles** Department of Adult Education and Counselling Psychology, Ontario Institute for Studies in Education, University of Toronto, Toronto, ON, Canada, jgaryknowles@oise.utoronto.ca

**Gregory A. D. Liem** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, gregory.liem@sydney.edu.au

**Lina Markauskaite** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, lina.markauskaite@sydney.edu.au

**Herbert W. Marsh** Department of Education, University of Oxford, Oxford, UK, herb.marsh@education.ox.ac.uk

**Andrew J. Martin** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, andrew.martin@sydney.edu.au

**Ruth Phillips** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, ruth.phillips@sydney.edu.au

**Peter Reimann** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, peter.reimann@sydney.edu

**Richard Walker** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, richard.walker@sydney.edu.au

**Anthony Welch** Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia, antony.welch@sydney.edu.au

# Part I
# Introduction and Foundations

# Chapter 1
# Bridging and Blending Disciplines of Inquiry: Doing Science and Changing Practice and Policy

**Lina Markauskaite, Peter Freebody, and Jude Irwin**

> *. . . many researchers have not been sufficiently diligent in carrying out research that is relevant for practitioners and policy makers who, in turn, have not always been sufficiently discerning in distinguishing bad research and unreliable findings from high-quality research. These problems have to be confronted in more imaginative ways if social science researchers, practitioners and policy makers are to serve the public more effectively.*
>
> (Van Langenhove, 2001, p. 17)

The complexity of social issues and the speed of social developments have increased almost exponentially over the last 50 years. Policy makers and practitioners have often turned to academia for insights into emerging social phenomena and social change. Academic researchers, alleged some time ago by Snow (1961) to be 'natural' and 'practical Luddites', are continuously challenged by society's changing needs and priorities. The shift of public attention from traditional discipline-based 'Mode 1' knowledge to more contextualised, problem-focussed and interdisciplinary 'Mode-2' knowledge (Gibbons et al., 1994; Nowotny, Scott, & Gibbons, 2003) and, recently, to more democratic, practice-based 'Mode-3' knowledge (Groundwater-Smith & Mockler, 2009; *see also* Chapter 5 by Groundwater-Smith & Irwin, this volume) requires us to reconsider critically the essence of inquiry practices and research designs. In particular, researchers in education, social work and social policy face unique challenges: they are constantly 'on call' to respond to society's demand to design and conduct research that can simultaneously contribute substantially to knowledge and inform policy and practice (e.g., DETYA, 2000; Kenway, 2003; Soydan, 2008). The features of 'good research' – for our purposes research that has the potential to meet these expectations – have been the topic of many academic and policy debates (cf. Auriat, 1998; Biesta, 2007; Burkhardt & Schoenfeld, 2003; Hess, 2008; Hostetler, 2005; McDonald, Keesler, Kauffman, & Schneider, 2006; OECD, 2007; Slavin, 2002, 2008; Soydan, 2008;

L. Markauskaite (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: lina.markauskaite@sydney.edu.au

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Weiss, 1979; Yates, 2004). These debates become more complex in the face of rapid social and economic changes and in light of the capacity of new digital technologies to transform radically our concepts of scholarship and research (Greenhow, Robelia, & Hughes, 2009; Markauskaite, accepted; Smeyers & Depaepe, 2007). The links across disciplines and among scholarship, policy and practice have been at the core of many of these discussions.

Recent policy calls for 'data-driven' and 'evidence-based, -informed and -aware' decision making have shifted research attention to randomised controlled trials, long-term, large-scale scientific research, and other 'scientifically-based' methods for identifying 'what works' in practice and producing evidence for policy-making (Slavin, 2002, 2008; Soydan, 2008). As Slavin (2002) famously stated,

> The use of randomized experiments that transformed medicine, agriculture, and technology in the 20th century is now beginning to affect educational policy. (p. 15)

While some researchers have been quick to adopt such forms of research, others have expressed caution or scepticism about the appropriateness and longer term educational and social potential of (apparently) narrowly defined and exclusively applied approaches to inquiry that are borrowed from natural and 'hard' sciences. As Gardner (2002) stated:

> Education differs from medicine in crucial respects that need to be understood. Education is laden with human values. While almost no one disputed the medical goals of longer and healthier lives, citizens in a democracy differ deeply about the kind of education we value. (Gardner, 2002, A35, quoted in Hess, 2008, p. 8)

Some researchers in social work and education have increasingly turned to disciplines and paradigms at rather different points on the disciplinary universe – applied linguistics, economics, information systems and so on – to inform inquiries. Some researchers have even argued for the significance of the arts and humanities, pointing out that storytelling, poetry, pictures, theatre and other creative forms of knowledge and knowing provide new opportunities for learning about human experiences, social and educational worlds (Cole & Knowles, 2008; Eisner, 1997; *see also* Chapter 11 by Cole & Knowles, this volume and Chapter 12 by Ewing, this volume). What constitutes evidence has become increasingly contested. The question of how methodological decisions privilege certain kinds of knowledge over others has become a focus of methodological and political debates. This variety of disciplinary approaches and social discourses presents significant challenges to the methodological choices that researchers must make.

Education and social work are often regarded as fields of study rather than disciplines in their own right (Shulman, 1981); and research informing education, social work and social policy has historically drawn on approaches from many, often apparently incommensurable, disciplines of inquiry. Given the nature of the practical, ill-structured, real-world problems that educators and social workers face, many ontologically and epistemically coherent methodological traditions are seen to impose unacceptable limitations and are unable to offer practical, scalable or sustainable answers (Gibbons, 2003; Heap, 2002; OECD, 2001; Shulman, 1981; Snow, 1961; Whitty, 2006). The divisions across disciplines and methodological

incongruence across social sciences have been increasingly recognised as obstacles to the practical and policy impact of social research. As Van Langenhove (2001) noted:

> in addition to disciplinary boundaries, reflected in institutional rigidity, methodological dimensions lead to a lack of unity in studies of Mankind and Society. (p. 16)

It has been increasingly argued that cutting-edge scientific discoveries in medicine, earth sciences and other natural-science domains have emerged at the edges of disciplinary domains from the synthesis of theories, experiments, computational procedures, data management and exploration (Hey, Tansley, & Tolle, 2009). Collaboration across disciplines aiming to solve practical challenges, and juxtaposition of inquiry methods from different disciplines, have come to be seen not only as a 'good thing', but also as a key feature of innovative and practicable knowledge production. Similarly, in contemporary social research, the increasing complexity of applied research questions and contexts and end-users' heightened expectations concerning the role of academic research in practice and policy formation have led some commentators to advocate interdisciplinary use-inspired and problem-oriented research (Lagemann, 2002; OECD, 2001). However, as Van Langenhove (2001) insightfully noted, interdisciplinary problem-oriented initiatives face an issue of the 'optimal combination' of contributions from different disciplines to a problem area. The division of labour among disciplines contributing to different elements of a research program might not necessarily allow cumulative analytic, interpretive, or practical benefits that bear on the problem.

Overcoming mono-disciplinary organisation, the rigidities of social disciplines and the boundaries between physical and social disciplines have all been seen as critical to the effectiveness of problem-oriented social research for many decades (Gibbons, 2003; Gibbons et al., 1994; Snow, 1961). Indeed, recent advances in the learning sciences and education exemplify the emergence of new and useful knowledge on the boundaries of disciplinary and methodological perspectives, such as neuroscience, cognitive science, educational technology, social studies and management science (Bransford, Brown, & Cocking, 1999; Sawyer, 2006). Similarly, innovations in community services and social policy have emerged from the integration of various disciplines and theoretical perspectives and collaborative efforts of inter-professional teams (Engeström, 2001).

Collaborations between researchers, practitioners and service users in inquiries that combine investigation with action have become increasingly common in innovation and change-oriented projects in education and social work (e.g., Argyris & Schon, 1996; Cochran-Smith & Lytle, 1999; Munn, 2008). While the practical benefits of researchers', users' and other stakeholders' involvement in these collaborations are well acknowledged, they also present particular social, professional, institutional and epistemological challenges, some of which are realised in contests over research methodology and design. The question of how social and educational research could be instrumental in changing society and still maintain its analytical rigour and quality is one of the key considerations in making methodological choices.

Discussions about the commensurability and integration of different research methodologies and the nexus between research-policy and research-practice are not new. Since the pragmatic turn in social research, a number of books have been published reflecting on and advocating a variety of mixed research designs and complementary methods (cf. Creswell & Clark, 2007; Gorard & Taylor, 2004; Green, Camilli, Elmore, Skukauskaite, & Grace, 2006; Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 1998). Much of this work has primarily focussed on how different epistemological premises and different elements of research designs can be productively fused. Chapters in this book extend these contributions in new directions and discuss when and how contemporary research designs can overcome existing divisions between scholarship, policy and practice. In essence, while being conscious about ontological and epistemological origins, the chapters go beyond traditional methodological debates and focus on how the axiological premises of those involved in scholarship and action could be integrated into sophisticated problem-oriented research designs that integrate the values and discourses of science, practice and policy.

## 1.1 Audience

This book is designed to be a contemporary *vade mecum* for researchers, practitioners and graduate students on research methodologies and designs for education and social change in today's world. In particular, the book would have its audience appreciate the significance of how choices in methodology, method and analysis are deeply related to the particular kind of policy and activity fields that the research aims to influence. These choices must not only be considered in the light of available research traditions (which often operate independently of one another, or make decisive, sometimes exclusive, claims to validity, reliability, or credibility); rather, they must also take into account the contributions that different choices might make to their target policy and activity fields: how certain kinds of research construct their phenomena of interest in ways that present particular opportunities and limitations to practitioners and policy-makers. As Feuer, Towne, and Shavelson (2002) have argued,

> No method is good, bad, scientific, or unscientific in itself. Rather, it is an appropriate application of method to a particular problem that enables judgements about scientific quality. (p. 8)

The general aim is to help readers become more critical in their understanding of the relationship between research, knowledge production, professional practice and policy formation, and to assist them to choose research approaches for research projects in ways more informed by the intended audience and field of activity.

## 1.2 Structure of the Book

The book is structured around four major themes. Part One reviews historical contexts and intellectual beginnings, and introduces issues and contemporary debates

around methodologies in research that inform education, social work and social policy. Ten contributions in Part Two describe, advocate and critique five relatively new research approaches that have an explicit commitment to educational and social innovation, change and practical action: design-based research, action research, ethnomethodology, negotiated ethnography and arts-informed research.

In contrast, eight contributions in Part Three present four relatively established research approaches: historical analysis, policy research, comparative analysis and quantitative research. The chapters show how these methodologies have been reconsidered, advanced and adapted to new practical and political contexts and challenges over the last decades.

Part Four discusses methodological challenges, frontiers and future directions in research for education, social work and social policy. The contributions in this part examine emerging opportunities to embrace digital technologies and networks in social inquiry; they also reflect on the present questions and future directions for methodological innovation in education and social work research.

This methodological anthology aims to provide readers with knowledge and understanding for well informed methodological innovation and practical design. It does not aim to be a recipe book of research methods – there is a bewildering array of these already available. For this reason the presentation of each methodological approach is structured as a dialogue between two scholars or groups of scholars representing complementary, but different, perspectives and/or interpretations; each written as a separate chapter. A lead chapter typically offers a presentation of the approach and covers five aspects: (a) problem space, genesis and intellectual roots; (b) methodological apparatus; (c) practical examples; (d) major issues and debates and (e) perspectives and future extensions. A response chapter provides methodological extensions and comparative insights into the epistemic and practical complexities of, and challenges to, this approach. These small dialogues aim to elucidate the possibilities for enriching and extending established and contemporary inquiry practices with the epistemological frameworks, propositions about design and method, and techniques from other approaches. They also explicate and illustrate the relationships between, on the one hand, methodology and design, and, on the other, knowledge, practice and policy aimed at significant educational and social change.

This volume is not only multi-disciplinary in a conventional disciplinary sense (Shulman, 1981), it also crosses the boundaries of two related yet often separate fields of practical action and social change: education and social work. We believe the collaboration between them is critical for the improvement of human wellbeing through more powerfully integrated research, practice and policy.

## 1.3 Chapter Overviews

In Chapter 2, our editorial team – Peter Freebody, Lina Markauskaite and Jude Irwin – continues to set the scene for this volume by returning to the fundamental question of epistemology. Drawing on Heap's (2002) distinction between 'research-as-science' and 'research-as-project' we discuss some fundamental features of

different configurations of the 'epistemology of science in practice'. The core argument that we put forward is that choices in research methodology both reflect and reinforce anew scientific and project choices. We pursue some considerations about the nature of a discipline and a paradigm, and the types of science we find when we address the study of human behaviour. When we turn to consider 'research-as-project', we discuss the conduct of conventional within-paradigm research activity, cross-border research activity and the collaboration of researchers with research participants. We conclude by showing that choices of methodology and design shape the emerging knowledge, shape the relationships between the researchers, the participants, the knowledge and the users of that knowledge.

In Chapter 3, Peter Reimann introduces design-based research and discusses the progress that has been made in articulating the methodological and epistemological basis of this approach over the last 20 years. Design-based research, with the design experiment as its main practical method, is an inter-disciplinary 'mixed-method' research approach conducted 'in the field' that serves applied as well as theory-building purposes. Reimann delineates its key features and provides an overview, with examples, of how prototypical design studies are conducted. After demonstrating its practical benefits, he goes on to discuss the argumentative grammar of the method, difficulties articulating and communicating design solutions, and other methodological challenges that remain to be solved before design-based research can make a greater impact on policy and practice.

In Chapter 4, Richard Walker extends Reimann's discussion about the developments of design-based research by briefly returning to Ann Brown's (1992) seminal work on design-based research. While Walker agrees that design experiments have the potential to make educational theory and research relevant to classroom practice, and vice versa, he also draws attention to some critical issues that have been little discussed in the design-based research literature since this seminal publication. These include: a lack of attention to epistemological questions; some insularity of the design-based research literature from other congenerous research traditions; and the turn to engineering for guidance.

In Chapter 5, Susan Groundwater-Smith and Jude Irwin discuss action research as it is practised and understood in two different fields: education and social work. The authors argue that the major purpose of action research is the development and improvement of practice. The participative and democratic nature of action research ensures it is inclusive of practitioners, service users and consequential stakeholders. The authors delve into the nature of knowledge produced in action research by contrasting the use of evidence forensically (to inform the understanding of particular phenomena) with its use adversarially (to prove that one treatment is better than another). They claim that, while formal knowledge may be seen at one end of the continuum, action research is primarily concerned with practical knowledge underwriting the moral disposition to act wisely.

In Chapter 6, Robyn Ewing extends the discussion about the nature of knowledge produced in action research by returning to the epistemological assumptions underpinning this research tradition. Ewing argues that action research is more than 'an orientation to inquiry with an obligation to action' and should be regarded

as a conceptually coherent methodological approach. She then examines critically the links between action research and action learning. Ewing argues that action research allows practitioners to come to a deeper understanding of their practice; and that often the distinction between action research and action learning becomes blurred.

In Chapter 7, Peter Freebody and Jill Freiberg introduce ethnomethodology and conversation analysis – a branch of sociology interested in the detailed study of the ways in which individuals negotiate and make orderly sense of their communities and cultures in and from their everyday experiences. After outlining its origins and major analytic elements, the authors proceed to outline applications of ethnomethodological approaches in education, specifically focussing on the analysis of interactions and conversations that occur in daily classroom practices. Using ethnomethodological conceptual frameworks and concepts, they show how detailed analyses of rational properties, scenic features and classroom interactions can uncover new truths about classroom practices and anomalies. Freebody and Freiberg conclude with a summary of opportunities that ethnomethodology offers for social science researchers and the challenges it faces in communicating and extending these opportunities to practitioners and policy makers.

In Chapter 8, Michael Anderson extends the discussion on ethnomethodological research by tracing its brief history in drama education and speculating on its potential in experiential settings. He re-contextualises ethnomethodology to highlight some of the potential challenges and benefits this research approach brings to the investigation of embodied and inherently complex drama classrooms. Anderson concludes by suggesting that the ethnomethodological approach, applied alongside more traditional drama-education research techniques, could provide a more complete picture about learning in experiential classrooms than is provided by these techniques when used separately.

In Chapter 9, Debra Hayes discusses the distinctive features of negotiated ethnographic research, specifically illustrating how this approach has been applied to describing pedagogical and leadership practices in schools serving disadvantaged communities. Critical ethnographers work collaboratively with school leaders, teachers, principals and other research participants aiming to collect and interpret data collaboratively and help participants to improve their institutional practices. But the researchers do not necessarily suggest or implement particular solutions, preferring to focus on uncovering the patterns and effects of their social and educational practices. Hayes concludes by discussing the complex ethical implications of this approach. She argues that uncovering how things function in these ways can lead to important findings, and that researchers are under an additional ethical obligation to ensure that their outputs are really useful for participants.

In Chapter 10, Ken Johnston extends this introduction to critical ethnography by bringing to light some of the complexities that arise when ethnographers work on the boundary of research and professional development. He looks into the tensions that arise in the course of research, and the institutional resistances that may exist within difficult school settings. Johnston further explores some existing theoretical frameworks adopted in the research of organisational change and suggests that some

methodological reformulations of a negotiated ethnographic approach might help overcome some of these difficulties.

In Chapter 11, Ardra Cole and Gary Knowles explore the possibilities of arts-informed research in education and social change. They start by providing a sense of the beginnings of arts-informed research as arising from a dissatisfaction with conventional means of conveying social science scholarship to audiences beyond academia and a desire to honour emotive and embodied dimensions of the human condition. Cole and Knowles unpack key characteristics of research that follows this inquiry tradition, including the commitment of arts-informed research to a particular art form, a creative inquiry process, and representational forms that have the potential for substantial audience engagement and transformation. They illustrate these features by providing examples of their work. Cole and Knowles conclude their chapter by arguing that arts-informed research makes research findings accessible for the general public and practitioners; it becomes especially important when the topics of the research are vital questions of the human condition.

In Chapter 12, Robyn Ewing takes Cole and Knowles's discussion further by introducing debates about the rigour, authenticity and appropriateness of arts-informed research and demonstrates the relevance of this approach in data collection, analysis and representation when investigating professional issues, dilemmas and questions. Ewing particularly focusses on artistic forms of narrative inquiry. By providing a number of examples from recent teacher-education research projects, Ewing illustrates how some of the liminal issues in professional education can be explored through arts-informed inquiry.

In Chapter 13, Tim Allender demonstrates how research that draws on historical analysis permits new ways of looking at old problems and contributes to social change. He begins with a historical overview of the discipline from a broader perspective and then focusses on historical research of postcolonial scholarship and India – a field that, according to Allender, has recently witnessed much innovation. Allender provides a detailed analysis of approaches that have emerged in framing the interaction of European and 'colonial' and shows how histories that emphasise the 'local' are being written in the new 'global' context. He concludes by reflecting on the opportunities and challenges that emerge at the intersections of history and other disciplinary fields and theoretical approaches.

In Chapter 14, Ruth Phillips extends this discussion on postcolonial scholarship and multi-disciplinary approaches by providing an extended exploration of how postcolonial theory is applied in social justice research. Although using similar principles and drawing on some of the same key postcolonial thinkers as the postcolonial project in historical analysis, social justice research applications are part of a different project derived from a different canon of postcolonial scholars. Phillips demonstrates how postcolonial theory is used in social justice research by discussing some key scholars that have influenced policy analysis in the domains of international social policy, gender and poverty.

In Chapter 15, Susan Goodwin starts her discussion of recent developments in policy analysis by arguing that this research domain has become one of the 'established knowledge industries' of recent years. She initially provides an account of the

ways in which policy has come to be understood as discourse and then focusses on one specific approach for analysing 'policy as discourse'. Goodwin shows how this approach provides a systematic framework for exploring the discursive aspects of policy and, through a set of questions, enables researchers to unpack new meanings. She then illustrates how such analysis becomes an important avenue by which scholars could contribute to the political processes of democratic polities by showing how an alternative 'way of seeing' social problems has emerged from the analysis of policy reforms concerning the governance of Aboriginal people living in the Northern Territory, Australia.

In Chapter 16, Amanda Elliot further extends the discussion about the increasing significance of policy analysis by arguing that transformations in one policy field do not usually happen in a vacuum. They are often connected, in ways that are sometimes not obvious, with what is happening in other policy fields and with broader social transformations. Elliot builds on the 'policy as discourse' approach described by Goodwin and, using an example of health care financing, shows how this policy analysis framework could be useful in enabling researchers to map meaningful transformations between policy fields, as well as transformations in relations between states, markets and citizens.

In Chapter 17, Anthony Welch provides a comprehensive introduction to comparative research. He critically discusses what it means to think comparatively and how such comparisons can contribute to educational and social change. Welch goes back to the mid nineteenth century to show how early scholars of comparative religion, anatomy, sociology and politics grappled with the methodological challenge of systematic comparative science. Then he gradually unpacks how, over time, comparative research has been shaped by diverse methodological currents, ranging from positivism to postcolonialism and globalisation. Despite significant methodological advances and the extensive role of international comparative studies in educational policy debates, the ongoing challenge for comparative research remains – how to articulate the rationale and appropriate framework that allow meaningful comparisons.

In Chapter 18, Nigel Bagnall discusses the challenge of comparative research from an individual researcher's perspective, dwelling on questions of culture and identity in making comparisons across countries and cultural groups. Comparative researchers are often challenged to make comparisons outside the comfort of their own culture. Bagnall argues that assumptions based on perceived cultural differences can bring a study unstuck. He discusses a number of key points that comparative scholars should consider when undertaking research in other countries and argues that comparative researchers need to develop intercultural sensitivity and critical cultural reflection of their work.

In Chapter 19, Andrew Martin and his colleagues describe the role of quantitative research approaches in exploring contemporary educational issues and testing theories. They introduce correlational research through a construct validity lens and describe developments in methodology that underpin modern measurement and correlational modelling. The authors discuss techniques that are geared to analyse correlational data more effectively and introduce readers to longitudinal approaches,

mediation models and multilevel modelling. They illustrate the value of these techniques by providing examples from several large-scale educational studies. The authors conclude by describing some issues that correlational research typically faces in investigating situated and socio-cultural aspects of phenomena and discuss some methodological extensions.

In Chapter 20, Paul Ginns extends the discussion about quantitative methodologies by examining the role of experimental research, which, as a result of many governments' calls for scientifically based evidence for policy and practice, is now enjoying a renaissance in educational and social work research. Ginns provides an overview of the principles that underpin experimental inference and design and explains how experiments could contribute to the understanding of causal relations in real world settings. He discusses the issue of validity and other challenges in experimental research; then, using an example from research on students' motivation, he illustrates the possibilities of hybrid experimental and correlational designs that may allow us to explore more complex social phenomena.

In Chapter 21, Lina Markauskaite turns to the emerging applications of information and communication technologies in social research. She argues that significant methodological progress could be made by harnessing the increasing volume and density of digital data and by exploiting opportunities for technology-enhanced research collaboration in educational, social work and social policy research. Markauskaite introduces key notions relating to digital knowledge and eResearch and explores the roles of digital technologies in the methodological apparatus of social research. She illustrates the practical value and potential of eResearch by providing examples of educational data mining, video analysis and research dissemination. After a discussion of challenges for eResearch uptake, Markauskaite suggests that, as a first step, researchers should try to embrace data-driven research approaches and new models of research dissemination.

In Chapter 22, Peter Goodyear looks to the future of educational research by examining two noticeable changes in education: a shift towards learning that is more extensively distributed across different contexts, and the increasing importance of design in recent conceptions of teaching. He argues that the combination of these shifts is creating new demands for research-based knowledge. Drawing parallels between knowledge work in architecture and education, Goodyear argues that design work combines different kinds of knowledge and ways of knowing. He challenges some assumptions about epistemology and methodology in educational research and offers five speculations about the kinds of knowledge that will be needed for designing future learning environments. He concludes by outlining some ideas about the shifting distribution of the production and consumption of educational research knowledge, within networks of people and new digital tools.

In Chapter 23, Barbara Fawcett, Susan Goodwin and Ruth Phillips explore contemporary methodological challenges for social work and social policy research that relate to the increasing demand for research knowledge that contributes to social change. They discuss a tension between the increasing pressure for knowledge that is situated and sensitive to historical, social, political and cultural contexts, and governments' ongoing demands for 'scientific data', rational and logically

sustainable knowledge. The authors initially scrutinise the relationship between research and social change and the notion of 'evidence' for policy and practice. Then they examine two approaches that are often regarded as the opposing ends of the methodological spectrum: deconstructive discourse analysis and quantitative forms of analysis. Using examples from feminist research, the authors gradually unmask some dubious claims about the incompatibility of two approaches and conclude that combinations of different kinds of evidence and different interpretations can result in the production of more dynamic research for social change.

In Chapter 24, Patrick Brownlee and Jude Irwin close this volume by contextualising the preceding conversations about methodological choice and epistemology within the constraints and pressures researchers face as knowledge workers rather than as scholars. These constraints can and do affect methodological choice and therefore methodological provenance and evolution. Fittingly, the chapter borrows the metaphor of the 'knowledge frontier' to both locate researchers in social work and education at a crossroads between servicing stakeholders and the academy, and to present the research exercise as an eternal frontier, which by definition is unknown, complex and therefore open to investigation. To illustrate, a case study is presented inviting the reader to consider the social scientific approaches available, under what circumstances one approach might be brought to bear over another, and the range of information or data that might be collected and for whom, questioning the relationship between social complexity as a contemporary phenomenological condition for social science research, knowledge production and transdisciplinarity.

In summary, this book is grounded in the view that research methodologies, designs and analytical techniques do not float free and remain unchanged in changing political and social settings. In the fields of education, social work and social policy, a traditional, technical, exclusionary view of research expertise has little value and relevance in times of rapid social change. In these fields the ability to adapt research approaches and designs to particular issues has become an essential part of methodological expertise. Shulman (1981), advocating the 'disciplined eclectic' of methods in educational research, cited Aristotle:

> It might be supposed that that there was some single method of inquiry applicable to all objects whose essential nature we are endeavouring to ascertain. . . in this case what we should seek for would be this unique method. But if there is no single and general method for solving the question of essence, our task becomes still more difficult; in the case of each different subject we shall have to determine the appropriate process of investigation. (Ethics, 1:1) (Aristotle, 1947, pp. 145–6, Cited in Shulman, 1981, p. 8)

This book is a response to this call, two and a half millennia on.

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# Chapter 2
# Knowledge and Epistemology in Scholarship, Practice and Policy: Research-as-Science and Research-as-Project

**Peter Freebody, Lina Markauskaite, and Jude Irwin**

> *The most remarkable discovery made by scientists is science itself.*
>
> (Gerard Piel, former editor of Scientific American, quoted in Bronowski, 1978)

## 2.1 Introduction

Rediscovering the science of research in such quintessentially 'applied' domains as education and social work is an ongoing project. Researchers use, adapt, and extend the research procedures of the social and behavioural sciences to raise and answer questions of significance to their fellow researchers; but educators and social workers also face challenges that are so insistent and urgent that providing reliable evidence and actionable knowledge has broader social meaning. Many researchers in education and social work had their professional beginnings in practice and policy settings, so they know how consequential timely, usable research-informed knowledge can be, regardless of how clearly they can nominate the frameworks that might provide such knowledge.

One aid to understanding the research setting in education and social work is Heap's (1992) distinction between '*research-as-science'*, as disciplined inquiry, and '*research-as-project'*, as a practical activity in the world. *As science*, Heap argued, research is conducted under the guidance of a known and coherent theoretical framework, itself organically related to a publicly available paradigm, always contested but nonetheless with a known and shared provenance. Thus, choices of research design and methods do not float free of the theoretical framework in which they operate. This framework names and defines the phenomena under scrutiny, both contextualising them and cutting them out of their context as observable phenomena; it sets the procedures and criteria for generating those data that count as valid

P. Freebody (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: peter.freebody@sydney.edu.au

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evidence, delineates the range of things that can and cannot be concluded about those phenomena in light of those procedures, and generally provides the criteria for the difference between a new idea and an advance in understanding. It is beyond the interests of this disciplined activity, as science, to take notice, let alone some systematic account, of what researchers using other frameworks might have to say about their 'take' on the phenomena.

But teams of researchers in education and social work undertake research projects that are, at least in part, aimed at influencing practice and policy for the better. Practitioners and policy makers are informed by research even though they are, for the most part, and understandably, often neither steeped in the theoretical debates that have shaped their field nor trained in its conventional research methods. To influence this readership, Heap argued, research needs to be construed as a practical, collaborative project. In that regard the aim is to maximise the project's potential impact by offering an array of 'takes' on the problem at hand, of ideas surrounding it, and of methods used to describe and explain it. This in turn can expand the sense of the research's significance, and give more reach to its recommendations. Conducting a practical project does not take the pressure off researchers to continue developing rigorous, theoretically driven programs, but it does call on them to think strategically about potential alliances across specialist interests and across conceptual frameworks, and, perhaps, to form groups that can effectively use mixed models and mixed methods. Heap's caution here, however, is straightforward: such multiform projects cannot discover anything scientifically new about the phenomena at hand simply out of their multiplicity. They can, however, discover new readerships, and, thereby, new kinds of application, which can, in turn, generate new problems for scientific inquiry. They may help researchers re-discover 'science' as simultaneously practical, intellectual, social and ideological, and as itself an evolving object of scrutiny. Amid this growing diversity of specialist interests and epistemological orientations, research designs and analyses need to retain their integrity, robustness and trustworthiness.

This productive tension between understandings of research as 'science' and as 'project' is a key issue explicitly dealt with in the contributions to this volume, as they apply it to a range of research methodologies. In this chapter we aim to develop a 'conceptual backdrop' for the chapters that follow. How can we informatively categorise the forms of research that currently seek to build knowledge and inform education and social work? What vocabulary do we have that enables us to describe the different kinds of knowledge built and made available by different kinds of research?

We start our discussion by outlining some conceptual distinctions between research *of* practice and policy, and research *for* practice and policy. We use general headings provided by Heap's (1992) distinction between research-as-science and research-as-project to pin down some initial differences. In considering research-as-science, we point to the need for science to maintain the capacity for self-regeneration and adaptation, mechanisms and dispositions for change, within a general commitment to rigour. In viewing research-as-project, we initially consider the implications of research as a practical social activity for researchers working

fully within their paradigm's standard theories and methods. We then move on to map out the issues that arise when teams engage in research drawing on multiple research perspectives. We round this section out with a discussion of issues arising when research teams collaborate with participants in the field.

Finally, we step back to fundamental questions concerning the nature of knowledge and we discuss some related aspects and categorisations that are so often salient, but typically silent, in decisions about research designs. After outlining this conceptual backdrop, we conclude this chapter with a call for researchers in education and social work to have a well developed self-consciousness on matters of knowledge, methodology and method, and on how these choices establish both opportunities and limitations for research to inform not only knowledge development, but also practice and policy.

## 2.2 Research-as-Science

### *2.2.1 Education and Social Work as a Discipline and a Field of Study*

Matters of disciplinary commitment in the social sciences are often experienced as matters of methodology. Methodologies, methods and analytic techniques that are commonplace in one of the many human sciences that have informed education and social work – anthropology, economics, history, linguistics, philosophy, psychology, sociology, and the rest – may well be dismissed as inapplicable, insufficiently rigorous, or even downright unscientific from the vantage point of others. But each discipline also has a history throughout which it has gathered and grown topics under its purview. These topics have often been constituted over time in terms of the metiers of the discipline's preferred theories and methods. So disciplines entail dispositions about: (a) what counts as evidence in this discipline; (b) how it is, in this discipline, that an inquirer can move from experience of a phenomenon to a set of beliefs or preferred speculations, and from there on to knowledge; and (c) what it is, intellectually and socially, that a newcomer must accomplish through displaying appropriate 'acquisition and mastery' – preferred epistemological processes – in the formal educational or professional settings that relate to this discipline.

In terms of their growth as areas of professional practice and as areas for research, education and social work have long 'enjoyed' an ambivalent status as domains of knowledge. There seem to be at least three lines of thought in the history of this question. First, the terms 'education' and 'social work' are taken to refer to loose groups of topics (e.g., 'learning', 'curriculum', 'care', wellbeing', 'welfare') with no formal connection to any individual or cluster of disciplinary bases. So both domains of practice and fields of research, being methodologically agnostic, could be productively informed by research conducted from within any disciplinary tradition that can make a fist of describing the state of current practice and delineating the potential for improvement.

Secondly, the terms ‘education’ and ‘social work’ have been taken to refer to a finite cluster of social sciences – for example, history, philosophy, psychology and sociology – under each of which is collected a set of topics informed by known conceptual and methodological traditions. So our knowledge of topics (such as the ‘teaching of reading’) would be connected to methodological preferences (such as experiments, quasi-experiments and case studies) via disciplines (in this case, psychology). Cross-border incursions – such as linguists’ and anthropologists’ trans-disciplinary raids on literacy education which began in earnest in the late 1980s – are usually resisted, often rejected, and therefore rare.

Finally, ‘education’ and ‘social work’ have been characterised as disciplines in their own right, their core inquiry being forms of praxis in particular kinds of institutional settings, and their attendant methodological preferences reflecting both the multiplicity of means for ordering and interpreting data relevant to the wide range of phenomena appropriate to their interests and the consequentiality of decisions made on the basis of research.

What remains contested – almost no matter which of these three takes is favoured – is the ownership of certain phenomena within the practical fields of education and social work. Sometimes a phenomenon has become tied to the particular discipline that identified it as a focus of rigorous inquiry in the first place – that gave it shape and located it with a set of theoretical neighbours. (These neighbours themselves having developed via the application of a certain set of conceptual and methodological procedures that can now in turn be applied to the newcomer.)

A view of research that derives from this notion of a discipline provides a number of benefits; it allows the researcher to prioritise conceptual choices and make methodological decisions about such aspects as: (a) the balance of deduction and induction; (b) appropriate criteria for establishing or refuting evidence; (c) the use of previous findings, theoretical axioms, models, and conclusions; (d) the balance of relativism, scepticism and positivism; and (e) the specific roles of logical, sensory, and intuitive knowledge (Haack, 1993; Toulmin, 2003). Nevertheless, this clean notion of ‘science’ also involves some ambivalence that calls for care.

### *2.2.2 The Dialectic and ‘Dual Mandate’ of Science*

As Anderson and Valente (2002) have emphasised, a discipline is a reflection of the productive tension between constraints on knowledge development, on the one hand, and the intellectual agency that each knowledge domain offers, on the other:

> the term ‘discipline’ captures the sense of a dual mandate, carrying a sense of practical regimen into an economy of conceptual enterprise. (p. 4)

an observation that recalls debates going back at least to European Renaissance philosophers, who framed it in terms such as Scholasticism versus Humanism (Ong,

1958). Recently, Desrosieres (1998) framed this tension in terms of the dialectic of method and its relation to the research-practice-policy nexus:

> The student, research worker, or statistical data-user receives compact concepts, encapsulated into concise and economical formulas – even though these tools are the result of a historical gestation punctuated by hesitations, retranslations, and conflicting interpretations. (p. 2)

Compact concepts, actionable stipulations of what is acceptable-for-our-current-practical-purposes, are vital to the conduct of debate and refinement. Nevertheless, open-textured concepts are needed for a field to advance, not only by refining the relationships among the pre-determined compact constructs, but by going beyond constraints imposed by their definitions. (Were this not the case, we would all still be refining IQ tests and sharpening the calibrations on the 'iron lung' rather than creating new ways to comprehend human intelligence, creativity and wisdom.) Desrosieres (1998) observed that the primordial dialectic driving the conduct of science is this: the 'durably solid forms' of the natural and human worlds must remain always undebated so that human action can proceed; at the same time they must remain always debatable, so that human action can change.

A central observation for Desrosieres is that the production of durable objects through science is not just for the management of the work of scientists; it is also a key move in the construction, unification and administration of the state's key formations, such as public schooling and social or human service provision. Versions of 'reading levels', 'student-to-computer ratios' or 'welfare categories', will grip partly because they afford practical administrative procedures in classrooms, schools, clinics, regional support offices and central authorities. These, in turn, shape preferences for specific forms of knowledge and methodological choices.

### *2.2.3 Types of Science in Education and Social Work*

So what 'kinds of science' do we find described, debated and practiced by researchers in education and social work? Heap (1992) has outlined two kinds of scientific inquiry into people: *natural science* and *human science*. Natural science he characterised as having an interest in explaining behaviour, showing its causes and predicting it. Instances of natural science in education and social work include behavioural psychology, physiological psychology, some forms of cognitive science and educational economics. These approaches in the study of people are the most direct descendants of natural-scientific approaches to the study of the material world.

Heap contrasted this to human sciences, which, he argues, focus on documenting the conditions under which human beings behave and the influence some conditions have on behaviour. Instances of these in educational and social work inquiry include some forms of sociology, anthropology, history, and philosophy.

Heap further divided the human sciences into *social sciences* and *cultural sciences*. The principal interest of the social sciences is in documenting the normative grounds for human action, people's intentions and beliefs, their compliance with or

**Table 2.1** Heap's categorisation of types of science about people

| *This form of science* | *. . .studies these objects. . .* | *. . .to document, prove, comment on. . .* |
|---|---|---|
| Natural | • Naturally-occurring, observable phenomena<br>• phenomena whose boundaries are clear and self-evident<br>• observable both as they seem and as they are. | • The existence of empirical variables – regularities, patterns and structures<br>• the relations among them and other objects in the field<br>• and the functions of these in the production of observable phenomena. |
| Human: Social | • Observable social activities<br>• the intentions motivating those activities<br>• 'within' individuals, that is, with individuals, in context, but as the prime sources of activities. | • The normativity of social activity;<br>• publicly knowable grounds for a person's actions, in terms of intentions<br>• including statements of their personal beliefs, and<br>• their individual norms. |
| Human: Cultural | • A group's shared history of actions, and<br>• the shared, available interpretations of those actions. | • The normative content and reasoned properties of observable, mutual actions<br>• the particular reasonableness of the organisation of actions and of the resources through which recognisable social activities are co-ordinated and jointly accomplished. |

resistance of conventions and expectations. In contrast, cultural sciences are characterised as fundamentally interested in how it is that particular activities come to be broadly seen, treated and acted on as aspects of culture. That is, the cultural science program is about explicating human activities with respect to their recognisable content and their organisation as part of social life. Table 2.1 provides a summary of these various forms of science (*see also* Freebody, 2003).

## 2.3 Research-as-Project

### *2.3.1 'Normal' Science-as-Project*

Doing research as a practical project in the world has implications even for researchers working within their standard paradigm – that is, not in multi-perspective teams or in collaboration with practitioners. Once inquiry is placed in the field of practice, rather than only in the field of knowledge building, one immediate effect is that the criteria for efficacy now include the relationship of the inquiry's theoretical interests and the language in which its communications are expressed with the interests and discourses of the participants, the readership.

While the relationship between paradigmatic frameworks of the disciplines and discourses of practice may look like a simple issue that is outside 'science', in fact it is not. Moreover, each epistemic community has a rather distinct relationship to the matters of practice and discourse. This point could be well understood from MacDonald's (1994) conceptions about 'human understanding' and its relation to the disciplines. MacDonald, drawing on Toulmin's (1972) insights, claimed that there are four central polar dimensions that distinguish between the key human disciplines. She labelled these: (a) compact versus diffuse; (b) explanatory versus interpretive; (c) conceptually driven versus textually driven; and (d) explicit versus implicit epistemic self-consciousness, including displays of reliability and challengeability.

The position of a discipline on the dimension 'compact versus diffuse' knowledge domains can be largely determined by its practitioners' answers to two questions. First: Is the problem – including 'the central puzzle' and its attendant topics, as in Kuhn (1962) – clear, agreed upon, shared and publicly patrolled? Second: Are the procedures for ascertaining and disseminating truth value clear, agreed upon, shared, and publicly patrolled? Practitioners of 'compact' disciplines aim to find patterns, rather than particularities, and to display the general, widespread features of phenomena according to pre-developed criteria and ways of framing data (such as taxonomies). They do not want to proliferate new understandings, criteria or conceptual systems. They tend to be 'deductive' in their operation rather than 'inductive'. Examples of such research include extensive educational psychology research programs of student self-concept or cognitive load that re-apply well defined conceptual frameworks to prove or disprove the existence of well defined constructs in new populations or situations.

The dimension 'explanatory versus interpretive' knowledge domains is also located in the answers to two sets of key questions. First: What is the accepted degree of proliferation of interpretations of key findings? That is, how much room to move do practitioners have in developing not only different interpretations of significant and key findings, but also different *kinds* of interpretations? Secondly: How are the general and the particular related? How are the key categories (of which other things can be seen as instances) constructed and sustained? As MacDonald explained, some disciplines regard their phenomena of interest as existing (or having existed) and as needing be documented and understood in their own right, without any particular reference to other related phenomena. This may apply, for example, to works of art, and to historical events or figures. Further, some disciplines pursue generalisations that can reliably be applied to some aspects of the organisation of the material, social, or psychological world. In this latter case, phenomena are regarded as being useful (or not) in demonstrating the generalisation at hand; richness of interpretation and commentary are not the point. Some classic examples of this type of research include some studies in behavioural and cognitive psychology that primarily focus on establishing and measuring well defined psychological constructs, such as cognitive load or motivation.

MacDonald's third dimension relates to the extent to which a discipline is 'conceptually versus textually' driven. In some disciplines the motivation to clarify key

concepts that relate most closely to the central puzzles in domains of knowledge is at the heart of the scholarship. In contrast, at the other end of this continuum, phenomena are linked, interpreted, re-contextualised and re-described *in and by* the scholars' interpretive activity itself. That is, as MacDonald put it, the 'texture' of the disciplinary work is accomplished, literally, *textually*; it is not assumed *a priori* to be a feature of the body of knowledge. Studies informed by arts conducted in the domains of education and social welfare are typical instances of 'textually' driven research.

Finally, the dimension 'explicit versus implicit' epistemic self-consciousness concerns the extent to which the analysis and dissemination of knowledge entails explicit mechanisms for collecting and interpreting phenomena. To put it another way, disciplines differ in terms of how strictly they make explicit and police the rules of research method (Freebody, 2005). This includes the rules of engagement whereby findings or interpretations can be checked for their reliability and otherwise challenged. Comparative research, for example, is, as a rule, one of the most explicit approaches in these terms.

To summarise, methodology and design choices are necessarily, rather than contingently, related to these varying dimensions of practice, interpretation and, consequentially, discourse. The location of a discipline along each of MacDonald's dimensions allows certain kinds of public communication about research findings – such as explaining, advocating, describing, and so on – and generally precludes other forms of communication. Further, it takes substantial effort to beak the boundaries imposed by the discipline, such as trying to make quantitative findings derived from compact, explanatory, conceptually-driven disciplines speak to public concerns about educational and social problems (Onwuegbuzie, Leech, & Whitcome, 2008).

### *2.3.2 Inter-, Multi-, Cross-, and Trans-Tribal Research-as-Project*

Becher (1989) has contended that the practices and dispositions of inquiry characterising particular disciplines are effectively products of the social (including the educational) history of its practitioners. He argued that disciplines are given their distinctive shape and texture through the growth of differing institutional formations, which Becher referred to as 'academic tribes'. The most obvious manifestation of this is the school or university department, but the key issue for this case is that these do not so much reflect any criteria or distinguishing features on the basis of the knowledge domain itself, but rather the particular, if not entirely accidental, social histories of these institutional formations.

The period 1990 to the time of writing saw many calls in education and social work for the mixing and matching of disciplinary approaches and research methods. This seemed partly to be a function of the intractability of the serious challenges facing state-based provisions such as schooling and social services. The growing critique of the (ir)relevance of some research and its (in)applicability to practice

in the health and community services contributed to broader approaches to doing research that had relevance to practice. Several chapters in this volume, particularly chapters on postcolonial scholarship in historical research and social justice, argue for and illustrate research that crosses traditional discipline, theory and methodological borders. Two introductory points can be made. First, Heap's (1992) hypothesis that nothing of a strictly scientific, theoretical nature can be learned from incursions or excursions across border lines remains to be assessed in the practice of educational and social work research. Secondly, the follow-up point about the potential of cross-disciplinary research to increase the impact of the work on practitioners and policy-makers depends on a readership that is sensitive both to the significance of findings that converge from differing research origins and on the reliability, validity or trustworthiness of the findings within each of their own home paradigms. Such a readership needs to be actively built by the research community itself, a goal this volume aims to advance.

### *2.3.3 The Project of Researcher-Participant Collaboration*

It is now almost an obligatory feature of government funded or directed research activities that the researchers incorporate the concerns of the practitioners whose work may be affected by the activity. Increasingly, this incorporation takes the form of the inclusion of practitioners within the research team. The research fields of education and social work are full of cautions regarding the politics of inclusions and exclusions of 'end users' into such composite teams. One of the minority statements to the US National Reading Panel report, for example, concluded in these terms:

> the Panel needed to assess the implications for practice growing out of research findings. As a body made up mostly of university professors, however, its members were not qualified to be the sole judges of the 'readiness for implementation in the classroom' of their findings or whether the findings could be 'used immediately by parents, teachers, and other educational audiences.' Their concern, as scientists, was whether or not a particular line of instruction was clearly enough defined and whether the evidence of its experimental success was strong. What they did not consider in most cases were the school and classroom realities that make some types of instruction difficult – even impossible – to implement . . . the work of the NRP is not of poor quality; it is just unbalanced and, to some extent, irrelevant. But because of these deficiencies, bad things will happen. Summaries of, and sound bites about, the Panel's findings will be used to make policy decisions at the national, state, and local levels.
> (Yatvin, 2000, pp. 2–3)

A key question in all of the possible research scenarios outlined above concerns the status of the knowledge, beliefs and practices of the participants in the study – the 'subjects' of the work – whether or not they are formally constituted as collaborators in the project. Objects of study in the non-human world (e.g., molecules, weather formations, schools of fish) cannot offer an account of the nature and rationale of the structure of their individual or collective behaviour. In contrast, the distinctive feature of studying humans, and one at the centre of the challenges it presents, is that humans show, describe and explain their nature and their behaviours to one another all day long, day in and day out. Rightly or wrongly, for better or worse,

they understand one another, although not always in the ways in which they wish to be understood. They manage this without having been trained as psychiatrists or neurologists. As Schutz (1964) observed, statistical descriptions of the scientific laws obeyed by individuals and collectives are a legitimate kind of shorthand only if one assumes that they refer to the meaning-making activities of these individuals and collectives – Schutz's 'forgotten man' of the social sciences. The status of the accounts humans produce in and as social behaviour in any given research methodology is a key question that needs to be applied to the formulations that follow in this volume. There are at least four options:

1. The beliefs, knowledge and practices of the participants are irrelevant to an understanding of the key phenomena of education and social work.
2. The beliefs, knowledge and practices of the participants are the problem that the research must set out to fix.
3. The beliefs, knowledge and practices of the participants are provisional, generally unfounded, but possibly accidentally 'right'.
4. The beliefs, knowledge and practices of the participants are the phenomena of study and the framework for study, including, if appropriate, by the collaborating participants themselves (building the 'constructs of everyday actor′s constructs' in Schutz's terms).

## 2.4 Epistemologies Across Sciences and Projects: Types of Knowledge and Knowing

Research in education and social work is aimed at the systematic building of knowledge, and its methodologies form a part of its public justification. A brief summary of epistemological considerations is a typical part of social research method texts, which typically draw clear lines and distinctions among key paradigmatic approaches in social inquiry, positivism, postpositivism, critical theories or constructivism and so forth (e.g., Denzin & Lincoln, 2005; Neuman, 2006). Discussions about methodology, method, and data analysis abound; some of them go deep into different aspects of what could be called paradigmatic production of knowledge – causation, abstraction, justification, generalisation and so on (e.g., Gerring, 2001; Sayer, 1992). Interestingly, very few writings have involved a serious discussion of epistemological questions on a level that could provide a basis for a systematic program of inquiry. Even more rarely do social researchers seem to turn to *formal epistemology* to inform those debates. As Sayer (1992) arguing about the knowledge in social science put it:

> One of the most extraordinary features of the literature on the methodology and philosophy of science is the extent to which it ignores practice and the way in which knowledge is involved in what scientists and lay people *do*. (p. 13, original emphasis)

In this section we approach the question of epistemology from a broader perspective. Rather than privileging epistemological frameworks of social science, we draw on

the literature of formal epistemology. We initially sketch some epistemological ideas pertaining to both the 'science' and 'project' and, then, discuss their implications for matters of method.

In the systematic study of knowledge, epistemology, approaches to knowledge have been conventionally categorised in terms of the long-standing debate between 'foundationalist' and 'coherentist' orientations (Steup, 1996; Steup & Sosa, 2005; Zalta, 2010). According to the foundationalist approach, knowledge is constituted as a system of structured 'justified beliefs', built like an edifice, with a 'foundation' and a 'superstructure' resting upon that foundation. Beliefs belonging to the foundation are termed *basic*. Beliefs belonging to the superstructure are *non*-basic. The justification for non-basic knowledge rests on the justified basic beliefs in the foundation. Coherentists disagree. They deny that there are basic and non-basic beliefs, arguing that the metaphor of a building with a foundation and a superstructure is wrong-headed. Rather, coherentists suggest that knowledge and justification are organised like a web, where the strength of any given element depends on the strength of the surrounding supporting elements.

These general approaches differ markedly not only in matters of justification, but in the significance and reliability of direct perceptual experience. Although orienting to this contrast is a point of departure for most accounts of knowledge and justification (e.g., Haack, 1993), many epistemologists have issued serious challenges to the basic binary of foundationalism and coherentism, and in recent years there have been a range of extensions and adaptations to it. Other conceptions of 'knowing' and 'knowledge' have been suggested, sometimes arising out of advances in related fields, such as cognitive science and feminist sociology, and extensions beyond the traditional territory of epistemological concern, paying increasingly more attention to the relationships between epistêmê and other aspects, such as technê, values, and contexts (*see* Zalta, 2009, *Sepia Project*, for an extensive overview).

For example, *virtue epistemology* posits epistemological virtues (e.g., careful reasoning that focuses on details as well as underlying philosophical positions) and epistemological vices (e.g., ignoring details or dismissing an argument solely because of who it is that presents it). Virtue epistemologists hold, with varying degrees of stringency, that assessing a person's epistemological virtues and vices should be undertaken as well as, or even before, any analysis of the reliable or justifiable status of her beliefs.

Rather differently, *moral epistemologists* are preoccupied with whether or not people can have moral knowledge, knowledge about whether an action is right or wrong: How can we *know*, or can we only *believe*? And do the kinds of knowledge generated by moral epistemological methods reflect coherentist or foundationalist ideas?

*Naturalistic epistemologists* reject traditional philosophic approaches to knowledge and knowing and argue that studying these issues is, in fact, properly the domain of cognitive psychology: How are knowing and justifying based on a detailed account of the natural, empirical world? *Social epistemologists* claim that epistemology needs to include consideration of the particular social and historical contexts in which certain forms of knowledge and justification arise and operate. A

key question is whether or not there are norms of rationality that have a claim to be regarded as objective and that describing them and their legitimacy is the program social epistemology should aspire to articulate.

More recently, *feminist epistemology* and *Indigenous ways of knowing* set out to provide an analysis of issues having to do with the access of women and indigenous peoples to the institutions in which knowledge is generated, and their participation in the processes by which it is built and transmitted. The project incorporates studying the ways in which women and indigenous societies acquire and use knowledge, and opposing and rectifying oppression by masculinist and colonising cultures.

A number of these adaptations and additional lines of consideration can be thought of as involving some serious attention to questions such as: Does the word 'know' always mean (roughly) the same thing, or family of things? Does what we mean by 'knowing' vary consequentially from one context to another? Is it only the strictness, or the strength or weakness of the criteria for knowing that change? If so, why and how?

This line of questioning is often termed 'contextualism', and the consequences of variations in what we mean by 'know' in different contexts are of interest in the context of this discussion. According to some contextualists, these consequences relate to weighing up the importance of possible errors; others draw attention to the current state of our knowledge in terms of the journey that our inquiries have taken to date:

> The role of the concept of knowledge deals with the evaluation of stages that our interrogative inquiry has reached. (Hintikka, 2007, p. 9)

For Hintikka, for instance, epistemology is fundamentally about methods of interrogation; in particular, the ways in which the inquiry has iteratively entertained, set aside and re-introduced various hypotheses about the topic under scrutiny, a process he has termed the 'strategic principles of bracketing' (2007, p. 4).

This brief outline of some features and directions in formal epistemology gives us some vocabulary for describing variations in what counts as knowledge across research traditions, when we take a research-as-science view, and across contexts, when we take a research-as-project view.

If we look at research-as-science, there are striking differences in the methods that are derived from various paradigms. Some paradigms afford an historically-developed set of basic beliefs, sometimes explicated regularly in research publications but often not. Non-basic beliefs become attached to these, and derive their interpretability from the foundational structures of the paradigm. Versions of cognitive science and educational and social needs assessment appear to operate in these ways, 'vertically'.

In contrast, some paradigms provide documentations of local practices or systems, and these documentations both invite multiple interpretations and avow only modest, if any, claims to empirical generalisability. Coherence across documentations affords a growing 'compendium' of accounts, which, in turn, remain open to challenges from the next documentation, from the next research site. Some forms of ethnography appear to function in these ways, collecting plausible accounts, with varying levels of coherence, 'horizontally'.

If we take a research-as-project view, then foundationalist and contextualist propositions appear too sterile and, perhaps, impractical. In the context of practice we are often faced with different, often conflicting, propositions for action coming from different reformulations of the problem from different disciplinary (and social) perspectives. While this may suggest that 'anything goes', such an epistemological framework does not provide a constructive base for sustainable action, nor does it leave much space for research. The contextualist proposition offers a viable epistemological framework for linking practical problems with scholarly research. As Sayer (1992) has argued:

> any theory of knowledge is handicapped from the start if it ignores this context for it is likely to ignore how the internal structure and practices of science are shaped by this position. (p. 8)

Knowledge does not change, and the standards for knowledge do not change, with context, but the standards for the application of the word 'knowledge', the judgement of its usefulness and relative importance of different propositions for practical action *do* change. Scholars should be committed to high-standard knowledge, but they should also be aware and able to judge its relation to other knowledge claims that operate in the same context of practice and policy action. Similarly, those who operate in the field of policy and practice should be aware of, knowledgeable about, and skilled in reconciling different types of knowledge and different epistemic claims. We do not expand on this aspect here, but we do subscribe to the view that epistemological awareness (Koro-Ljungberg, Yendol-Hoppey, Smith, & Hayes, 2009) and epistemic fluency (see Chapter 22 by Goodyear, this volume) become essential qualities for those who work across and within paradigms and domains of research, policy and practice.

## 2.5 Can Method and Design be Methodological?

An ongoing question in the discussions about social research methodologies, methods and designs in social research relates to the definitions of 'methodology', 'method' and 'design' themselves. In much of the literature the term 'method' is used in a narrow technical way to include, in some cases, only techniques for data collection (e.g., Bryman, 2005),[1] while in some others almost all (technical) steps of empirical research are implicated:

> sets of specific techniques for selecting cases, measuring and observing aspects of social life, gathering and refining data, analysing data and reporting results. (Neuman, 2006, p. 2)

In contrast, the term 'methodology' is typically used to describe a broad approach to scientific inquiry that includes method, but primarily involves conceptual considerations:

[1]For example Bryman (2005) provides the following definition, 'A research method is simply a technique for collecting data. It can involve a specific instrument, such as a self-completion questionnaire or a structured interview schedule, or participant observation whereby the researcher listens to and watches others' (p. 27).

> understanding of social organisational context, philosophical assumptions, ethical principles, and political issues of the enterprise of social research that use methods. (Neuman, 2006, p. 2)

Indeed, some scholars have been explicit about a sharp line between 'method' and 'methodology':

> 'Most of the literature introduced by the title 'Methods' (in the social, behavioural or political sciences) actually deals with survey techniques and social statistics, and has little if anything to share with the crucial concern of 'methodology', which is a concern with the logical structure and procedure of scientific enquiry. In a very crucial sense there is no methodology without *logos*, without thinking about thinking. And if a firm distinction is drawn – as it should be – between methodology and technique, the latter is no substitute for the former. One may be a wonderful researcher and manipulator of data, and yet remain an unconscious thinker. (Sartori, 1970, p. 1033)

Some scholars, nevertheless, do not draw this sharp line between 'method' and 'methodology' (e.g., Sayer, 1992; Teddlie & Tashakkori, 2009). For example, Sayer (1992) took a broad view and defined method as:

> clarification of modes of explanation and understanding, the nature of abstraction, as well as familiar subjects of research design and methods of analysis. (p. 3)

He located his discussion about the use of research method in the terrain at the intersection of 'social theory and philosophy of social science' (p. 3) and argued that 'there is a method not only in empirical research but in theorising' (p. 2).

A similar comment could be made about the research design. While in some cases it is defined as a primarily technical framework '... for the collection and analysis of data' (Bryman, 2005, p. 27), in others it is about conceptual coherence and the links between research questions, conceptual choices and empirical techniques (Sayer, 1992). These broad views of the notion of method and design are also evident in the notion of 'mixed-methods' research that sometimes denotes 'mixed-methodologies' (*see* Teddlie & Tashakkori, 2009).

In this volume we also adopt a similarly broad view of the use of the terms methodology, method and design – to refer in all cases not only to appropriate and carefully aligned technical research procedures, but primarily the alignment between real world issues, research questions, conceptual considerations and empirical process.[2]

Nevertheless, the distinction between 'methods' and 'methodology' should not be forgotten in the discussions of the methodological status of emerging approaches. For example, Kelly (2004), in his discussion of design-based research, has been primarily concerned about the lack of methodological unity, arguing that design

[2]These terms are used differently in the following chapters. We preserved the original terminology adopted by the authors as this is indicative of the language that is typically used in those methodological domains and, in some cases, methodological debates.

research in education 'must develop from a loose set of methods to a methodology' (p. 118). His concern was primarily about the lack of 'conceptual structure that forms the basis for the warrants' (p. 118) of research claims. Similar concerns are not unusual in those methodological approaches that have well articulated theoretical bases but lack stronger links to the empirical research process. For example, Reason and Bradbury (2008) have argued that 'action research is not so much a methodology, but rather an orientation to inquiry' (p. 1); while action research could be described conceptually, overall it is a family of approaches with only broadly defined empirical steps.

The authors of the following chapters also sometimes locate their work along several other lines at the core of design decisions to include: (a) paradigmatic inquiry approach – positivism, interpretivism, critical science, constructivism, etc; (b) analytic preference – quantitative, qualitative or mixed methods; (c) data collection techniques – test, survey, observation, interview, documents, etc. (d) data analysis

**Table 2.2** Summary of some features of paradigmatic approaches in social research (based on Guba & Lincoln, 2005; Neuman, 2006)

| | Positivism | Interpretative | Critical science | Constructivism |
|---|---|---|---|---|
| Research purpose | To discover laws | To understand social meaning in context | To reveal 'hidden', liberate, empower | To understand and change |
| Social reality | Empirically evident | Socially constructed | Has multiple layers | Multiple, holistic partly constructed |
| Humans | Rational, individualistic beings | Interacting beings and create meanings | Adaptive beings with unrealised potential | Purposeful, adaptive beings, with a capacity to change |
| Human agency | Deterministic | Voluntaristic | Bounded autonomy | Collective agreement |
| Scientific knowledge | Different and superior | Different, but not superior | Imperfect, liberating | Constructed by participants |
| Explanations | Based on causal laws, deductive | Based on description, inductive | Provide alternatives, critique | Provide basis for change |
| Results | Can be verified using replication | Can be verified with people being studied | Can be verified through praxis, i.e. Practice | Authentic, can be verified in practice |
| Evidence | Universal, intersubjectivite | Contingent, contextualised | Informed by theory, goes beyond surface | Consensus, inseparable from knowers |
| Knowledge | Instrumental | Practical, transcendental | Reflective-dialectical, transformative | Empowering, catalyst for change |
| Values | Value free, objective research | Relativistic to the values of participants | Research contains a moral-political dimension | Formative, informs inquiry and action |

techniques – statistical analysis, transcript analysis, interaction analysis, data mining, etc., and (e) research purpose – theorising, explaining, describing or changing the practices and policies.

In this chapter we do not aim to provide detailed definitions of these terms – much of this could be found in any introductory social research method text (e.g., Bryman, 2005; Cohen, Manion, & Morrison, 2007; Neuman, 2006). However some clarification of the major features of different paradigmatic approaches might help readers navigate the methodologies described in this book (Table 2.2). We do not enter here into detailed discussion about the features of different research paradigms that operate in the domain of educational and social work, and we do not locate the methodologies described in this book in one or another specific category. We believe that research designs for practice and policy should be flexible enough to accommodate multiple paradigms, yet still be 'methodological'.

## 2.6 Conclusions: The Discovery of Science Itself

Challenges to paradigms appearing as challenges to methodology and research design, from both inside and outside the host paradigm, constitute the dialectic by which research becomes more valid, reliable, coherent, trustworthy, interconnected and effective in the world. In this volume we hope to make that dialectic itself an object of study. In this sense, the study of education and social work in the rapidly changing cultural environments in which they operate and that they aim to describe adequately and to change, leads us to the two takes on Durkheim's aphorism, cited by Garfinkel (2002): 'The first and foremost rule is: Consider social facts as things.' This can be read as: 'because they are things' and/or 'as if they were things.' These two readings form the basis of, respectively, realist versus interpretive accounts of social experience. For researchers in education and social work the ambiguity of 'Durkheim's aphorism' is productive; it emphasises the scientific nature of research in these fields without leaving the practical urgencies of the worlds of education and social work behind.

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# Part II
# Research Approaches for Innovation and Change

# Chapter 3
# Design-Based Research

**Peter Reimann**

## 3.1 Introduction

'Design-based research' or 'design research' was proposed in the early 1990s by Brown (1992) and Collins (1992) as an approach that extends existing methods and addresses the issue of linking theory and practice in educational research. Since then, design research has evolved in different directions and has been used in learning research in various forms (*see* Confrey, 2006). In recent years, this approach has been the subject of extensive methodological discussions and reflections in special issues of educational journals and in books (Barab & Squire, 2004; Kelly, 2003; Kelly, Lesh, & Baek, 2008; Sandoval & Bell, 2004).

Design-based research (DBR) is characterised as an inter-disciplinary mixed-method research approach conducted 'in the field' that serves applied and theory-building purposes. Wang and Hannafin (2005) define DBR as

> a systematic but flexible methodology aimed to improve educational practices through iterative analysis, design, development, and implementation, based on collaboration among researchers and practitioners in real-world settings, and leading to contextually-sensitive design principles and theories. (p. 6)

They identify five characteristics: (a) pragmatic (i.e. design-oriented and intervention-oriented); (b) grounded in theory and research; (c) interactive, iterative and flexible; (d) integrative; and (e) contextual.

One of the main motivations behind DBR is to make learning research more relevant for classroom practices.[1] It has often been argued that most learning research conducted by educational researchers, psychologists and cognitive scientists in university 'lab' settings is not known to educators, and does not, for the most part, affect teaching practices or educational policies. One reason for this is that teachers find

P. Reimann (✉)
Research Centre for Computer-supported Learning and Cognition (CoCo), Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: peter.reimann@sydney.edu.au

[1] Schools and classrooms are the most typical locations where design studies are conducted. However, there is no principled reason why DBR should not be applied in other learning settings.

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it difficult to implement learning innovations, as the lab setting where the learning innovation has been established is too different from the demands and constraints of the classroom. This, for example, may concern the alignment with curriculum, standards and assessment requirements, teachers' and students' time, logistical and technical constraints (Fishman, Marx, Blumenfeld, Krajcik, & Soloway, 2004).

This unsatisfactory state of affairs has led researchers such as Ann Brown (1992) to suggest a form of learning research that does take place to a large extent within the authentic setting, involving close cooperation with teachers and students. The expectation is that research that yields its findings in close proximity to real schools will eventually be more easily and rapidly implemented in classrooms in general. The position that learning needs to be researched in authentic settings is supported by the conceptualisation of learning as situated (Greeno, 1998) and cognition as distributed (Salomon, 1993). Aligning research *on* school learning with doing research *in* schools and classrooms was further fostered by the rise of the learning sciences (Sawyer, 2006) that, differently from cognitive science and cognitive psychology, study the learning of realistic bodies of knowledge as taught in schools, rather than using artificial experimental tasks (Bransford, Brown, & Cocking, 2000).

This chapter provides a short overview of DBR as a methodological paradigm. Initially, it describes characteristic aspects and the steps involved in conducting a design study. Then, the chapter critically discusses DBR as 'research' and as 'design'. It focusses on the research process and the argumentative grammar behind it. Thereafter, it looks at design activities and the forms of knowledge they can yield.

## 3.2 Characteristic Elements

Following The Design-Based Research Collective (2003), the term DBR encompasses a paradigm that has different names in the literature, including 'design experiments' (Brown, 1992; Collins, 1992), 'design research' (Edelson, 2002; Lesh, Kelly, & Yoon, 2008), and 'development research' (van den Akker, 1999). DBR is the methodological paradigm that specifies how to conduct design studies. A design study is an extended investigation of educational interactions provoked by a set of designed, usually innovative, curricular tasks and/or educational technologies (Confrey, 2006). Often, what gets designed is a whole 'learning environment' with tasks, materials, tools, notational systems, and other elements, including means for sequencing and scaffolding.

DBR was developed to address several key issues central to learning research, including the need: (a) to address theories of learning; (b) to study learning in the real world; (c) to go beyond narrow measures of learning; and (d) to derive research findings from formative evaluations (Collins, 1992). An essential aspect of a design study is the wide scope of processes and context that is considered relevant:

> The study seeks to document what resources and prior knowledge the student brings to the task, how students and teachers interact, how records and inscriptions are created, how conceptions emerge and change, what resources are used, and how teaching is accomplished

> over the course of instruction, by studying student work, video records, and classroom assessments. (Confrey, 2006, p. 135)

Where the design includes technological elements, such as software (e.g., a simulation) or hardware (e.g., an interactive whiteboard), the interactions with the technology are captured as well, often using computer log files and video records. These data can be captured on several levels (e.g., students, teachers, and researchers) yielding *multi-tiered design experiments* (Lesh, Kelly, & Yoon, 2008).

Common characteristics of design studies are their relatively extended duration – weeks and months – and the close involvement of the researchers and developers with the study participants. Data acquisition *and* analysis have to be (close to) continuous in order to drive forward multiple cycles of testing and design optimisation. It is often the case with DBR that both the students' understanding changes as a result of the pedagogical innovation, and also the researchers' conceptions change as a result of what they observe in the learning setting. There is no strict separation between theory development and theory testing; rather, the two are interwoven in a manner reminiscent of grounded theory (Glaser & Strauss, 1967).[2] In addition to the already mentioned multi-tiered design experiment, an important variant of DBR is *teacher design research*, where teachers 'drive' the research into the effects of design and where teachers' learning and professional development are integral elements (Bannan-Ritland, 2008).

Concerning its intellectual pedigree, DBR inherits many features from clinical interview studies, as developed by Piaget (1976), and teaching experiments, as developed in mathematics and science education (Steffe, 1991). While sharing similarities, DBR is different from curricular studies (DBR has more of a focus on the enacted curriculum), evaluation studies (focus on process, not only outcomes), pure discourse studies of classroom talk (multiple methods, including quantitative ones, are used), action research (aspiration to theory development), lesson studies (not confined to learning in classrooms and through teachers), and instructional design (learning theory development).

The notion of 'theory' plays an important role in DBR; and, differently from some variants of qualitative research, DBR aspires to produce explanatory accounts that are not solely descriptive. Theory in DBR is closely related to practice, and this link has its roots in the origins of the approach. Namely, Ann Brown (1992) introduced design research as a means to increase the relevance of theory (that at that time came from cognitive science laboratories performing experiments on learning) to practice (in classrooms). Allan Collins (1992) introduced design science as a means to increase the impact of best teaching practices on theories of learning. Both views of the theory–practice relationship are still relevant.

[2]Differently from grounded theory, though, DBR has no particular interest in fencing off prior theories and encourages theory-building that incorporates elements beyond the observations.

## 3.3 Conducting a Design Study

DBR is not a specific data collection and analysis method, but rather a framework that orients the use of other specific methods and techniques, such as video, verbal data, and statistical analysis. As the goal is not only to learn about learning (and contribute to a research community's knowledge), but also to support the development of particular forms of learning (thus contributing to students' knowledge), the methods also comprise ways and procedures for designing specific elements of learning environments: tasks, materials, tools, patterns of communication and interaction, instructional sequences. Given that a design study addresses students' learning in a substantial manner, there is always an element of teaching involved. Sometimes the researchers directly interact with individual students or take the teacher's role in a classroom. In other cases, they might cooperate with teachers to implement a specific design in classrooms.

A range of specific research activities are compatible with the DBR paradigm. Table 3.1 summarises key DBR phases and typical activities. To provide a sense of how a (proto-) typical design study is conducted, this section briefly reviews each activity and illustrates the main aspects using the terminology provided by Cobb and Gravemeijer (2008). The methodology, as suggested by them, distinguishes three phases: preparation, experimentation, and retrospective analysis. Design experiments can involve a 'control group', but since they are conducted in real educational settings over longer durations, this can raise ethical as well as practical concerns. For instance, 'treatments' cannot easily be confined to a specific group of participants due to the interactions between students on the school ground. The prototypical design experiment is, hence, not of the control-group type, but employs 'within-subjects' comparisons.

**Table 3.1** Phases and activities for conducting a design experiment

| | |
|---|---|
| Phase 1 | Preparing the experiment |
| | • Clarifying the instructional goals |
| | • Documenting the instructional starting points |
| | • Delineating an envisioned learning trajectory |
| | • Placing the experiment in a theoretical context |
| Phase 2 | Experimenting to support learning |
| | • Collecting data in cycles of design and analysis |
| | • Applying interpretive frameworks |
| | • Formulating and testing domain-specific instructional theories |
| Phase 3 | Conducting retrospective analyses |
| | • Explicating the argumentative grammar |
| | • Establishing trust in the findings |
| | • Ensuring repeatability |
| | • Ensuring generalisability |

### *3.3.1 Preparing the Experiment*

Since a design experiment aims to contribute to improving learning, *clarifying the instructional goals* to be addressed is pivotal. This can be done by relying on

curricular documents and goals, but, given the effort required for a design experiment, researchers need to make sure that the instructional goals will provide as much leverage as possible. This requires an in-depth analysis of the curricular documents, and often reformulations to identify central domain concepts around powerful ideas (Roschelle, Knudsen, & Hegedus, 2010). *Documenting the instructional starting points* involves identifying students' current level and learning in terms of their prior instructional histories. This might require creating assessments and other diagnostic procedures to probe into what students typically learn in the context of standard instruction. For example, Cobb and Gravemeijer (2008) recommend such methods as interviews with individual students and whole-class performance assessment using video, rather than written forms of assessment, for evaluating students' reasoning.

The next essential step is *delineating an envisioned learning trajectory*. The research here will '... formulate testable conjectures about both significant shifts in students' reasoning and the means of supporting and organizing these shifts.' (Cobb & Gravemeijer, 2008, p. 70.) This requires formulating a *process model* of learning – how learning unfolds over time – which, in turn, necessitates mobilising theory. This process model needs also to spell out the materials, tasks, and technologies that support students' learning trajectory – the design. The trajectory model will need to take into account factors that affect the enactment of the design, such as classroom norms and the nature of classroom discourse. The model further needs to be explicit about the teacher's role. Given the central mediating role of teachers in classrooms, this often means designing tasks and materials (including software) as a resource in the hands of the teacher, and involving teachers as co-designers early on in the research planning.

The requirement to project a plausible learning trajectory provides a natural link to *placing the experiment in a theoretical context*. The theories most useful for the purpose of developing a process model are of the domain-specific, mid-range type. 'Grand' theories of learning might play an orientating role, but more specific theories or models are needed to spell out a process model. Placing the experiment in a theoretical context helps to produce knowledge that will be useful in providing guidance to others as they attempt to support similar learning processes.

### *3.3.2 Experimenting to Support Learning*

The focus of experimenting in DBR is on supporting learning; the purpose is not to show that the learning trajectory 'works', but to improve the envisioned design by testing and revising conjectures about both the prospective learning process and the specific means supporting it (Cobb & Gravemeijer, 2008). *Data collection* will need to be carefully planned so that the data acquired speak to the conjectures, and do so in a manner such that later retrospective analyses with a potentially wider theoretical framework can be performed rigorously. Data collection should not only cover data on students' learning and classroom practices, but also cover the learning process of the research team. That means that the process of conjecture testing and revising taking place amongst the researchers and, usually, the teacher(s) should be recorded with video or audio, and carefully documented in textual format. For example,

Edelson (2002) suggests compiling a log of ongoing interpretations, conjectures, decisions, and so forth.

Because of the different kinds of data collected in design studies – most of them taking an open format, e.g. classroom discourse, answers to semi-structured interviews, non-standard classroom assessments – and because of the tentativeness of applicable theoretical models, making sense of the data is typically a highly inferential, interpretative, and cyclical process. Furthermore, these interpretations and the decisions based on them will profoundly shape the development of the design. This necessitates articulating carefully the key constructs that were used when making interpretations and decisions. The *interpretive framework* will hardly stay static over the course of a design experiment, hence articulating, critiquing and refining the framework must not only be practiced, but also documented.

*Theories* that arise from a design experiment, or series of design experiments that relate to the same learning goals, are *domain-specific* and *instructional*. Such a theory consists of a description of a learning trajectory that leads to achieving significant learning goals in a particular domain, as well as the demonstrated means of supporting the learning process (Cobb & Gravemeijer, 2008). The theory needs further to capture the rationale for the design decisions it entails. With these components in place, such theories are useful because they allow others to customise the sequence of activities and resources to their settings.[3] The contribution of the design study or a series of studies to theories of learning, in addition to instruction, can be achieved by retrospective analysis, which is considered next.

### *3.3.3 Conducting Retrospective Analyses*

While the development of a domain-specific *instructional* theory is sufficient for the purpose of improving learning, most learning researchers (as distinct from educational practitioners) aspire to make contributions to general, or at least domain-specific, *learning* theories. This requires placing a specific study into a broader theoretical context, by framing it as a paradigmatic case of a more encompassing phenomenon. As in all approaches, methodological concerns regarding the *trustworthiness* and *generalisability* of findings, as well as the *repeatability* of the design need, to be addressed. These questions are well discussed in the literature. For example, Cobb and Gravemeijer (2008) provide a short treatment of these aspects specific to DBR, Yin (2003) for case studies, and Miles and Huberman (1994) for qualitative methods in general. At a deep conceptual level, satisfying these concerns ultimately depends on the logic of the method, or its argumentative

[3]To avoid confusion with more conventional notions of 'theory', one may speak of 'models' here rather than theories. The notion of 'a learning design model' captures well the distinction between a model and more or less customised instances of that model, as developed in the more technical research on learning design (e.g. Koper, 2005). However, the terminology used by Cobb and Gravemeijer (2008) that is also representative for other researchers in the learning sciences is used predominately in this chapter.

grammar: (a) what it legitimates as evidence; and (b) how evidence is related to inferences and conclusions. The question of what constitutes an argumentative grammar in DBR is a fundamental issue.

### *3.3.4 Argumentative Grammar: The Logic of Design-Based Research*

An argumentative grammar is 'the logic that guides the use of a method and that supports reasoning about its data' (Kelly, 2004, p. 118). The grammar provides the rationale for the method, and hence is the basis for the warrant of the claims produced using the method. The argumentative grammar is a feature of the method rather than of its application: each specific instance will inherit the rationale provided by the grammar. What has to be established at the level of method application, though, is the quality of the method's implementation. Without the argumentative grammar, it is also difficult to compare findings across studies and to see how individual studies contribute to a broader program of research.

The argumentative grammar of DBR is quite similar to qualitative research in general; and, therefore, DBR inherits most of the strengths and weaknesses of qualitative research (National Research Council, 2002).

In simple words, we can observe the effectiveness of a certain design only in a specific situation, or in a small number of such situations: in specific classrooms with specific teachers, students, tools, resources, organisational culture, and situational factors. The challenges for DBR are: How do we know that the effects observed are causally related to the design? How do we know that they are not related to any of the other elements of the context, or what the specific combination of design and context was? How do we know that the effect did not occur purely by chance? Answers to such questions are important not only when claiming contributions to foundational knowledge, but also for practical purposes: only when we know what makes a design work can we make suggestions regarding its applicability in other instructional settings.

In order to establish the claim that certain aspects of a design are necessary to bring about learning, and are not only contingent, one may employ the logic of control-group designs. However, DBR is conducted in real educational settings where this is hardly practically possible. Instead, DBR invokes the logic of *process-oriented explanations*. In the process approach, the phenomenon under study is not phrased in terms of variables and their relations, but in terms of events and their order. Researchers are not primarily looking at how quantitative attributes co-vary or change their value over time, but study the event sequence directly, and the 'forces' that move the sequence forward. While variable- and event-centered analysis can be combined, their argumentative grammar is quite different (Mohr, 1982; for more on the differences see Reimann, 2009).

In a design experiment, the event sequence of interest is the learning trajectory, which is composed of two general kinds of events: learning activities (i.e., the engagement of students with the elements of the learning environment: materials,

tasks, tools) and shifts in students' reasoning. The key point is to establish causality in the trajectory; in other words, it is to distinguish between a consequence and a mere sequence of events. The causality at work here is not of a hypothetico-deductive or inductive-probabilistic covering law type (Hempel & Oppenheim, 1948). The methodological alternative to the covering law approach appropriate for DBR is to look for causal processes directly, to look for 'particular causation' (Maxwell, 2004) or 'local causality', as Miles and Huberman (1994) put it:

> . . .qualitative analysis, with its close-up look, can identify *mechanism*, going beyond sheer association. It is unrelentingly local, and deals with *complex* networks of events and processes in situations. (p. 147)

One type of local causation, for instance, is action causality (Abell, 2004). This type of causality can be invoked when changes in the world are linked together by (human) actions. To the extent that one has evidence that a state of the world is transformed through the direct or indirect evidential action(s) of individual or collective agents, the causality in the particular case has been observed. Instead of a covering law, a narrative structure is invoked in order to establish causality. This kind of explanation is typically not used in a predictive manner, but the narrative formulation takes place after the transformation of states is observed.

Thus, in the case of DBR, the researcher's task is to establish that the shifts in students' learning would not have occurred without the support provided by the instructional design, and that a specific competence has been developed through participation in the specific design experiment. To defend such claims one will refer to the research literature and, in cases where no comparable studies have been conducted, perform comparisons with non-participants. The main thrust of the argument lies in the analysis of the learning trajectories. For example, the main evidence in Cobb and Gravemeijer's (2008) study comes from the analysis of the relations between specific activities and specific changes in students' reasoning. Having a clearly developed interpretative framework that can be used not only to describe these changes, but to explain them in terms of more abstract conceptions of learning, will add to the power of the argument. The longitudinal nature of the data allows us to document how each successive form of reasoning emerged as a reorganisation of prior forms of reasoning (Cobb & Gravemeijer, 2008, p. 87). By comparisons across the different design versions, it can further be discerned which elements in the learning environment are contingent, and which are necessary for the changes in competence to occur.

The process logic underlying the argumentative grammar of DBR thus allows us to establish causality independently of generalisation. A causal connection can, in principle, be identified on the basis of a single case, and a scientific explanation can be provided without invoking a covering law, i.e., a generalisation. This is not to say that *generalisability* is not desirable, but it is not *required* to provide a scientific explanation in form of a causal nexus (Abell, 2004). Generalisability is beneficial, of course, in order to use designs in other settings and build on the findings of a specific design study in other studies.

## 3.4 Methodological Challenges and Extensions: Designing and Design Methods

Learning researchers that employ DBR engage in two kinds of activities: designing and researching. Previous sections have said comparatively little about the first activity, which is representative of the DBR literature where designing, although pivotal to DBR, has received much less attention than researching. The activity of designing (of materials, tasks, activities, tools for learning) yields a number of interesting outcomes. For example, Edelson (2002) distinguishes three kinds of theories that designing yields in addition to the solution: (a) *domain theories* (as an outcome of problem analysis); (b) *design frameworks* (generalisations of specific design solutions); and (c) *design methodologies* (generalised procedures for doing learning design).

An obvious DBR outcome is a design solution, such as a set of materials, tasks, and activities to teach a specific competence. Many design solutions in DBR have a strong information and communication technology component; thus software designs are also amongst the outcomes. An aspect of the design solution not often reflected in DBR is the nature of the *notational system* that is used to express or inscribe the design. It seems natural that the design is inscribed in an activity sequence (e.g., a lesson plan) or in specific software. However, many design disciplines, most notably architecture and engineering, employ design notations that are less directly related to the specific solution. For instance, an architect does not present a completed building as 'the design', but will capture the design in various kinds of notations (such as blueprints) and inscriptions (such as physical models). The design artifacts produced in the course of the design process serve as *boundary objects* between designer, client, and builder/producer. In education, this distinction is mainly made in those areas of educational design where a comparable division of labour exists. The prototypical case is the instructional design team that designs a course that is to be delivered by others (e.g., by trainers in a company) or by technology (e.g., web-based training). Here advanced design notations and methods have been developed (Dick & Carey, 1996; Koper & Tattersall, 2005).

As the DBR methodology develops further, the design notations employed in design studies will become important. While one finds some discussions of this aspect of DBR (e.g., Barab, Baek, Schatz, Scheckler, & Moore, 2008; Fishman et al., 2004), more attention to them is necessary. The need for educational design languages goes beyond technical concerns. Transfer of designs beyond the context they have been invented in, and continuous improvement of their quality, depends on agreed ways to describe and refine instructional regimens (Cohen, Raudenbush, & Loewenberg Ball, 2003). One can build here on the wealth of work in instructional design, and more recently in e-learning (e.g. Goodyear & Retalis, 2010).

Improving notions of design languages may also contribute considerably to making DBR methods more scalable. Scalability would, in particular, increase if initial design ideas could be tested without involving necessarily empirical studies. This brings us to the notion of *design models*. A model provides intermediate ground

between the design goals and the implementation (the 'solution'); designers often employ models because they 'speak back': the architect builds a wood model because it can be much more rapidly (and cheaply!) modified than the completed building and the model facilitates communication with other engineers in the team. There are strong limitations, ethical and resource-related, to widespread use of DBR in education if testing a design always means testing it with real students in real classrooms at all stages of the design process. While notions of *design frameworks* such as goal-based scenarios (Schank, Fano, Bell, & Jona, 1994), anchored instruction (Bransford, Sherwood, Hasselbring, Kinzer, & Willams, 1990), and knowledge integration (Linn, Davis, & Bell, 2004) are well developed in DBR (*see also* Jacobson & Reimann, 2010), *design methodologies* are lacking. A design *framework* describes the *essential characteristics* of the designs that belong to the framework. A design *methodology* describes in detail the *process of designing*, including tasks, roles, artifacts, division of labour, quality criteria, and so forth. For education, such methodologies have so far mainly been developed in the area of instructional design (Dick & Carey, 1996; Reigeluth, 1999). For DBR, more concern for its design methodology seems particularly needed given the challenges of coordinating work amongst researchers, curriculum experts, software developers, and teachers. The increasing use of information technologies, not only to support students' learning but also the design and research process and the communication between those involved in it, provides many opportunities for innovating (design) methodologies (Markauskaite & Reimann, 2008).

## 3.5 Conclusions: What About the Link to Policy?

DBR is not the only methodological paradigm facing the challenge of articulating an argumentative grammar that provides an alternative to variables-oriented research with conventional control group designs. Establishing the methodological foundations of DBR is an ongoing task. Considerable progress has been made in this regard with the articulation of the process view of causality (Mohr, 1982) and the establishment of scientific realism in the social sciences (Sayer, 1992). It is likely a matter of time until DBR will evolve to the sufficient level of maturity and, along with an appreciation of the weaknesses of purely quantitative methods (Maxwell, 2004), will be accepted as a legitimate methodological approach producing knowledge relevant for policy and practice without having to re-establish the basic logic of DBR in each and every individual study.

At the moment, however, it is still a challenge to make DBR research outcomes influence policy decision making. While DBR has arguably contributed to bringing learning research closer to the tactical level of teaching in the classroom, it is not as clear how it can make inroads at the level of policy making and strategic school decisions. At policy level, the priority currently given to large-scale randomised field trials in many educational systems (such as the USA, National Research Council, 2002) is not conducive to make outcomes of design experiments count. Likewise, the reliance on data from standardised tests as the main – and often only – kind of

evidence on students' learning at school and district level is detrimental for DBR's impact.

However, the increasing adoption of evidence-based policy making, and data-driven decision making at a school level (Mandinach & Honey, 2008) could eventually turn out to be an avenue for increasing DBR's policy and school level impact. What would be needed, though, is a widening of the kind of evidence and of research methods that enter into the respective decision-making processes. As it becomes increasingly obvious that data from yearly administered standardised tests do not provide conclusive information that can inform, in a meaningful way, how teachers address their students' learning needs, and as the discussion moves to provide nuanced information on individual students' learning 'just-in-time', based on data from numerous sources available in and outside of the classroom (Crawford, Schlager, Penuel, & Toyama, 2008), methods and findings from DBR become more relevant. However, for DBR to have a real impact on national policies and on decision making at district and school levels, the findings that DBR can generate need to be of relevance to the educational system on these levels. As Rothkopf's (2008) intriguing account of the disconnection between learning research and school practices proposes, given the current logic by which schools are run in most educational systems, results from learning research concerning the effectiveness and efficiency of pedagogies and technologies are by and large irrelevant:

> Effectiveness at the tactical lesson level is not easy to monitor because classroom interactions do not leave records that can be easily analyzed. We cannot expect the managers of current common schools to eagerly seek substantive guidance from results of learning research and its entailments in the immediate future. (p. 362)

While this is clearly a problem for DBR and the learning sciences, it also hints at a solution for the problem: we must make it possible to record and rapidly analyse classroom interactions, so that eventually teachers' pedagogical practices and students' learning practices ('lead indicators' in management parlance), not just achievement data ('lag indicators'), enter into decision making at all the levels where educational decisions are made.

While contributions to clarifying the methodological basis for DBR are plentiful, the problem of how to make DBR a scalable methodology needs further attention; some of them are discussed more extensively in Chapter 21 of this volume by Markauskaite. *Data deluge* figures prominently amongst them: even experienced practitioners of DBR 'drown' in data and grapple with the complexities of planning and documenting the multi-cyclical process of design and theory revision. Problems remain in research training: the almost exclusive focus on variable-centered methods in quantitative training, and the lack of concern for formal analysis of qualitative data are not productive for DBR uptake. Problems remain in the area of research dissemination and publication. Longitudinal research designs are hard to fit into the conventional journal paper format, in particular when involving data in multimedia format, and narrative accounts. Tackling challenges such as these could be a productive way forward.

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# Chapter 4
# Design-Based Research: Reflections on Some Epistemological Issues and Practices

**Richard Walker**

## 4.1 Introduction

In this response I briefly outline Ann Brown's (1992) arguments for conducting design experiments in innovative classroom environments, and I identify the promise that design-based research holds for informing classroom practice. I then draw attention to several limitations of design-based research.

In her seminal article, Brown (1992) argued that the design experiment involves a researcher in designing or engineering innovative classroom environments that are informed by theory and experimental research and which contribute to further theory development, research and practice. Brown argued that the theoretical basis of the design experiment provides an explanation for the success or failure of classroom interventions and therefore provides a basis for their repeatability and reliability. As well as contributing to further theoretical work and experimental research, design experiments are also intended to contribute to practice. Brown argued that the classroom should be seen as a systemic whole, in which changes in one aspect of the environment have implications for all other aspects. In her view, the main issue of concern is not the multiple confounding of variables, but, rather, the inclusion of 'the essential features that must be in place to cause change under conditions that one can reasonably hope to exist in normal school settings' (p. 173).

Brown considered three methodological questions. The first concerned the relationship between experimental or laboratory studies and classroom studies. She argued that neither type of research should be considered as pure basic or pure applied research, as theoretical advances could emerge in either context. Furthermore, she considered that studying a phenomenon in the experimental context and the classroom context leads to greater understanding of that phenomenon, and she suggested that an understanding of an experimental finding can sensitise a researcher to that phenomenon in the classroom context.

R. Walker (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: richard.walker@sydney.edu.au

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Secondly, Brown discussed the issue of idiographic and nomothetic approaches in research: that is, the study of a 'single variable in many subjects for the purpose of discovering general laws or principles of behaviour' (p. 154) as opposed to 'the thorough study of individual cases, with an emphasis on each subject's characteristic traits' (p. 155). She suggested that the multi-faceted nature of research in classrooms leads to a mixed-methods approach involving elements from both qualitative and quantitative research methodologies.

Thirdly, she discussed the issue of the selection of data, referred to as the 'Bartlett effect', for reporting in classroom studies. Brown cautioned that, as large quantities of data are collected in classroom studies, the selection of small samples of data from this large data corpus will generally support the theoretical position of the researchers, and constitute a serious methodological threat for the design experimenter.

Finally, Brown discussed the criticism that her design research findings might be due to Hawthorne effects. She examined the original Hawthorne research and concluded that the perception of change and control on the part of participants in a design experiment was what she hoped to achieve in her attempts to create innovative classroom environments. Perceptions of control, she argued, can encourage learners to be active and inquiry-oriented in their learning. This re-examination of the Hawthorne effect studies, and their analysis in the context of design experiments, provides a very interesting and useful discussion that is still relevant for educational researchers who are concerned with research in naturally occurring, but innovative, classroom environments.

Since the publication of Brown's (1992) article, and a similarly important article by Collins (1992), there have been successive waves of interest in design experiments and in what has more generally become known as 'design-based research' (DBR). Special issues on the topic have appeared in *Educational Researcher* (Kelly, 2003), the *Journal of the Learning Sciences* (Barab & Squire, 2004), *Educational Psychologist* (Sandoval & Bell, 2004) and *Educational Technology* (Dede, 2005). Several edited books have been published, including those by van den Akker, Gravemeijer, McKenney, and Nieveen (2006), Kelly, Lesh, and Baek (2008) and Plomp and Nieveen (2009). While much of the design-based research literature is concerned with aspects of methodology, design-based research has been conducted in the domains of learning, mathematics and science education, educational technology, literacy and curriculum development. Although Brown's (1992) original methodological ideas have been considerably developed over the last 17 years, as Reimann (Chapter 3, this volume) has demonstrated, her key insights remain relevant today. Reimann's reference to 'data deluge', a much discussed issue in the DBR literature, is a case in point. When researchers are deluged with data, a significant proportion of which may not be analysed, the Bartlet effect, discussed by Brown (1992), becomes even more significant. On what basis do design-based researchers make their decisions about what data to analyse and what not to analyse? This is an important issue for design researchers, and one which they should address in published reports of their research.

In essence, design experiments and research attempt to create a cyclic relationship between theory, research, and educational practice. It is this relationship that makes this methodology so potentially important to education and educators. Although it must be acknowledged that, at this point in the evolution of DBR, the contribution of research to practice much outweighs the contribution of practice to theory development, the importance of the contribution to practice should not be underestimated. While the experimental study is the 'gold standard' in demonstrating causality (Shavelson, Phillips, Towne, & Feuer, 2003), in educational research it is accurate to say that only a small number of experimental research programmes actually include the sequence of experimental studies, quasi-experimental studies and field studies that are necessary for research findings to be considered generalisable to the classroom environment. In fact, only several areas of research in educational psychology come to mind in this regard. Research into metacognition, broadly considered, and with a more specific focus on reading comprehension and reciprocal teaching, can be seen to have progressed through experimental and quasi-experimental studies and can be considered generalisable to the classroom context. Similarly, self-regulated learning has been investigated through experimental, quasi-experimental and correlational research and has now been implemented in professional learning field studies. There are many areas of research endeavour, however, where the experimental research findings do not allow claims of generalisability to the classroom context, cognitive load research being a case in point. Thus, while experimental research may demonstrate causality and contribute to theory development, it often does not inform educational practice. Design experiments and research thus offer the promise of making educational theory and research relevant to classroom practice and vice versa.

While DBR offers significant promise for educational practice, in the remaining sections of this response I draw attention to limitations in the DBR literature in three areas: the attention given to epistemological issues, some insularity, and the turn to engineering for research methods guidance.

## 4.2 Epistemological Issues

A very noticeable aspect of the design research literature is the absence of discussion of epistemological issues. In the recent *Handbook of Design Research Methods in Education* (Kelly et al., 2008), for instance, the word 'epistemology' is not even used as an indexing term, and, while the word is not totally absent from the general DBR literature, there is no serious discussion of epistemological issues. This is surprising in a literature concerned with research method, but it is even more surprising in view of the fact that design experiments and research are considered to involve mixed research methods. In fact, there seems to be no acknowledgement in the design research literature of the serious epistemological debates that took place between quantitative and qualitative researchers in the 1980s and 1990s, the so called 'paradigm wars' (Gage, 1989). The paradigm wars were

concerned with the compatibility of quantitative and qualitative research methods, with leading proponents of both types of methodology arguing that the two approaches were incompatible in terms of their ontologies, their epistemologies, and their understanding of the nature of causality and generalisability. While the matter was generally settled for many with an argument from pragmatist philosophy (House, 1994) that qualitative and quantitative approaches are compatible, research methodologists dealing with mixed methods need to at least acknowledge the epistemological issues considered in this debate. It is instructive in this regard to compare the absence of epistemological discussion in the DBR literature with the examination of epistemological issues in some well known texts on mixed-method research. For example, Tashakkori and Teddlie (1998) devote two chapters of their book to an explication of the notion of paradigms, and provide the reader with a comprehensive overview of the philosophical issues involved in mixed-method research.

It is also worth noting, before leaving this point, that Tashakkori and Teddlie (1998) also provide their readers with a more detailed and sophisticated understanding of mixed research methods than is gained through a reading of the DBR literature. While the emphasis in the design-based literature has been on the design cycle or the argumentative grammar of the research, as explained by Reimann (Chapter 3, this volume), the nature of mixed-methods research seems mostly to be taken for granted. Tashakkori and Teddlie (1998), on the other hand, provide an important discussion of mixed-method and mixed-model research. They differentiate mixed-method research, in which quantitative and qualitative methods are used in the one study, from mixed-model studies 'that combine the qualitative and quantitative approaches within different phases of the research process' (p. 19). The detailed discussion of various kinds of approaches could usefully help design-based researchers to broaden their understanding of mixed-method research.

## 4.3 Insularity in the DBR Literature

It is also evident that there is some insularity in the design-based literature, with a lack of reference to some research traditions that have commonalities with design research. The best example of this can be found in discussions of teaching experiments which, in common with DBR, aim to bridge theory and practice. While reference is made to teaching experiments in mathematics, there is no reference to the socio-cultural tradition of teaching experiments in science and mathematics inspired by the work of Davydov, but having its ultimate origins in Vygotsky's ideas. As Renshaw (1996) and Hedegaard (1996) have explained, Davydov's teaching experiments derived from a theory of knowledge and view of intellectual development which emphasised theoretical and empirical knowledge. The role of education for Davydov was essentially to ensure an intertwining of theoretical and empirical knowledge and to develop a theoretical orientation to the world. In his chapter on the mathematics education of young children, Renshaw (1996) explains

Davydov's interpretation of socio-cultural theory and provides a detailed account of Davydov's mathematical teaching experiments and the ways theoretical and empirical knowledge were connected in them. In a similar vein, Hedegaard (1996) describes a science teaching experiment conducted with 9 and 10 year old children in two Danish public schools. The students were taught theoretical concepts concerning evolution over a period of 1 year in one school and over a period of 3 years in the other school. The study revealed qualitative differences between students in terms of their understanding of evolution, which Hedegaard considered to be due to the teaching methods used and the content of instruction.

While there are differences between these studies and the DBR studies, there are commonalities, notably in the use of qualitative research methods. Examination and analysis of socio-cultural teaching experiments, with relevant comparisons, might have value in extending the theory-implementation-theory understanding of design-based researchers.

## 4.4 Looking Towards Engineering for Research Guidance

Another notable feature of the DBR literature is the turn to engineering for research methods guidance. While this trend is evident throughout the literature, it is most fully developed by Hjalmarson and Lesh (2008) in a chapter which examines the process of design from an engineering perspective. To some extent, Ann Brown might be considered responsible for this trend, since it was she who first referred to the 'engineering' of learning environments (Brown, 1992). It is, however, interesting to reflect on the fact that the tendency of educational researchers to look to other disciplines for research guidance has a long history; the early educational statisticians, for instance, looked to agricultural research when developing their experimental statistical techniques. In the current context, we need to ask whether engineering is the most appropriate field for educational researchers to turn to. While it is true that engineering, like architecture, is a design science, it is also the case that these design sciences have, as their primary concern, the design and creation of products for human use. The primary purpose of DBR, on the other hand, is to improve the learning of human beings. Therefore, while design researchers concerned with computer software might see their situation as in some ways analogous to these design sciences, it should be remembered that software design, while important, is also primarily a means for enhancing learning. There is, then, a significant difference between the purpose of design in the design sciences and design-based research in education. It may therefore be more appropriate for design researchers to turn for guidance to research approaches that emanate from the humanities and social sciences, such as sociology or literature, for instance, as these research approaches have been developed from an understanding of human subjectivity and experience. In this regard, Reimann's (Chapter 3, this volume) reference to Abell's (2004) narrative explanation approach to causality is important, as is his recognition of the potential of critical realism to assist design-based researchers to develop new understandings of explanation and causality.

## 4.5 Conclusion

While this response has highlighted some shortcomings in the DBR literature, it is clear, as Reimann's chapter has demonstrated, that design-based research holds significant promise for generating stronger connections between experimental research findings, theory, and educational practice.

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# Chapter 5
# Action Research in Education and Social Work

**Susan Groundwater-Smith and Jude Irwin**

## 5.1 Introduction

This chapter is a dialogue about action research in education and social work. We commence with an assertion that action research is not a methodology but an orientation to inquiry with an obligation to action. As such it admits a number of methodological approaches but resists quasi-experimental ones on the grounds of the particularity of context and the specificity of purposes.

The major purpose of action research is practical, leading to the development and improvement of practice. It is participative and inclusive of practitioners and consequential stakeholders, such as students in schools and users of human and community services. It uses evidence forensically, that is to understand particular phenomena, rather than adversarially, where the pressure is to prove that one treatment may be better than another.

We argue that action research can make a powerful contribution to professional knowledge building. We see formal knowledge (episteme) as lying at one end of a continuum, where the intention is to seek knowledge for its own sake; action research is at the other end of the continuum and is concerned with practical knowledge informing the moral disposition to act wisely, truly and justly (phronesis). A task for the academy is to assist in the building and understanding of that continuum.

## 5.2 The Problem Space in Which Action Research Occurs

Our first assertion, as stated above, is that action research is not a methodology (Carr, 2006, 2007), rather an orientation to inquiry with an obligation to action. For it can be argued that a methodology refers to the coherent theoretical selection of methods to be employed, not to the methods themselves. In action research the theoretical analyses are far more eclectic than the term 'methodology' suggests – they are driven by the nature of the problems being studied, which may be

S. Groundwater-Smith (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: susangs@iinet.net.au

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numerous. While methods are the tools employed to study a phenomenon, methodology applies to the principles underlying them. This assumes the possibility of an *a priori* standpoint against which the study can be judged to be efficacious or otherwise.

As such, action research does not bear the hallmarks of the technical rational aspects of positivism and empiricism, where research is seen as mainly concerned with the prediction and control of practice. Instead it seeks to illuminate the local; to provide participants with insight and understanding through forms of systematic inquiry that address issues and questions that are of significance to those concerned with human enterprises, be they in education, social work or the like. At its most essential, it can be said to be transformational. Elliott (1991) defined it as 'the study of a social situation with a view to improving the quality of the action within it' (p. 69). Griffiths (2009) takes us further in making the case for action research to enhance social justice in education through maximisation of participation and a conscious mindfulness of what is fair and right.

Action research is contextual and collegial. Context is not merely a background to what is undertaken in the name of action research; it is a complex amalgam of social and material conditions within which action research takes place. When speaking of context it is essential to see it as a construct that is far more dynamic and problematic. In effect, it is what Schatzki (2002) refers to as 'the site of the social', that proposes that place and space, geographic, historical and cultural, all play their part in the construction of social practices, taking account of social order, agency and the impacts of the social present upon the social future. Saltmarsh (2009) asks us to consider context as 'practiced place', where place is understood as constructed and where the social is made by individuals and individuals are made by the social. While the intentions and principles of action research may be shared across many such practice settings, the enactment must necessarily vary in accordance with the material, socio-political and cultural formations within which they are constructed. In effect, action research is itself mediated by place and is transformative in nature.

In this chapter we ask three fundamental questions: How can we see professional practice in education and social work anew, through the eyes of practice-based action researchers, community members and academics alike? What is the contribution that can be made to the development of professional knowledge and to social change? How and what can we as education and social work academics learn, given that we are also practitioners? As we answer them, we go through a series of more specific questions in the sections below.

## 5.3 The Apparatus of Action Research

What do we and our partners understand action research in education and social work to be? While there is a reasonable level of agreement between academia and those who are participating about ways in which action research in education and social work can be understood and designed, there are some differences, both in the way action research is conducted and in the contexts in which it is undertaken.

In both areas it seeks to find effective solutions to problems people confront in their everyday lives. They can be professionals (teachers and practitioners in human services), or other participants (individuals or community groups, workplaces or organisations).

The focus of action research across social enterprises – be they in education or social work – is to work towards social change, which is enacted with an explicit set of values: it is democratic, encouraging and facilitating participation from all those involved; it is equitable, recognising and valuing different contributions of the participants; it is liberating, providing responses to debilitating situations; and it is life enhancing, enabling participants to realise their potential. Thus there is an assumption that all those whose lives are affected by a problem should be engaged in the process of its investigation. Collaborative exploration assists all participants to develop more nuanced and sophisticated understandings of the issues with which they have to grapple. Their diverse knowledge and experience are drawn together to produce creative solutions to problems. This is an important progression from the system world to the life world of participants. Concentrating on a system world, as that formally organised and structured sphere of influence, to the detriment of the life world, constituted of culture, society and individual personality, can result in what Percy-Smith (2007) has referred to as the 'policy learning gap' between professional assumptions about needs and requirements and the reality of what it is that participants need and desire.

Central to practice in any professional practice context is the need to understand that practice beyond the grasp of the technical skills required to conduct it, important as these may be. In effect, it is necessary to apprehend the commonplace by disassociating from it; thus it is essential that fully actualised practitioners have a capacity to stand back from what is done and ask the difficult questions regarding ways in which the practice is evolving and its range of impacts. It is an argument that has long been recognised by those with a commitment to professional inquiry. For example, within the field of education, the late Lawrence Stenhouse (1975) advocated that teachers evolve a self-critical, purposeful examination of practice for the benefit of both themselves and their students. In this case, inquiring teachers are seen as engaged in a form of intellectual and practical self-management.

This could equally be applied to social work practice, with much contemporary literature urging professional practitioners in the human services to critically reflect on their practice to query and 'deconstruct' their assumptions and biases and to explore and expose the ways relations of power and domination oppress people in terms of gender, race, class and ethnicity and other characteristics of difference (Fook, 2002).

Engaging in teaching and social work, and all that those professional practices entail, becomes, in effect, a discomfort that unsettles professional certainty and requires investigation, analysis and reasoning. This investigation liberates those who practice it from a false consciousness of who they are and what they do. It requires a capacity for systematic gathering of evidence related to a specific problem or challenge. This evidence, made available for public scrutiny and debate, allows for more transparency about the ways in which practitioners think and act than is the case

when they work in the isolation of their classrooms or offices. These processes have the potential to liberate practice from its more habitual constraints – however, without forms of external support this can prove most difficult (Groundwater-Smith, 1998). Lifting the scales from the eyes is difficult to do alone, and academic partners could provide some scaffolds. But this should not be taken to be a kind of one-way surgery; the academic researcher has as much to learn as the field-based practitioner.

Action research under any guise is both a costly and a risky business. For professionals such as teachers and social workers to plan for, enact, analyse and interpret their everyday practices, with or without academic partners, demands time, intellectual commitment and resources. Few individual worksites have the economic capacity for the kind of investment that is required. Thus it is the case that much of what is undertaken in the name of action research, or facilitated practitioner inquiry (call it what you will), is necessarily underwritten by government programs, research grants or community development projects.

There is rich ground for dialogue and debate, for academic and practitioner learning. Such learning will best occur when each party is prepared to listen to the other under circumstances that are unconstrained by established habits of mind. It is also possible to see the considerable opportunities available to create and build upon professional knowledge.

## 5.4 Action Research in Practice: Examples

What does action research look like in practice? Raewen Connell in her response to John Ainley's presentation, the first in the Colloquium series *Bridging and Blending Disciplines of Inquiry* (University of Sydney, Faculty of Education and Social Work Methodological Colloquia, 2009), suggested that much educational research was characterised by shallow measures and deep statistical analysis. She suggested that there was imprecision in the level of detail in terms of the results that drove and legitimated policy decision making. Among other things, she cited gender comparative studies, which produced almost zero effect sizes and thus could be recast as similarities. However, when we turn to a small-scale classroom or community service inquiry we can find a very different picture emerges.

### *5.4.1 Disengaged Boys*

Recently one of us was invited by a Victorian State primary school to work with them on a 'negotiated review' to investigate what lay behind their results in the student attitude to school survey in terms of their perceptions of teacher effectiveness, teacher empathy, stimulating learning and school connectedness. In comparison to their age peers across the State, boys attending the school thought less favourably of their school and of their teachers. Why was this so? Using a range of consultation strategies and working with a small action research team, we conducted intensive

focus group discussions. It was revealed that, for a number of the boys, the emphasis in classroom practices upon neatness, quietness and conformity left them feeling that they were little valued and that their opinions were of little consequence. Among other things they nominated that:

- their teachers were not seen to be listening
- schoolwork was often boring, repetitive and irrelevant
- most rejected or neglected homework as trivial and time wasting
- the school was too focussed on preserving the status quo.

They wanted their teachers to 'lighten up'. In order to improve and develop there was a view that time was always at a premium; there never seemed to be enough time to finish things, 'some people need more time, but don't get it'. Their teachers could help them more by managing inappropriate behaviour fairly, showing how to actually accomplish things rather than just instructing, and, when instructing, making it clear and 'tell[ing] it in more than one way'. They perceived that there were too many threats and not enough incentives, 'it's a turn off'.

When consulted regarding potential solutions, they proposed a more active learning environment, in particular using outside spaces for learning rather than the confines of the classroom. As a result new policies have been developed to: take time-out breaks outside the classroom; develop sustainability projects involving the creation of a vegetable garden; and provide opportunities for older males to be involved in school activities. Prior to this few fathers had been able to attend the school as volunteers in the same way that mothers were available, so fathers, grandfathers and male community members are now being asked to make one-off visits to discuss their work and their achievements. No-one claims this is rocket science, but it is a good example of a school that identified what it saw to be problematic, constituted a small inquiry team, developed strategies for consulting the young people and then instituted change. The school is now poised to review these changes and the impacts that they may have had on boys' engagement. It would not be appropriate to make wide generalisations from this study, but it does offer practical solutions *in situ*.

Indeed, Stake (2004) argues that generalisations about a case or a few cases may be best characterised as 'petite generalisations' that extend and discipline common sense. Much action research can be argued as being the art of gaining strategic knowledge that democratises research practices, a matter to be discussed in our next section.

### *5.4.2 Towards Better Practice*

'Towards Better Practice', a 3 year project, aimed to improve collaboration between practitioners in mental health and domestic violence services. Research evidence shows a strong link between domestic violence and mental health (e.g., Carlson, McNutt, Choi, & Rose, 2002), but it also shows that practitioners working in

these service sectors often do not collaborate. This results in women who experience domestic violence and mental health concerns 'falling through the gap' (e.g., Humphreys & Thiara, 2003). The purpose of the project was to work with practitioners to develop locally based initiatives to improve collaboration between services and provide a more comprehensive service for women who have contact with both service sectors. A number of methods were used. To keep women's experiences of using these services central we began by interviewing 33 women, obtaining rich information about their experiences of domestic violence and mental health services. A self-completion survey was then undertaken with practitioners, exploring the practices of mental health and domestic violence workers about intervention with women experiencing domestic violence and mental health problems, the barriers and opportunities for collaboration between mental health and domestic violence services and ideas for collaboration. This was followed by a series of focus groups interviews. Initial focus groups were held in local areas with practitioners from each service sectors separately. The ideas generated from these were then fed into another series of focus groups, which included participants from both service sectors. This joint focus group was often the beginning of dialogue between the mental health and domestic violence practitioners, and, where the decision was made about continuing to the fourth phase of the project, action evaluation. In this phase practitioners worked with researchers, developing new collaborative initiatives and then trialling and evaluating them. These practitioners were also involved in the production of creative ways of collecting data so the initiatives could be evaluated. This led to the finetuning and re-trialling of the initiatives.

The research produced new collaborative ways of working between these two sectors in three specific locations in NSW. These innovative approaches included:

- a mental health consultation line for domestic violence specialists
- a collaborative outreach service model that increases the rate of identification of women experiencing domestic violence within mental health services and offers a timely joint intervention
- a training package for domestic violence and mental health workers providing ongoing education and opportunities for liaison and skill sharing across the two sectors
- a service agreement between the two sectors, providing clear guidelines and accountability mechanisms for working together and ensuring sustainability of collaboration beyond the life of the research and the participation of particular personnel
- creation and funding for a new, dedicated domestic violence mental health liaison position to ensure the further development and sustainability of the collaborative initiatives established in the project.

Some of the key features contributing to the outcomes of this research were its iterative nature with solutions emerging from the process, attention to the context of practice in each area, inclusivity and focus on participation, collaboration and work towards positive social change.

## 5.5 Issues and Debates

How can we re-conceptualise knowledge and theory building as action researchers? The place of theory in action research differs from that in experimental or quantitative research. In these approaches theory and hypothesis 'drives' the processes of inquiry, whereas Reason and Bradbury (2001) suggest that in action research 'Theory is used to bring more order into complex phenomena, with a goal of parsimonious description so that it is also of use to the community of inquiry.' (p. 451). They go on to argue that 'A new theory enables us to "re see" the world, or see the world through taken for granted conceptual categories that are oppressive or no longer helpful' (p. 451). Carr (2009) in writing of educational theory claims that it is 'itself an historically formed practice inextricable from the local and parochial contexts within which it is produced and always dependent on the kind of contingent norms, values and beliefs that it claims to examine and assess in the practice of others.' (p. 58).

Gustaven (2001) argues that there is no direct logical connection between theory and practice. He suggests, 'The link is a discursive one where ideas, notions and elements from theory can be reconsidered in the development of practice but with no claims to being directly applicable.' (p. 18.) He goes on to suggest that theory can 'inform a process of enlightenment and out of this process can emerge new practices' (p. 18). For example, when working with a community to develop community capacity, the purpose of action research would be to build collaboratively constructed descriptions and interpretations of events (i.e., local theories) that enable community participants to develop mutually acceptable solutions to their problems.

We also recognise that practitioners themselves will have their own theories of how their worlds functions. As Polanyi (1958) observed, we participate personally in our worlds and we are influenced by the traditions and practices of those worlds. He argues that we always know more than we articulate as we 'indwell', and this tacit knowledge drives, in part, the ways in which we both interpret our worlds and act upon them. Individual personal theories may or may not embody moral deliberation upon the perplexities of practice. Thus a teacher, for example, engaged in an action research project that is exploring values in education, will be driven by the espoused values of the project, but may also have personal theories about issues such as inclusion and multi-culturalism. So, whether we like it or not, the questions that may be asked of practice not only shape the answers, but also inform the professional knowledge that is produced in response to those questions.

Theory and professional knowledge building is a complex and difficult matter in the context of practitioner research. This matter is discussed at length in Groundwater-Smith and Mockler (2009, pp. 46–52). In this chapter they argue that in their seminal work *The new production of knowledge*, Gibbons et al. (1994) posit that knowledge production has been transformed. They make a distinction between 'Mode 1' knowledge that is generated within the academy, or research establishments, through the filter of the disciplines, and 'Mode 2' knowledge that is created in broader, transdisciplinary social and economic contexts. Each site of knowledge

production is governed by the norms and conventions that operate within it in terms of problem articulation and the generation of solutions. What is important to note is that Gibbons et al. (1994) still held to the principle that knowledge, that is produced through research, lies in the hands of a research community. The evolution of research paradigms rests with that community, rather than having emerged from the field itself. However, as Groundwater-Smith and Mockler (2006) observed more recently, Nowotny, Scott, and Gibbons (2003) have argued that judging the worth of the Mode 2 knowledge is no longer the exclusive province of the academy 'because there is no longer a stable taxonomy of codified disciplines from which 'peers' can be drawn' (p. 187). Indeed, they continue by asserting that the 'research game' is being joined by more and more players. Problem generation and problem solving are contextualised within professional practice in the face of 'variously jostling publics' (p. 192).

In spite of these assertions, it is still clear that, while the knowledge may not be discipline-based or generated within the academy, Mode 2 knowledge still remains the province of the privileged who have the resources and capacity to publish through recognised media, whether journal articles, books or refereed conference papers.

However, the explanations and theories from the academy do not always fit comfortably into people's everyday life. Stringer (2007) suggests:

> The language, forms of propositional knowledge and sometimes the arcane idiom of academic texts are frequently inaccessible to a lay audience. Academic theories are embedded in a set of concepts, assumptions, and views of reality that make sense only within a particular social context – in this case the discourses of the academic world. (p. 188)

Even so, where research is recognised and adopted as the basis for evidence-based practice remains problematic. The 'what works' agenda, as espoused by David Hargreaves (1999) where he called for teaching to become an evidence-based profession, can result in the unquestioning acceptance of particular kinds of scientific evidence and clearly does not consider the more forensic approach advocated by those with an affiliation to practitioner inquiry. There is a similar argument in social work and the 'caring' professions with a call for evidence-based practice (driven by medical research) at a time when economic rationalism, proceduralism and a piecemeal approach to practice has run rampant. The question left unanswered is who decides what constitutes evidence. As Higgs, McAllister, and Whiteford (2009) in their discussion regarding professional decision making in the health professions have argued:

> The era of accountability is fuelled by a techno-rationalist mentality that potentially reduces professional practice to a series of procedures and actions driven by a need to meet instrumental reporting and recording requirements, system-driven modes (such as evidence-based practice and performance criteria) and external demands (such as institutional and program accreditation by professional or government regulatory authorities). (p. 104)

For practitioners in the field, the effect of turning to the evidence of 'what works' can be confusion and uncertainty. It is at this intersection that the conversation between the academy and the field can be seen to be particularly powerful. This brings us to a

third way of thinking about professional knowledge, which we suggest is 'Mode 3' knowledge. As Peschard (2007), quoting from Cartwright (1999), observed, at the beginning of an article advocating the participation of the public in science:

> The great challenge that now faces philosophy of science [is] to develop methodologies, not for life in the laboratories where conditions can be set as one likes, but methodologies for life in the messy world that we inevitably inhabit. (p. 138)

In support of her case she tells of the Cumbrian hill farmers whose experience was ignored in the formulation of policy regarding the safety of their products post-Chernobyl. One might speculate regarding who should learn from whom and how?

Green and Hannon (2006) have identified four key components to learning: finding information and knowledge, doing something with it, sharing it with an audience and reflecting on it. But Stenhouse (1979, 1983) in a pre-digital world drew our attention to an understanding that information and knowledge are two different things, 'Information is not knowledge until the factor of error in it is appropriately estimated' (Stenhouse, 1983, p. 141). However, estimating error is not easily undertaken alone – it is something that requires social interaction as ideas are explored and arguments developed and justified. Ozga (2007) claims that:

> The most significant indicator of quality (in knowledge production) is learning. Learning emerges as critical to these knowledge processes. Good quality knowledge production is influenced by and responsive to the ability of the different members of the network researchers, practitioners, policy makers, members of voluntary groups to re-evaluate their existing knowledge and learn from the processes in which they are engaged. (p. 175)

Eraut and Hirsh (2007) distinguish between forms of knowledge rather differently. They believe the narrowest definition to be what they call 'codified knowledge' (p. 5), that which is stored in books and journals and contrast it to 'uncodified cultural knowledge' which is acquired informally through participation in the working practices of the organisation and which contributes to the formation of 'personal knowledge'.

Since they believe personal knowledge comes from observation and experience they see it as '*holistic* rather than *fragmented*' (p. 6, original emphasis) and able to produce capability. Although they ultimately eschew the term, we could argue such knowledge is 'personal knowledge' and it comes about through both tacit and explicit social interactions. All the same, Eraut (1994) in his influential book *Developing professional knowledge and competence* argues professional knowledge cannot be characterised independently of how it has been learned and is used. Mode 3 knowledge production, then, will be as much about social interaction (in both the virtual and actual worlds) that are continuing to burgeon and expand as about the tabling of information in the first instance. It is about what Castells (2001) calls 'power networking':

> This power networking is changing the way we perceive, organise, manage, produce, consume, fight and counter-fight – embracing practically all dimensions of social life. The interaction between the revolution in information technology, the process of globalisation and the emergence of networking as the predominant social form of organization constitutes a new social structure: the network society. (p. 548)

It is clear that, in contrast to the development of Mode 1 and Mode 2 knowledge, we are now in a professional environment that is being increasingly democratised. Professionals in the field are finding their own ways to organise, evaluate and disseminate information that bypasses traditional academic forms. Advocacy of action research is an argument for dialogue.

Action research is often quite fragile. For many it is a first attempt. They may have a view of research limited to the positivist paradigm and believe they need to engage in some kind of randomised control trials; others are open to ways of developing inquiry tools that will meet their needs, but are unsure about how this may be best managed; most are uncertain about reporting their studies, how to write about their experiences, especially should their writing embody some kind of critique. This requires of all of us a capacity for reflection and, ultimately, to be reflexive.

This can be reinforced for researchers when reviewers of research applications often comment on the lack of rigor or the need for a control group. The following is an example of this in relation to an application that proposed to use an action research approach in working with disadvantaged communities:

> . . .how will the researchers know that it is their intervention that is resulting in change and not the result of other factors such as another non government organisation offering new resources. At a minimum the approach should have included several sites where no intervention was to take place to serve as a form of control. (Reviewer's comments on a competitive research grant, 2008)

## 5.6 Conclusion

Finally, we ask ourselves three questions: Can action research be truly reflexive? Can we understand our historical and social contexts when we are embedded within them? Do we have an understanding of the architecture of practice?

Sandelowski and Barroso (2002) in discussing the scholarship of practice in nursing suggest that:

> Reflexivity implies the ability to reflect inward towards oneself as inquirer; [and] outward to the cultural, historical, linguistic, political and other forces that shape everything about [the] inquiry. (p. 222)

Action researchers, intent upon solving practical problems that arise in their work, may find the reflexive turn a difficult one. Not only are we asking that they undertake their inquiries in a systematic and public fashion, but that they reflect upon their discoveries in the context of the historical and material circumstances in which they find themselves. It is at this particular juncture that the possibilities for transformation are critical, but seem difficult to establish. After all, being reflective is itself a time consuming activity in a world of practice that is being increasingly intensified with its press for accountability in relation to all facets of professional work. As Lash (2003) has put it:

> We may wish to be reflective but we have neither the time nor space to reflect. We are instead combinards. We put together networks, construct alliances, make deals. We must live, are forced to live, in an atmosphere of risk in which knowledge and life chances are precarious. (pp. 51–52)

Not only that, but the capacity and opportunity for reflexivity does not guarantee we will necessarily reach the heart of the matter. Few can forget the intake of breath when Baroness Estelle Morris, in her address to the British Educational Research Association annual conference in 2006, confronted researchers with the inconvenient truth that government policy regarding education rests more upon ideology than research. The academy itself may reflect upon its research and scholarship, place it within current and past historical circumstances, question and critique actions and still not arrive at such an understanding.

In his most recent writing Kemmis (2008) discusses the notion of 'practice architectures' that enable and constrain conduct in three dimensions, the 'sayings', 'doings' and 'relatings' of practice. He argues that when these structures, practices and relationships become

> sedimented and institutionalised they then function as mediating preconditions for subsequent practice [. . .] preconditions that pre-form what kinds of practice will be possible. (p. 25)

He quotes Marx (1852/1999):

> People make their own history, but they do note make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past. The tradition of all dead generations weighs like a nightmare on the brains of the living. (Kemmis, 2008, p. 25)

In making his arguments, Kemmis draws upon earlier mentioned work of Schatzki (2002) who describes practice as 'the site of the social'. So it may be that the aspiration is for both action researchers in the field and university-based academics to be reflexive together, to learn from each other and break from the boundaries and constraints of habitual practice. Even though the challenges are great, they are not insurmountable. Learning to be defiant against the odds of being compliant means learning how to challenge established social and political assumptions and to develop resilience (Newman, 2006). It is not for the faint hearted.

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# Chapter 6
# Action Research and Professional Learning: Some Reflections on Inquiries that Advance Professional Knowledge and Practice

**Robyn Ewing**

## 6.1 Introduction

Agreeing with many of the arguments and views advanced by Groundwater-Smith and Irwin about action research in the preceding chapter (Groundwater-Smith & Irwin, Chapter 5, this volume), this response chapter argues that action research can be regarded as both 'an orientation to inquiry with an obligation to action' *and* a methodological approach for advancing professional knowledge. This chapter begins with the claim that action research should be regarded as a conceptually coherent methodological approach even though, as Carr (2007) argues, it does not fit a positivistic framework. Initially it explores some assumptions underpinning action research arguing that, along with improving their professional practice, action research enables practitioners to come to a deeper understanding of it. In some instances the distinction between action research and action learning can thus become blurred (e.g., Aubusson, Ewing, & Hoban, 2009). Recent exemplars in which action research has led to changes in beliefs, knowledge and practice, and ultimately sustained reform are briefly presented. Finally, some challenges facing action researchers are raised.

## 6.2 Action Research as a Methodology for Reforming and Deepening Professional Knowledge

One of the most longstanding and contentious issues in social science research literature is how to define a research methodology, and how to decide when a certain set of inquiry practices should gain the status of a legitimate approach for creating knowledge (Creswell, 1998; Smith, 2002). A research methodology should be seen as an inter-related set of philosophical assumptions, rather than a technical process that must fit one set of particular conventions. These assumptions lead to principles that provide a framework to undertake research and to explore a particular research

R. Ewing (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: robyn.ewing@sydney.edu.au

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question or set of questions. These assumptions and principles have implications for every step of the research, from the questions identified as appropriate for the investigation, to the nature of the data needed, to the methods that are employed, to the analyses that are appropriate and, finally, to the claims that can be reasonably made or the conclusions that can be drawn.

Action research is a distinct approach based on a set of assumptions that differentiate it from positivistic, and other interpretative, methodologies. These assumptions include the investigation of professional practice in a specific context in order to enhance and reform this practice, often to improve equity or social justice. Carr and Kemmis' (1986) definition of action research is helpful here:

> a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understandings of these practices, and the situation in which the practices are carried out. (p. 162)

While a number of other recognised research methodologies investigate specific contexts, the most important intention of action research is to *improve*, and, ultimately, transform the practitioners' practice in a specific context. Although ethnography, case study and some other interpretative approaches similarly investigate various practices in specific contexts, their main emphasis is on understanding this context through the development of rich or thick descriptions of these practices rather than reforming them. In contrast, action research investigates specific contexts using a set of interrelated principles, with the explicit intention of creating knowledge that improves practice. In schools and social welfare contexts, the expectation is that this knowledge will enhance professional practices and, ultimately, improve individuals' life chances.

In this chapter some features of knowledges created in action are discussed. It is argued that action research is an approach to inquiry that can link two distinct ways of advancing professional knowledge – research and professional learning – into a more productive cycle. We need, however, to reconsider some unproductive distinctions.

## 6.3 Action Research: Individual or Collaborative?

The cultural and contextual practices investigated in any action-research program are, as Schatski (2002) suggests, grounded in place and space, having strong temporal, geographical, historical and cultural roots. All practices in any given context are/have been constructed by all those participating in them. Arguably, it is a more powerful inquiry if all participants can be explicitly involved in the research. While this is the ideal, maintaining such a 'strong' notion of collaboration is not always possible. Contrary to Kemmis' (2007) claim, this does not necessarily mean that the investigation is not valuable.

For example, it is possible, for an individual practitioner-researcher to use an action-research process to investigate her own practice; then, on the basis of information collected, analysed and reflected upon, advance her own understanding and

make specific changes to this practice. A teacher can change one or more aspects of his or her professional practice using observational and reflective evidence. Without explicit peer or student input, changes of course may be more minimal although still worthwhile. In fact, Waters-Adams (1994) proposes that personal professional inquiry may at times need to precede collaborative inquiry: practitioners may start with reflection and change of their own practices and then see the need for more collaboration with their colleagues. In addition, Andy Hargreaves (1994) notes that 'contrived collegiality' can be problematic if the participants feel they have been coerced or constrained by an imposed action-research project.

A number of contemporary teacher-education programs ask pre-service teachers to investigate an aspect or strategy of their teaching using an action-research cycle or cycles during the final internship phase of their teacher-education degree. It is usually a strategy that they or others have identified as needing more development (for example, questioning, collaborative group work, or management of the classroom learning community). While it is optimal that their mentor teachers and/or peers become critical friends, and that their students are involved in gathering information and/or providing evaluative/reflective feedback, this may not always be possible given the constraints of a busy school and the limited internship timeframe. Such action research is accomplished (predominantly) by an individual, but still has the potential to improve their professional knowledge and practice.

## 6.4 Different Notions of Theory are Important

Groundwater-Smith and Irwin (Chapter 5, this volume) make numerous references to theory in the preceding chapter. They shift between the notion of theory as abstract, having a high level of generalisability established from propositional knowledge claims to personal theories that emerge from observation and experience. On one hand, this notion of theory at a high level of conceptual abstraction implies distance from the world of practice. On the other hand, practical theories rest on an individual's experience and practical action. Different kinds of theories, however, have different kinds of relationships with and to practice. Humans use both implicit and explicit theories to make judgements in practical situations. These situations and actions can be as simple as catering for a staff celebration or as complex as addressing cyberbullying in a year 7 class, assessing an elderly person for placement in a nursing home, or working with an abused mother of young children to find a safe home for her family.

If, for example, an experienced teacher is asked to work with a particular group of students with the purpose of improving their literacy, she will first ask a number of questions about the ages, stages, learning needs and abilities of the students in the group, as well as what they have been and are currently studying. She will carefully consider the school's particular context, the physical classroom space and other contextual aspects. She will begin to use her knowledge about literacy theories and child development along with past experiences in similar classrooms to theorise and make predictions about how best she can work with this class and combine these

understandings with knowledge gained from classroom observation. In other words, she will use more abstract and conceptual as well as personal practical theories in her preparation for work with these students.

In any conscious action that a professional undertakes, at least at the beginning, there is an intimate relationship between theory and practical action (Atkinson & Claxton, 2000). Personal practical theories inform action. The experience of the action informs the personal practical theory. The two are always inextricably and reciprocally related. Of course, habitual behaviour and/or Apple's (1990) 'saturated consciousness' can sometimes overshadow these understandings, but the importance of these theories in professional practice should not be undermined.

## 6.5 Linking Reflection with Dialogue

As Groundwater-Smith and Irwin (Chapter 5, this volume) argue, action research necessitates the development of accurate descriptions of what is occurring in a particular context. Part of this involves teachers unpacking their personal theories, and this can be difficult as these are often tacit. It is often helpful for teacher and academic colleagues to work in partnership to help develop detached professional dialogue that makes personal theories explicit and accessible for conscious reflection, discussion and further enhancement of knowledge.

Further, the dialogue between the teachers or social workers and an academic critical friend can result in collaborative learning. Academics have to develop an understanding of the world and practices of practitioners along with their personal and collaborative theories that inform, describe and enable them to make judgements about their practice. On one side, in coming to a respectful understanding of practitioners' work, academics may be able to employ the more abstract conceptual theories to assist in the reflection and dialogue. Such dialogue has the capacity to generate powerful reflection. On the other side, teachers' practical knowledge provides powerful input for refining theoretical abstractions. During such projects, the understanding of action research and action-learning processes can become blurred.

## 6.6 Blurring Action Research and Action Learning Processes

Despite using very similar professional learning processes, action research and action learning have very different beginnings and emphases. While action learning (Revans, 1983) has only been adapted for school contexts in the last two decades, it has been used in many other workplaces since it was first developed post-World War II to address particular workplace issues or problems identified by a group. It emphasises a collaborative learning process (usually an action-learning 'set' contains 6–8 members). Action research focuses on the research: collecting information systematically to answer a particular question or address a dilemma (McGill & Beaty, 1995). In many projects, however, both are employed and the distinctions are not clear. Some examples below illustrate this close relationship.

### 6.6.1 Research About the Quality of Teaching

A number of projects commissioned by the Australian Government's Quality Teaching Program to investigate quality teaching in Australia over the last decade have involved groups of teachers working with academic partners. Many of the projects provided some rich examples of deep reflection and changed practices (Aubusson et al., 2009; Ewing, Smith, Anderson, Gibson, & Manuel, 2005). For example, improving teachers' strategies for teaching senior literacy; engaging middle years students more effectively in mathematics and science learning; teacher professional learning about the use of ICT as a tool to enhance students' learning outcomes. Teachers and school executive members enjoyed increased exposure to national and international research and practice about what defined quality teaching and also had opportunities to present their own research at conferences. In addition, academics had opportunities learn about the realities of making such changes in school contexts.

### 6.6.2 Aligning Teaching, Learning and Assessment

Jakob, a secondary social science teacher, has chosen action research to investigate the possibility of greater alignment between teaching, learning and assessment through the introduction of 'rich tasks' (Education Queensland, 2001) in a stage four secondary classroom in an inner city secondary school. He is concerned about the disjunction between the teaching programs and the related assessment tasks in his faculty. He explores the impact of the introduction of rich tasks on year seven students' learning. Before he begins the project he undertakes diagnostic benchmarking of the students to ascertain their understandings of key concepts and skills. He then develops a series of rich tasks to provide the opportunity for students to demonstrate selected syllabus learning outcomes. He analyses the rich tasks to identify the skills that the students will need to demonstrate, as well as a scope and sequence of learning activities that will enable students to develop needed competences. He gathers a range of evidence, including detailed observations, survey data about students' engagement in activities and their performance on external assessment tasks, to examine the effectiveness of rich tasks. While Jakob's primary objective is to improve practice in his school, he is also undertaking doctoral study that examines the broader issue about the alignment of teaching with authentic assessment.

### 6.6.3 Collaborative Action Research

Teachers at one secondary school in south western Sydney are currently undertaking an action-research project based on their decision to increase the incorporation of quality teaching elements into their classroom practice (using the New South Wales Department of Education and Training quality teaching model (2003)). The teaching team responsible for Stage 5 (years 9 and 10) are participating in the first instance.

Pairs of teachers in all but one subject area meet together to plan lessons. They then implement those plans and gather evidence about whether they have been able to incorporate the quality elements they have identified. Evidence includes structured observation by a peer, video analysis and analysis of student work samples. The teachers then meet with their academic partner to look at the evidence and engage in a professional conversation about their findings. They then look at planning their next lesson. Over time this modified form of lesson study has led to changes in pedagogy. For example, this year, teachers have worked on providing more explicit expectations for the students as well as the connectedness element. Currently, each of these original pairs is working with colleagues in their own faculties. What began in a small way has now developed into a more collective whole-school project. The academic partner has played an important role in facilitating the movement from communicative to critical action research over time. Critical shifts in the teachers' and the academic partner's professional understanding and practice are evident (Aubusson et al., 2009). He has a much deeper understanding of how to stimulate professional conversations as well as how the elements of the quality teaching framework apply to the diverse range of students in the school.

## 6.7 Concluding Comments

Action research is sometimes less valued than other forms of research, even though there is much evidence that community collaboration and participation in the research increases knowledge and enhances professional practice. As Furlong and Oancea (2006) demonstrate, catering for a different set of questions through an often innovative mode of knowledge creation does not mean it is less robust. Groundwater-Smith (2007) asks: What is it about our current times that prevent active resourcing, respect and recognition for diverse forms of research and inquiry? Why do governments and policy bureaucrats usually indicate a preference for more traditional research methodologies? Perhaps the answer lies in the economies of these methodologies or our inability to close the gap between research and professional learning. Perhaps the generalisability or replicability of such approaches is also a factor.

For example, participatory action research often needs a relatively long research timeline to build trust amongst participants. Funding agencies often seek short timelines and quick, generalisable outputs. Investments in sustainable partnerships and iterative learning, research and change are still rare.

Action research brings together new knowledges and understandings, improvement of professional practices and professional learning about practice (Ponte, 2009). As Reason (1994) states, the main outcome of such inquiry is

> a change in the lived experience of those involved. Participants are empowered to define their world in the service of what they see as worthwhile interests, and as a consequence they change their world in significant ways. (p. 333)

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# Chapter 7
# Ethnomethodological Research in Education and the Social Sciences: Studying 'the Business, Identities and Cultures' of Classrooms

**Peter Freebody and Jill Freiberg**

> *Social interaction is the primordial means through which the business of the social world is transacted, the identities of the participants are affirmed or denied, and its cultures are transmitted, renewed, and modified.*
> (Goodwin & Heritage, 1990, p. 283.)

## 7.1 Introduction: The Development of Ethnomethodology

The last four decades or so have been a period of intense activity in educational research. Over that time many significant aspects of education have changed. Policy formation, assessment, testing and accountability regimes, and the discourses of high-quality, equitable education have all been transformed. The claim can be made, with equal confidence, that much daily classroom practice has not changed much, and, in particular, has not changed along the lines recommended in much of the research. Here we provide an introduction to ethnomethodology and conversation analysis (EM/CA). Over the course of our description and illustration of this line of work in this chapter, we also advance one explanation for this dramatic anomaly.

We provide here a brief introduction[1] to EM/CA and discuss some of its potential applications to research in education, illustrating our main points with interactions we have found taking place in educational activities in classrooms. We first give an outline of the origins of EM/CA: What kind of research program is it? What are the preoccupations out of which its foundational theoretical features and analytic

P. Freebody (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: peter.freebody@sydney.edu.au

[1] For more developed general introductions refer to Heritage (1991) and ten Have (2007); for those that focus on education, see Hester and Francis (2000), Francis and Hester (2004) and Wootton (1997); for a review of EM/CA's potential in the study of social work, see de Montigny (2007).

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preferences arose? By way of illustration, and to suggest a reason for the weight of educational research compared to the lightness of its impact, we focus on one particular affordance of ethnomethodological analysis: the distinction between rational properties and scenic features. We conclude with a summary of the opportunities that EM/CA offers social science researchers and the challenges it faces in communicating and extending these opportunities in interesting and valuable ways to classroom practitioners and educational policy-makers.

Harold Garfinkel coined the term *ethnomethodology* in the mid 1950s, developed much of the early foundational work, and continues to be a leading contributor. A starting point for understanding EM/CA's divergence from orthodox social science is found in Garfinkel's views on the relationships between social order, the observable regularities of social activities, and the role of social members in the production of those regularities. Garfinkel rejected the idea that social order exists because individuals, responding to either internalised rules and dispositions (Parsons, 1949), or to an external and constraining social structure, behave according to collectively endorsed rules or norms (Durkheim, 1937). A key question is, 'What do we assume to be relevant to accounting for human behaviour?' Foundational to an ethnomethodological approach is that

> externality and constraint are member's accomplishments, and social structure and social interaction are reflexively related rather than standing in causal or formal definitional relations to one another. (Wilson, 1991, p. 27)

Garfinkel (1967, p. 4) proposed that the 'central topic' of ethnomethodological studies is 'the rational accountability of practical actions as an ongoing practical accomplishment', as found in 'studies of practical action and practical reasoning'. Here we explicate briefly aspects of this central topic, beginning with elaborations of key terms and expressions: practical action, practical accomplishment, practical reasoning, and rational accountability.

Practical reasoning is variously referred to as 'commonsense reasoning', 'practical sociological reasoning' (Garfinkel, 1967, p. 7), and 'practical theorising' (Sacks, 1963, p. 6). In Garfinkel's terms, practical common-sense reasoning practices allow members of a society to infer meaning from any situated action. Common-sense reasoning is taken to be essentially practical, and social members expect that they, and those with whom they interact, will be able to find, using practical reasoning, the meaning and the logic (the rationality) of any practical action. The reference points for practical reasoning, and the methods whereby the rationality of scenic features (the visible social and material characteristics of a 'scene') is assembled, consist of what Garfinkel termed 'dimensions of social organisation'; namely, sequential, topical, and categorical organisations. The rational properties, that is, the sequential, topical and categorical structures that are selected and collaboratively used, organise relationships among and the various functions of the scenic features, provide a basis for decisions about what facts are relevant to the activity at hand, what those facts and other ideas mean, there and then, how things might and should proceed, and what causes what (Garfinkel, 1967, p. 78). The process of making sense involves looking for the organised rationality of some action.

> For the conduct of their everyday affairs, persons take for granted that what is said will be made out according to methods that the parties use to make out what they are saying for its clear, consistent, coherent, understandable, or planful character, i.e., as subject to some rule's jurisdiction - in a word, as rational . . . *and not the demonstrable matching of substantive matters*. (Garfinkel, 1967, p. 30, emphases in original)

According to Garfinkel, these 'seen but unnoticed' expectations provide 'a scheme of interpretation' (Garfinkel, 1972, p. 36) for the scenic features (i.e., the myriad observable features) that comprise everyday activities.

In rejecting theories that explained the familiar scenic features of everyday activities via the workings of psychological or social-structural constraints, the project of ethnomethodological studies is to find out how people make sense of potentially *ad hoc* collocations of scenic features that make up everyday situated activities (Garfinkel, 1996). What collaborative meaning-making work is done during the course of a situated activity to repair the indexicality of scenic features so that mutual understanding could be assumed and displayed even though, in fact, it might not exist in any objective sense? This 'seen but unnoticed' meaning-making work is formulated as practical reasoning whereby the rational properties of scenic features are assembled, there and then.

Scenic features that might otherwise seem unreasonable or irrational can be treated as normal if, by the use of one of the recognisable dimensions of social life in that setting, an adequate account can be provided so that others can 'witness' the rationality of the particular scenic features found in situated instances of some activity (Garfinkel, 2002). This has been shown: in classroom interactions where a teacher naturalises 'criticisms of a child's family life' using 'question-answer sequences' that are the standard form of organisation for curricular talk in that setting (Freebody & Freiberg, 2000); where psychologists participating in a radio show naturalise the switch of blame for family strife from a boy to his parents using disjunctive explanations. Such explanations have been shown to be a standard form of the organisation of settings in which the contrast between expert versus lay 'versions' of everyday family problems is the focal activity (Cuff, 1994).

EM/CA studies have found that members use a range of structures for sequencing, topical organisation, and category membershipping. These 'generic organisations' such as turn-taking, adjacency-pairs, repair, extended sequencing, topic structuring, and category membershipping, provide 'a reservoir of tools, materials and know-how' (Schegloff, 1999, p. 417); they 'serve as tools for explicating the *action and interactional* import of particular episodes of conduct in interaction' (Schegloff, 1999, p. 416, emphases in original). But these tools are the means whereby rational accountability is accomplished, rather than the defining features of particular social settings and activities.

These understandings distinguish ethnomethodological approaches from those approaches that describe, critique or theorise the actions of persons engaged in social activities with reference to social structural phenomena and/or social theory. Ethnomethodological studies focus on identifying, with reference to the dimensions of social organisation,

> the practices that secure the *accountability* of actions-in-context, that is, the detailed, collaborative ways in which members manage their conduct and their circumstances to achieve the observably orderly features of their activities. (Boden & Zimmerman, 1991, p. 7)

These understandings also provide a means to interrogate the rationality of action that is not addressed by research that catalogues, describes, critiques and recommends changes in the scenic features of social activities, such as the materials used in classroom lessons, with the aim of bringing about social change.

Social life, including what are generally characterised as its patterns and structures, is taken by ethnomethodologists to be an outcome of the concerted work, over time, and moment by moment, of members of a society, as they engage in and work alone or with others to make sense in and of their everyday activities with and for others. EM/CA is not interested in looking for reasons for these patterns' existence in the motives of individuals or groups, or in locating and analysing social impact. EM/CA approaches arise from the key theoretical and empirical appreciation that orderliness is built by the participants from within the very activities that produce those settings and scenes. Participants produce practices that are at the same moment readily explicable, then and there.

EM/CA's interest in such settings as school classroom lessons is in finding the indexical methods used to accomplish the properties of orderly interactions (i.e., rational and intelligible), that is, 'the essential features of socially recognized "familiar scenes"' that give an event its recognisable appearance as a particular type of cultural/institutional/social activity (Garfinkel, 1967; Hester & Eglin, 1997; Sacks, 1992a,b; Sacks, Schegloff, & Jefferson, 1974). Members inquire into, undertake, and display the rationality of their concerted practical actions to one another, and the ethnomethodologist's task is to analyse these processes in a variety of everyday settings, formal and informal, institutionalised and 'free-range' (Silverman, 1998). In this way, we identify the methods of the production of social order through social actions as a programmatic theory/method (Hester & Francis, 2000). The phenomena and objects that are otherwise treated as givens in social science, the rationality and procedural logic of social activities (e.g., 'lessons', 'teaching', 'reading', 'learning'), are treated as the phenomena of interest.

EM/CA has been applied to a wide range of social and institutional settings (Drew & Heritage, 1994; Goodwin & Heritage, 1990; Heritage, 2005). Our attention here is on educational settings. That coordinated social action relies on members' ability to negotiate and construct alignment between 'practical theories' of social order (Garfinkel & Sacks, 1970) has been shown to be true of activities involving talk, and also of activities involving written, spoken, and visual texts (see e.g., Cuff, 1994; Eglin & Hester, 1999; Emmison & Smith, 2000; Francis & Hart, 1997; Macbeth, 2000; Marr, Francis, & Randall, 1999); hence its broad applicability to educational concerns. For instance, several general educational themes have attracted the analytic attention of ethnomethodologists for decades (adapted from Hester & Francis, 2000):

- educational decision-making, grading, assessment, sorting, referral, and so on, including standardised educational assessment and testing (e.g., Cicourel et al., 1974; Heap, 1997; MacKay, 1974; Mehan, 1991)
- classroom order and management (Austin, Dwyer, & Freebody, 2003; Freiberg & Freebody, 1995; Heap, 1985; Macbeth, 2000; Payne & Cuff, 1982)
- the production and organisation of educational activities, including the organisation of academic knowledge in interaction (e.g., Heap, 1991, 1992; Hester & Francis, 1995; Livingston, 1995; McHoul & Watson, 1982; Rendle-Short, 2006)
- adult–child, teacher–student relations in the cultural world of institutionalised and non-institutionalised childhood (e.g., Baker & Freebody, 1987; Gardner & Forrester, 2010; Speier, 1982; Wootton, 1997).

So the work of school administrators, test developers, teachers, students and parents has received considerable attention. Less studied have been the everyday educational activities of curriculum developers and writers, and in- and pre-service teacher educators.

## 7.2 Illustrating Aspects of Method and Methodology

Conversation analysis (e.g., Drew & Heritage, 1992; Heritage, 1984; Sacks, 1992a,b; Schegloff, 2007) and membership categorisation analysis (e.g., Eglin & Hester, 1992; Freiberg & Freebody, 2009; Hester, 2009; Housley & Fitzgerald, 2009; Jayyusi, 1982; Sacks, 1992b) are two conjoined analytic resources that ethnomethodologists have drawn on to examine their data. Analyses are conducted without pre-empting what the parties to an activity *might* be doing or what they *might* take to be significant topics and resources for such an activity. The features – interactional, moral, and categorial – that might relate it to, or contrast it with, other settings are not pre-determined. Analyses of how social activities are organised logically and rationally *in situ* by social members through their employment of a range of natural language tools begin with analyses of turn-by-turn courses of action with reference to the 'dimensions of social organization' (Garfinkel, 1967, p. 36): sequential and topical structuring and category membershipping. EM/CA studies analyse and describe the ways in which social members use the resources provided within the organisational systems to: constitute the rationality of action, intelligibly and collaboratively make meaning, solve interactional problems, and, in general, work to ensure the smooth running of situated everyday activities.

To distinguish rational properties of actions and, in doing so, to provide warrantable analytic findings, each action is considered with reference to:

- its position in the local context – *its local sequential organisation* (e.g., Jefferson, 1972)
- its position within the current social and/or institutional activity – *its extended sequential organisation* (Psathas, 1992)

- the task it performs for the development and of the current topic of talk – *its topical organisation* (Sacks, 1992a,b)
- the incumbency of the speaker/s as a member/s of a category relevant to the current interactional, social and institutional activity – *its categorial organisation* (Jayyusi, 1984, 1991).

Using these analytic procedures, warrantable findings regarding the local rationality of the action and its interpretation (Sacks, 1992a, p. 260) are produced. Thus, actions are analysed as occasioned interactional moves, rational in that they are treated as morally adequate with reference to one or more of the dimensions of social organisation that are central to the orderliness of the social activity under scrutiny. For instance, an action may be made morally adequate with reference to:

- the organisation of local sequential order (e.g., returning a greeting, answering a question)
- the organisation of extended sequences (e.g., opening sequences at the beginning of a telephone call, closing sequences at the end of a business meeting, making arrangements as a pre-closing sequence that are relevant to the topics of talk that were marked as 'what-the-conversation-was-about')
- the organisation of topical order (e.g., actions organised as pre-topical sequences; actions that: generate, shift, preserve, prioritise, or close a topic (Freiberg, 2003)), and
- the organisation of categorial order (e.g., using categories from the same class of categories to classify co-participants, for instance, teacher and student rather than teacher–swimmer, doctor and patient rather than golfer–patient; husband and wife rather than husband–student).

An EM/CA approach relies first on the analyst's explicit knowledge of structural, linguistic, sequential, topical and category membershipping resources. Secondly, effective applications of the method draw on the findings of four decades of EM/CA studies that have documented how orientation to social norms and normative order have been collaboratively accomplished via methodic uses of local and extended sequential organisations such as adjacency pairs, turn design, recipient design and their applications (e.g., in telling jokes, stories, troubles and news), categorial organisations, and structures and interactional moves and sequences that establish, preserve, or disrupt topical order.

Within the key interests of EM/CA, approaches vary along with variations evident in the settings studied (Maynard & Clayman, 1991). Classrooms, playgrounds, staff meetings, courtrooms, taxicabs, telephone call centres, plane cockpits, medical consultations, and so on across formal exchanges and casual chatter, are all of potentially equal analytic interest, because the programmatic goal is to show the simultaneous, coordinated building of interaction, activity, orderliness and accountability – the making of recognisable social life. One regular element of this method of research is the rigorous analysis of transcripts of interactions and other texts. The

use of these as the material objects of research enables attention to the levels of detail demonstrated by the participants themselves, and enables reassessments and revisions of interpretations by the researcher and by others.

What have ethnomethodologists found with regard to conversation? Over many years and different sites (some of them classrooms), documentations have been made of the routine ways in which conversations take place. These features of conversation are mundane, known but unremarked, and consequential for what happens in an activity. They can be seen to constitute a 'system' or 'institution' in their own right (Sacks et al., 1974).

Generally, for instance, one party talks at a time, and the party may be a person or a group, or a person taken to be speaking for a group, or a group taken to be speaking as a person. Occurrences of more than one party speaking at the same time are common but brief, and transitions from one speaker's turn to the next, with no gaps or overlaps, constitute the vast majority of transitions, along with transitions characterised by a slight gap or a slight overlap. The order of turns, the distribution of turns, the length of turns, and the length of conversations are all not fixed but vary substantially. Various turn-allocation techniques are used: current speakers may select next speakers (e.g., by addressing a question to another party); or parties may self-select in starting to talk. Various turn-constructional units are employed (words, sentences, gestures, and so on). Turns can be fragments of statements, or sentences, or one word long, or they can be whole sentences or many sentences, and, in some circumstances, silences are analysed as substantial turns, and contributions can be treated as silences, as in Exhibit 1 from a Year 3 classroom.

*Exhibit 1: I'm not listening*

| | | |
|---|---|---|
| 30. | Student 1 | Where're we up to? |
| 31. | Student 2 | Page 29. |
| 32. | T | No. I'm not listening because you didn′t put your hand up. Yes Shaun? |

The work done by teachers includes demonstrating the turn-taking features of the classroom, in this case by refusing to incorporate a contribution into the ongoing management of the activity of bidding for a turn at talk. Teacher's Turn 32 violates norms of informal conversation by not accepting an answer (which turns out later to be an accurate one), and that, importantly, that violation is undertaken by teacher's reversion to a categorial orientation – effectively, 'you are not being a student in/for this classroom'. The issue is demonstrably analysed by the parties not to be about the practicalities of finding out and passing on which page the class was up to but rather about reasserting the dramatic contrast between rights and responsibilities of the categorial representatives in the room – teacher and students. The rational property of this exchange, as witnessed and accepted by both parties, was not related to the orderliness of an extended discourse but to the maintenance and continued orientation to a categorial order. A speaker's analysis, understanding and appreciation of a prior turn will be displayed in that speaker's current turn; in

speaking, speakers show, and are expected to show, how they analysed what they just heard.

Speakers regularly display mechanisms for repairing turn-taking errors and violations (e.g., stopping to avoid overlaps, apologising). We find teachers and students coordinating their turn taking fluently, with an unquestioned division of interactional and evaluative labour; that upon the appearance of an acceptable answer from one student, the questioner, so far in these exhibits, the teacher, introduced a new question into the discussion, that the students accepted this and attempted to answer the new question (that is, that all parties knew that the previous exchange was successfully completed for all parties), as in Exhibit 2.

*Exhibit 2: You think about it*

T We're mammals. How do you know we're mammals, Stuart?
Stu Because, um, (1.5 pause) you think about it=
T =yes, so what//
Stu // We breathe.
T We breathe air, what else do we do that makes us a mammal (1.0) Jeffrey?
Jef 'Cos we are warm-blooded.
T We're warm-blooded, that's right.

Sometimes an exchange that parties recognise as troublesome can make some rational property of the setting explicit, a topic for consideration. Exhibit 3, for instance, is taken from a classroom with children in their first year of formal schooling, aged about 5 years. The teacher presented the students with a large book with pictures and a few words per page, and began to work through the book. It was publicly known in this classroom that one of the students, named here Ruth, is an almost perfectly fluent reader. The teacher occasionally asked her to help other students. This excerpt shows the beginning of the reading lesson.

*Exhibit 3: I know that you know*

19. T Now you have a look at the front page (.) all those animals what are they^?
20. S We can sound them out
21. T We can sound them out. It doesn′t work for all words, though. Sometimes we have to use the picture clues, sometimes we can sound it out by looking at the first letter, sometimes we have to think about what it means. Alright^ Okay$^{V}$ Okay turn the page. PETS (.) PAGE 2.
26. S I WENT (.) HAVE A (.) PET
27. T O::oh have a look at the picture
28. S Frog
29. T Yeah, now we know.
30. S FROG.
. . .
41. T Okay Mike page 3

| | |
|---|---|
| 42. Mike | I HAD A MOUSE, IT RUNS |
| 43. T | Hang on, hang on, no:o (.) look at the first letter. IT RUNSˆ (1) |
| 44. Mike | ( ) |
| 45. T | ((spelling)) /b/ /a/ /c/ /k/ |
| 46. Mike | BACK |
| 47. S | BACK TO ITS HOUSE |
| 48. T | AlrightV Ooh, hang on. OkayV now go |
| 49. Mike | I HAVE A FISH, IT (.) TOO MUCH |
| 50. S | TOO MUCH |
| 51. T | You've got to give it too much |
| 52. Mike | I HAVE A RABBIT, IT JUMPS OUT OF ITS HOME. |
| 53. T | Yeah, it's called a hutch, alrightˆ, a hutchV, is its home. Okay Hang on, Jen, hang on, wait till everyone's ready. Okay |
| 54. Jen | I HAVE A BIRD |
| 55. T | Ahh, stop, stop, bird, how come it can't be birdˆ (.) Kate |
| 56. Kate | Because, it's, it's ( ) |
| 57. T | No, but how come it can't say 'bird'? |
| 58. S | It doesn't start with 'b' |
| 59. T | Yeah, it starts with 'p' doesn't itˆ? What sort of a bird starts with 'p'? |
| 60. S | Pet |
| 61. T | I HAD A PETˆ(.) no:o, I HAD Aˆ// |
| 62. Ruth | //parrot |
| 63. T | No:o, I don't want you to call out Ruth. I know that you know. Now you've spoiled it for everyone else. Well we know now, don't we, a parrot, alright. It can't be bird because bird starts with 'b' alright? And this starts with 'p'. Alright I HAD A PARROT, right, let's read it together again |
| 64. T + Ss | I HAD A PARROT, IT FLEW OUT THE WINDOW ((lesson continues)) |

The talk here documented the rational properties of the setting, what the participants took to be its deep logic. It was with regard to that logic that their contributions (commissions and omissions) were held accountable. We see that, in Turn 20 a student immediately analysed the naming of the animals to be about a pedagogical strategy for decoding the words – a particular form of reading lesson. Further, in Turn 21, the teacher proposed strategies for how 'we' can make out written words, via the use of picture clues, sounding letters out, looking at the first letter, and thinking about what it means (because 'sounding out' the letters of the word 'doesn′t work for all words'). Teacher and students demonstrated the efficacy of these in Turns 26–30, resulting in the teacher's announcement, in Turn 29, that these strategies produced the relevant knowing for the whole group: 'now we know'.

Later, in turn 54–55, the student's reading was interrupted and corrected by reference to the first letter of the target word ('how come it can't say "bird"?') by reference to the workings of the routine ('It doesn't start with "b" '). Following an

unsuccessful attempt in turn 60, the teacher re-put the question, and Ruth interrupted with an answer. It is the teacher's analysis of this interruption that helps the students (and us) see the rational properties of this setting: 'I don't want you to call out Ruth. I know that you know. Now you've spoiled it for everyone else.' What did Ruth spoil? In fact, there are at least two strong local warrants for Ruth's intervention: over eight turns the group had failed to get the word the teacher wanted, a word she would have known right from the start of the exercise. Further, in Turn 61, the teacher simply calls for a direct reading, not for the application of one of the strategies. The teacher's contribution could well have been analysed as calling for a *reader*, rather than a student using the (still failing) strategies: 'I HAD A PETˆ(.) no:o, I HAD Aˆ'. But Ruth 'spoiled it' by 'knowing' rather than using the pedagogical strategies put in place for this exercise to find out. She drew on local sequential organisation as the basis for her contribution rather than the rational properties of the entire exchange, an exchange based on using teacher's preferred routines rather than getting the reading 'right'. The practicalities of reading are scenic properties supporting a deep logic based on the maintenance of the category pair teacher–student (Freebody & Freiberg, 2001, 2006).

## 7.3 Issues, Debates, and Conclusions

Holding in place the exchanges shown here is a key rational property – the maintenance of teacher/student–class–group categorial relation. The students were taken to constitute a cohort, one (multi-individual) party to the talk; an acceptable contribution from just one individual student was grounds for immediate progression to a new exchange, even if a number of unacceptable contributions have come from various other individual students along the way (Freebody, 2003). It is this categorial order that makes sensible the scenic features of classrooms and the ways in which those features are called into play in teaching and learning activities. Much conventional research seems predicated on the belief that changing the scenic features of classroom lessons (group work, laptops, project work, etc.) will modify the rational properties (the ways in which teachers and students organise the talk and engage the knowledge, etc.), rather than the other way around. This, we argue, is one of the factors accounting for the air of disappointment that surrounds many reports of research interventions, especially in education.

But the consequences of research aimed at scenic features and not rational properties extend beyond a sense of disappointment: Unsuccessful attempts to apply apparently credible and significant findings to actual classroom settings necessarily call for some explanation. It is these explanations that can install categorisations and attributions that in turn create problematic 'social facts' for use by researchers, practitioners, and policy-makers. These social facts sometimes include impediments to improvement such as teachers who are 'lazy', 'ill-informed', or not 'change-ready'; we find students whose backgrounds place them 'at risk', whose parents 'do not value education', who are 'disengaged' or 'resistant learners', who have learned 'cognitive, emotional, or moral helplessness'; we find policy-makers who

are 'negligent', 'uncaring', 'self-serving', 'detached from the realities of schools and classrooms', and all the rest. Such descriptions construct a clear and administratively convenient moral order, to be addressed by dogged optimism and heroic perseverance rather than a reconceptualisation of the research. That means that teachers' and students' reasoned, concerted management of the material realities and shared histories of the settings that they inherit and inhabit remain analytically bypassed (Schegloff, 1991).

Ethnomethodologists have aimed to provide defensible descriptions of the rational properties, scenic features, and interactional patterns associated with particular institutions and their contrasts with exchanges in informal settings (Drew & Heritage, 1994; McHoul & Rapley, 2001). Nonetheless, the significance of applied ethnomethodological work lies in its insistence on the distinctiveness of each local site, setting and activity, and the need therefore for interpretation to focus on practical tasks in the achievement of locally intelligibility, then and there, by the participants. Taking that idea seriously would give policy-makers and practitioners alike not only distinctive ways of interrogating and interpreting data (Elmore, 1996), but also reasons for supporting the time, effort, and money going into educational research.

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# Chapter 8
# Drama Education, Ethnomethodology, and 'Industrious Chatter'

**Michael Anderson**

## 8.1 Introduction

This chapter examines the relatively brief history of the use of ethnomethodological techniques in drama education research (see Freebody, 2003; Munday, 2009).[1] The chapter speculates on the potential for this methodology to enrich our understanding of drama education and education research generally, and provides a response to Freebody and Frieberg's discussion of this methodology in Chapter 7 of this volume (Freebody & Frieberg, this volume). This chapter attempts to re-contextualise ethnomethodological approaches to highlight the potential challenges and benefits employing this approach might have for researchers working in experiential classrooms. This chapter will also suggest some cross-methodological applications for this approach and potential areas for extension.

## 8.2 Some Context: Discovering Ethnomethodology

I work in Sydney, Australia as a qualitative researcher in the field of teacher education and drama learning. My research interests have allowed me to work in multi-disciplinary teams with qualitative and quantitative researchers using a variety of different methodological styles and approaches. I am a collaborative researcher and have called, on several occasions, for the field (drama education research) to become more open and nimble methodologically to allow for capacity building in our approach to classroom-based research problems (Anderson & Gibson, 2004; Gibson & Anderson, 2008). In this context I have recently been involved in building a research project (described later in this chapter) around the potentialities of playwriting for the development of agency in young people. As

M. Anderson (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: michael.anderson@sydney.edu.au

[1]Earlier work by Herman (1998) examined the intersections between ethnomethodology and performance studies, but that work did not relate to drama education.

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part of that process I have begun working with Kelly Freebody, who works primarily in Conversation Analysis (CA) and Membership Categorisation Analysis (MCA) research methodologies. This response is an attempt to reconcile my understanding of the drama classroom through experiences as a researcher and teacher with the promise of ethnomethodological techniques. But before discussing the methodology further it might be helpful to describe the research setting in more detail.

## 8.3 Some Context: What Drama Education Learning Looks Like

Ever since the days of drama education pioneer Henry Caldwell-Cook, drama classrooms have been identified as places where young people learn experientially and actively. Caldwell-Cook, writing in 1917, describes the scene:

> Some sit at the desks while others stand before them or lean over their shoulders. They [the students] are gathered in working groups, putting their brown heads together for the making of their play; and the room is full of an industrious chatter. A visitor entering suddenly might fancy that he had come by mistake into a classroom of the old school in the absence of the master; for the noise of allowed play sounds at first just like the noise of disorder. But if you listen you will find it is articulate. (Caldwell Cook, 1917, p. 302)

The drama classroom of the modern era contains many of the same features of Caldwell Cook's 1917 classroom, namely collaboration, engagement and discussion. This complex setting provides challenges for researchers attempting to record and analyse the learning.

## 8.4 What Ethnomethodology Has to Offer Drama Classroom Research

Since the late 1980s, research in drama education has focussed on providing evidence for advocacy claims that are often made in its name. There have been any number of good studies on drama and literacy (Wagner, 1998), drama and technology (Anderson, Carroll, & Cameron, 2009), and drama and teacher development (Wales, 2009). In a sense this research has asked the macro questions about drama education.

Ethnomethodological techniques in the drama classroom allow for a more fine-grained and detailed view of learning in individual classrooms. Perhaps more importantly, they provide researchers with an understanding of the experience of being in a drama classroom, known to ethnomethodologists as the 'haecceity' or the 'thisness' of the classroom research setting. Anyone who has spent time in a drama classroom will be able to tell you of the detail that creates learning and meaning for participants. It is this attention to the sometimes-overlooked detail of drama learning that may be behind the power of ethnomethodological techniques in the classroom. These techniques may give insights into learning that have been overlooked in the

rush to provide evidence of the power of learning in drama classrooms (which has sometimes, but not always, been used to fuel advocacy discussions with educational gatekeepers). The advent of methodologies in drama learning that examine some of the detailed interactions is a welcome addition to research capacity in the field. I discuss two recent studies here that attempt to describe and analyse these classroom details as a way of demonstrating how this methodology works in practice in drama education settings.

## 8.5 Some Uses of Ethnomethodological Approaches in Drama Learning

Kelly Freebody (2008, 2010) used drama pedagogy to explore students' interpretations of, and interaction with, notions of socio-economic status (SES). Her work analysed classroom talk to explore how young people engaged in public moral reasoning practices. Her findings suggest that this methodology can present researchers with fine-grained understandings of the ways young people interact in the drama classroom to define their social understandings about themselves and others. Her study examined two classes in schools with contrasting SES settings. The teachers were provided with lesson plans detailing a process drama called *The Future* that asked students to invent, explore and enact possible scenarios concerning their perceptions of their own future pathways. The lessons were recorded and transcribed, with CA and MCA used to understand the particular ways the students oriented to implicit or explicit shared understandings of cultural categories associated with social and economic structures. The study found that during the lessons the students and teachers engaged in three types of talk-in-interaction:

1. talk that managed school and lesson behaviour – termed pedagogic/logistic talk (PLT)
2. talk that engaged participants in the cultural, social and moral potential of the lesson and aimed to create shared accounts and public reasoning practices – termed socio-cultural talk (SCT), and
3. talk that took place when students were in role, which allowed students to demonstrate their understandings of the expectations signalled in the SCT and to improvise reactions to scenarios in role as character-participants in a drama – termed in role talk (IRT).

Similarly, Caitlin Munday (2009) examined through ethnomethodology (primarily MCA analysis) the particular social categories when exploring bullying through a process drama. Specifically, she investigated whether there are particular categories that students orient towards in their process drama work, and to what extent they use process drama to reinforce or disrupt social categories. Data was collected from process drama lessons conducted with a Year 8 Drama class at a suburban Independent Christian school. These lessons were filmed, and key moments were transcribed and analysed according to MCA principals. From the analyses the researcher

found that students oriented towards the categories Bully, Victim and Bystander during out-of-role talk and, in doing so, both established and reinforced social categories. This research concludes that process drama affords students unique interactional opportunities to engage with bullying, and that there are significant research opportunities to explore this further.

## 8.6 Some Methodological Challenges

These researchers have demonstrated that there is a place for ethnomethodological techniques in the drama classroom and have found ways to examine issues that have been the subject of drama education research (namely bullying and socio-economic status) for at least two generations. They do, however, uncover some issues around applying this methodology to real-world settings. I turn now to a discussion of some of these issues.

These research projects are well suited to ethnomethodology 's capacity to identify and examine social status. Much drama learning relies on the examination of status, power and human interaction. Students in many learning sites (including schools, juvenile justice institutions and community groups) are learning about status and power with regard to institutions, parental relationships and their peers. A methodology that directly interrogates this territory is welcome. There is already a rich tradition of research that examines the ways in which power is exercised in social groups (O'Toole, 2006). The recent ethnomethodological research (some of which is contextualised in the earlier research) has the potential to build further on that body of research, providing insights into the way talk constructs and reconstructs power relationships.

These researchers have demonstrated the utility of this kind of approach in real-world settings where classroom interactions are complex. In her research, Kelly Freebody (2008) suggests that ethnomethodological research techniques are suited to research in these learning environments:

> Drama and CA/MCA provided the researcher with naturally occurring data, in an environment where participants had opportunities to explore social issues from numerous levels, including the embodiment of particular discourses (e.g., about SES, parenthood, responsibility) and the 'acting out' of shared understandings negotiated through earlier classroom discussion. That data was then analysed rigorously through the use of CA/MCA to investigate ways in which participants interact with each other, itself providing a context to explore discourses relating to SES in Australia, as understood and oriented to by the members of a particular group. (2008, pp. 257–258)

While Kelly Freebody claims these approaches are suited, there are still some limitations on their capacity to meet the needs of an inherently complex and embodied classroom setting.

## 8.7 Drama Education and Ethnomethodology: Research in Classrooms

Drama education researchers have been keenly interested in the way embodiment interacts with student learning. David Wright, whose research focusses on embodiment in the drama classroom, reflects on the complex interactions taking place:

> 'It' [drama learning] arises in the complex feedback systems that comprise communication between mind(s) and body(ies). It is a consequence of the recursive processes of reflection and improvisation. These processes can generate challenging and unpredictable results. (Wright, 2005, p. 1)

While ethnomethodological techniques can deal well with spoken interactions, it is the complex interactions between the body and the mind that may go unresearched by using this method exclusively. This is an inevitable consequence of classroom research with almost any method where some interactions are selected while others remain uncaptured. CA/MCA, however, focusses on specific aspects of the classroom interaction (namely talk and membership categories) and has limited capacity to track and analyse the complexities of the mind/body interaction. This feature of the methodology will limit its scope to capture the macro features of the pedagogy in classrooms that have a large embodied learning component. On the other hand, there is much that could be learnt from research that uses CA/MCA in concert with other techniques to cover the classroom terrain. Developing a multi-method approach where ethnomethodological approaches (CA/MCA especially) are employed to reflect the part and the whole of classroom interactions may allow us to analyse classroom interactions at a particular and holistic level. One such project is currently underway exploring playwriting programs as a site for the development of agency in young people. Collaborative cross-method projects such as these could provide clearer insights into how complementary these methodologies are to each other, and will provide the experience to drive future research designs of this kind.

## 8.8 A Multi-Method Study

One example of a multi-method approach using ethnomethodology is the Agency writers program of research into young people as playwrights (Anderson & Freebody, 2009). This program of research investigates the potential for playwriting programs to provide young people with opportunities to explore and enact agency. The research examines young writer development programs in four contexts (Indigenous, rural/remote/urban Australian and international). The research features three interlinked and complementary studies. A feature of these studies is

the interaction of several methodological tools to provide a full picture of the ways learning occurs in playwriting programs. In the case studies, CA/MCA techniques are employed alongside more traditional drama education research techniques such as observation and interview. We envisage that this may throw up some challenges that will inform further how these techniques can be used more effectively in experiential learning settings. There are perhaps other potential multi-method approaches that may support research in this area.

## 8.9 Ethnomethodology and Performance Ethnography

Performance ethnography emerges from anthropologists as a method for communicating research by '. . . keeping alive the very visceral and embodied experiences of human social behaviour' (O'Toole, 2006, p. 43). It essentially re-embodies and retells the research through performance. One of the persistent challenges for this approach has been around validity of the performed research. Potentially CA/MCA approaches could be employed in the data collection phases to assist in the development of performance ethnographies. While not all transcripts from CA/MCA would be useful for performance, many of the interactions could be used as the verbatim materials for re-presentation in ethnodramas. This has the potential to magnify the findings from ethnomethodology and create findings that can be disseminated widely and, perhaps most importantly, directly to the audience of participants who were participants in the research.

## 8.10 Deep Rationalities and Scenic Features of the Drama Classroom

Drama educators have long claimed that drama learning is distinctive and has, as Freebody and Freiberg term it, unique 'deep rationalities' compared to other learning areas, rather than just different scenic features. *Scenic features* refer to actions/utterances, props, 'events, personalities, spatial and temporal locations' comprising the observable features of the interactional setting, while *rational properties* are the patterns or logic that is constituted by the organisation of relationships, on which 'decisions of meaning, facts, method, and causal texture' are made (Freebody & Frieberg, Chapter 7, this volume).

Drama researchers (Winston, 1998) argue that drama pedagogy is more democratic, more self-directed in learning style and engages the learner in more ways (deep rationalities). It has also been claimed that an arts-rich education can have benefits for students across other areas of learning (Deasy, 2002). Some of the so-called scenic properties, such as group work and democratic learning approaches, may merely mask the same deep rationalities of classroom and control and order that can be found in many other school classrooms. If the claims for unique rational properties in drama learning are validated through ethnomethodological research, these insights may provide guidance about how drama learning

approaches might be applied to teaching more generally. We should, however, be mindful that, while this methodology can tell us much about order, hierarchy and talk, in some learning situations (such as drama) other methodologies are required to present a full picture of learning that relies in whole or in part on embodiment.

## 8.11 Conclusions

For teachers, ethnomethodology has the capacity to uncover the detail of teaching. Perhaps in this granularity educators might glimpse some of the entrenched deep rationalities that hinder educational change. For researchers, there are exciting prospects for this approach to be used with other research approaches to tell a broad and deep story about learning and the potential for change in classrooms. While this chapter has signalled some potential limitations of ethnomethodological approaches used in isolation, there are significant opportunities for research using these approaches in partnership with other research techniques. For drama education, ethnomethodology offers insights into the detail of learning that may reveal a substantial body of evidence in place of what had previously been taken for granted.

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# Chapter 9
# Negotiated Ethnography: The Possibilities for Practice

**Debra Hayes**

## 9.1 Introduction

Schools, particularly classrooms, are familiar spaces. For young people and teachers, they are places in which they spend long periods of times – school days. Despite their familiarity, they are not static but are continually changing and adapting in response to shifting conditions. Ethnographers have made sustained contributions to describing how schools function; in particular, how they produce different outcomes for different groups of students.

Ethnography is perhaps the most basic form of social research because it closely resembles the routine ways in which people make sense of their daily lives (Hammersley & Atkinson, 1995). It is generally conducted by a researcher positioned within a place of interest over an extended period of time noticing and documenting local forms of practice, organisational processes and interactions between people. Ethnographers with close links to anthropology are generally interested in the unfamiliar, whereas those with close links to sociology are more likely to be interested in that which is taken-for-granted. Both seek to produce clear, detailed and convincing accounts of what they see, and both grapple with problems of representation and reflexivity because 'the orientations of researchers [are] shaped by their socio-historical locations, including the values and interests that these locations confer upon them' (Hammersley & Atkinson, 1995, p. 16)

Ethnographies that influence our understanding of schools and how they function have not all been conducted in educational settings. For example, Oscar Lewis (1959) used an early form of ethnography in the middle of last century to detail 5 days in the lives of five Mexican families. He developed the concept of a 'culture of poverty' to argue that the values, beliefs and relationships these families shared were deficient. Despite these ideas being discredited, they continue to provide widely accepted ways of understanding why children from low-socio-economic backgrounds generally do not do as well at school as their more affluent peers.

D. Hayes (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: deb.hayes@sydney.edu.au

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Annette Lareau's (2003) more recent sociological ethnographies of USA working- and middle-class families provide a strong counter narrative to deficit theories by explaining success at school in terms of cultural capital – there being a stronger resonance between the cultural capital of schools and middle-class families, than between schools and working class families. Unlike Lewis, Lareau argues that these forms of capital are relative and their value is determined by the social and cultural fields in which they operate (Bourdieu, 1986).

In this chapter, I present an ethnographic approach that examines these social and cultural fields by describing pedagogical and leadership practices in educational settings characterised by a high level of poverty and difference. This approach uses forms of representation that are developed and assigned meaning in collaboration with key participants, in this case the teachers and leaders who participated in the study. This negotiated form of ethnography is designed to identify, collect and interpret data that has the potential to contribute to the research process as well as to our understanding of local schooling practices. In so doing, the process of negotiation entangles the research participants in issues of representation and reflexivity as they participate in the ethnographic process of projecting their classroom and leadership practices into print.

> In other words, the relationships that surround the production, publication, and reception of ethnography are not so much changed as become apparent to all observers. (Rohatynskyj & Jaarsma, 2000, p. 1)

Teachers and leaders in schools where there are high levels of poverty and difference are the target of much educational policy and funding because their schools are routinely linked to low quality outcomes. In these places, pedagogical and leadership practices are critical for ensuring the success of young people who rely on schooling for a secure educational pathway from childhood to work, or further learning. These schools are often characterised by challenging working conditions because of their location in communities with extensive needs, and they are often subjected to a number of other challenges, such as high levels of turnover of teachers, leaders and students, and concentrations of first-time teachers and leaders.

These constant changes also present challenges and dilemmas for researchers, particularly when they are working with schools over long periods of time, because turbulence and unpredictability make it difficult to establish and maintain relationships with participants. The responsibility of advocacy (Rohatynskyj & Jaarsma, 2000) experienced by researchers in such settings is intensified because teachers and leaders in these places recognise that participating and continuing at school is perhaps the only pathway available to their students for making a successful transition from school to work or other forms of learning. While there is constant top-down pressure from within systems of education to lift results, this can rank behind teachers' and leaders' own personal professional aspirations to improve the outcomes for their students. Making a difference is an enduring motif in teachers' professional practice. Hence, participants in these settings often have heightened expectations that research will be immediately useful to them, or at the very least that it will provide them with useful information.

## 9.2 Problem Space, Genesis and Intellectual Roots

As previously noted, schooling does not generally provide the children of low income families with the benefits their peers from more privileged backgrounds enjoy. Ruth Lupton (2005) describes this as 'a systematic deficit in quality precisely in the areas where a high-quality education is needed most' (p. 590). She cites Martin Thrupp's (1999) case studies of four schools in New Zealand as an enduring insight into the form these deficits take in schooling practices:

> extra minutes here and there being spent on minor discipline and welfare issues and on negotiating with pupils, parents and other organisations; a greater emphasis on classroom control at the expense of challenging pedagogy; more difficulty planning and financing extracurricular activities and engaging parents; more time spent on distributing and collecting equipment, and so on. (Lupton, 2005, p. 591)

Researchers within the field of school effectiveness have identified the pedagogical, leadership and organisational practices of successful schools (Marzano, 2003; Sammons, Hillman, & Mortimore, 1995), what Hill (1998) calls the 'correlates of effectiveness' (p. 424). However, in the main there has been less focus on how to transform schools that generally produce low quality outcomes into ones that produce high quality outcomes (Slee, Weiner, & Tomlinson, 1998). In other words, 'a fair amount is known about what good schools look like, but not about how they came to be like that' (Hill, 1998, p. 424), particularly in high poverty contexts (Hopkins & Reynolds, 2001; Levin, 2006).

The key issue in contexts associated with low quality outcomes is not what kinds of practices improve educational outcomes, but how to support the development of the kinds of practices that we have good reason to believe will work. As in the past, the sticking point remains *practice* (Connell, Ashenden, Kessler, & Dowsett, 1982, p. 28). Lupton notes that:

> the solution may need to come either from changing the context or changing the capacity of the school organisation to work effectively in that context, not just from urging and supporting staff towards better management and practice. (Lupton, 2005, p. 591)

Based on his long-term analysis of patterns of inequities in Victorian schools, Richard Teese (2006) claims that innovation in education is not going to come from 'the high end of schooling' because it is committed to the preservation of traditions. He suggests that we need to look at:

> the schools where everything depends on relationships between individuals. These are the disadvantaged schools. It is in these schools that the fundamental question of a child's relationship to learning in a social environment is posed in its most acute form... We could innovate elsewhere. We could find schools that were exactly average in social and academic terms and fund them for generalisable innovations. But if we want innovations that get to the root of the teaching relationship, we should choose schools where this is the number one priority. (Teese, 2006, p. 158)

The challenge then is for teachers and leaders working in the most difficult conditions to do what other schools are unlikely to do: innovate. Building the capacity of teachers and leaders in these settings to improve the quality of students' learning

outcomes may rest upon their ability to innovate, not just to adopt but to adapt, and to develop unique local solutions to complex problems using available resources. School leaders play a key role in this process because of their capacity to influence decision making about how resources will be used, and which educational goals will be prioritised. Their impact on student learning is ultimately mediated by teachers and beyond their direct control. Less well recognised is the pedagogical dimension of their leadership related to supporting teachers' professional learning, over which they have more direct control. While leadership is generally considered to play a critical role in shaping pedagogy (Lingard, Hayes, Mills, & Christie, 2003), the mechanism is unclear. However, it is this dimension of their practice that is likely to be most closely linked to supporting the type of teacher professional learning that leads to innovation.

Describing practice is a problem for observers, such as researchers. Although those whose practice is being described are aware of what they do, they may not be familiar with representing and documenting it in detail. In this research, both parties have different reasons for being interested in this process of describing and documenting practice, and both have a stake in contributing to the creation of research artefacts and to the interpretation of their meaning. The ethnographer is interested in describing practice in particular settings in order to better understand how it achieves particular purposes, whereas the research participant is interested in improving their own practice and the achievement of outcomes specific to the local context.

Negotiate ethnography describes practice as practiced through the jointly constructed accounts of researchers and participants. Hence it is distinguished from a narrative approach that might attempt to produce 'authentic' accounts of practice as perceived by those who enact them, or a case-study approach that might attempt to apply educational concepts and theories to describing practice in specific settings. The attention paid by the ethnographer to systematic descriptions of the actualities of professional lives aims to find the words for actions which may produce possibilities for change. This is achieved through the careful and negotiated description of practice and the production of relevant artefacts. The goal is to 'see how things [*are*] and ask *why* rather than look at how things *could be* and ask *why not*' (Marinosson, 2007, p. 186). Improvements in practice are made possible, and are perhaps even more likely, as a result of the application of this process, but this is not its primary purpose. This is subtly but significantly different to action research, which attempts to create possibilities for change through action. While both approaches share an intense interest in practice, the role of the ethnographer functions in ways that maintain a focus on the description of practice rather than planned improvements in practice.

## 9.3 Methodological Apparatus

For a number of years, I have conducted research in schools characterised by high levels of poverty and difference, what are often described as 'challenging contexts' (Levin, 2006). I have maintained long-term professional relationships with

government departments, organisations, teachers and leaders whose work is centrally concerned with these challenging contexts. My contact with these colleagues is shaped in various ways by my role as an academic advisor, as a supervisor of pre-service teachers, and by encounters through shared professional networks. In other words, we are known to each other in ways that can influence field work by creating opportunities not generally afforded to strangers. However, being familiar with the discursive formations and operations under investigation, and being a participant in these sites through my various roles, locates me within the research setting, thus making me part of the data to be accounted for, and implicated in its representation. This exposure can have a range of possible effects. For example, it could dull my senses to practices that become taken-for-granted. It could also begin to define the direction of inquiry, helping to establish 'a standpoint in an institutional order that provides the guiding perspective from which that order will be explored' (Smith, 2005, p. 32). Within this context the application of ethnography is intended to be a sensitising and sensitive register that unsettles the understanding of participants (including the ethnographer), and subsequently readers of the research. Such unsettling responses are intended to create 'moments where new understandings and possibilities are opened up in the space between experience and discourse, at the same time deconstructing and reshaping the taken for granted' (Willis & Trondman, 2000, p. 12).

## 9.4 Method in Practice

The example of negotiated ethnography discussed in this chapter was conducted in a small outer-metropolitan public primary school catering for Kindergarten to Year 6 – Lone Tree Primary School (not its real name). It is difficult to mark the start of the ethnographic dimension of my long-term association with Lone Tree Public School. I had developed a picture of the challenges and rewards of leading and teaching at this school long before the official field work commenced. The leadership team at Lone Tree was made up of one principal and a number of assistant principals. This team provided clear and consistent messages to teachers, children and the community about the kinds of relationships, and ways of relating, that were valued at the school: respectful exchanges, fair play, non-violent dispute resolution, and explicit lines of responsibility. The principal summed this up with clarity and conviction: 'The things we believe about how kids should be treated'. They demonstrated these behaviours in their interactions with each other as well as with students, staff and members of the community. Under their guidance, teachers developed shared approaches to managing behaviour issues in the classroom and the playground.

In the second half of 2008, I began a series of conversations with leaders at Lone Tree Public about what it would mean for them to change the capacity of the school organisation to work more effectively in ways that improved students' learning outcomes (as suggested by Lupton, 2005). We started from the assumption that any modifications they expected teachers to make in their classroom practices first needed to be demonstrated through their leadership practices. In other words, before

they could expect teachers to develop new classroom practices they first needed to find ways of supporting teacher's professional learning. This resonated with how they approached the management of social relations in the school, as well as prior research that suggests leaders need to work 'alongside staff as they puzzle their way through improvement efforts together' (Bascia & Hargreaves, 2000, p. 8). Although they were confident they could work together to improve students' social outcomes, they were uncertain that this same approach would work to improve students' learning outcomes. Hence, they were uncertain how to modify their collective leadership practice to support changes in teachers' pedagogical practice. It was agreed that, through documenting and analysing how they work together as a leadership team, they may be able to better understand how to modify their leadership practice to support different kinds of classroom practices.

The data collection phase of the research began with shadowing members of the leadership team to produce a recount of their practice over the course of a 'typical' day. More than one researcher was required to keep track of the members of the leadership team (Erickson & Sull, 1998). I had worked with recounts previously and they had proven useful in stimulating reflection on practice (Hayes, 2006; Hayes, Johnston, & King, 2009). Recounts represent practice in the 'raw' by providing a sequential account of observable behaviour within a specific context. At the data collection stage the focus is on detailed description. No attempt is made to assess the behaviours described as the purpose is to recount what happens. Below is an extract from the recount of the leadership team's collective practice during the course of one morning at Lone Tree Primary School.

> Once the classes are all settled in the morning, the principal turns to working on the cash flow, and a HR issue. I trail behind her as she moves quickly from office to office in the administrative section of the school. She and an assistant principal (AP1) start faxing documents related to the HR issue. A little later, the principal is doing the faxing and the AP1 is dealing with students. Then the principal phones staffing about the HR matter that she's trying to resolve but no one is available – she requests a call back… At recess, she's on point duty near the boys' toilet: 'We really need three teachers on duty but because we're a small school that would mean extras for teachers'.
>
> AP2 has responsibility for 'teams' and after recess she is working with her own group of around seventeen Year 5/6 students in a classroom. In an obviously familiar routine, students get equipment from storage boxes, take out a comprehension booklet, do some reading out loud, answer some questions and then prepare written responses to questions that test their comprehension.
>
> Back in the leadership team's shared office (about six desks side-by-side around the edges of the room), the principal and AP1 discuss an issue related to the allocation of resources.
>
> AP3 is in a nearby room working with a small group of students – preparing them to conduct an interview for the newsletter.
>
> AP4 is covering a class for an absent colleague. The school does not use casual relief: 'the children don't react well to strangers, it's just not worth it'.

In a negotiated approach to ethnography, participants have the opportunity to read the recount with the observers in order to fill in missing details and to provide an account of their practice. When the researchers met with the leadership team for

this purpose, we asked them what they noticed. One member of the team noticed how there was a lot of talk that involved sharing information and keeping the place running smoothly. Another observed that they were often working on different tasks, but she felt that she had a sense of what others were doing. Sharing an office means that information is passed easily between them. The principal was interested to read what went on in meetings of various groups of teachers, and she was a little surprised by the amount of time spent talking about the needs of individual children, or what is generally referred to as 'welfare'. All of them appeared surprised by the amount of time they spent responding to what arose during the day and how little time was spent planning or working strategically. The principal observed that, 'the other stuff takes prominence'. This seemed to worry everyone on the team and triggered a train of thoughts about how their executive meetings are often interrupted, how it is difficult to meet after school and other the problems associated with getting together.

Our conversation centred around the amount of time spent on managing, organising and supporting what Lupton (2005) calls 'daily 'firefighting': 'dealing responsively with immediate crises in order to maintain an ordered learning environment and having less time, space and energy for reflection and improvement planning' (Lupton, 2005, p. 591). We did not need to recount a day in the lives of leaders at Lone Tree to illustrate the nature of daily firefighting; Lupton and others (*see* for example Knapp, Shields, & Turnbull, 1995; Sizer, 1992; Thrupp, 1999) have done this previously, but there appeared to be something powerful for these leaders in noticing it in their own practice, rather than reading about it in someone else's.

It was apparent that the leadership team experienced difficulty transferring the knowledge and skills they had developed about leading and managing social relations in the school to leading and managing learning. Their descriptions of initiatives aimed at improving students' learning were peppered with words like: 'could', 'might' and 'may', and their time frames stretched to years. Whereas, when they talked about how teachers were to deal with conflict and behaviour issues, their descriptions included words like: 'should', 'must' and 'will', and their times frames were more short-term, and immediate in some cases. The kinds of learning outcomes they wanted students to achieve lacked specificity and were contingent upon many factors. However, the kinds of behaviours they wanted the same children to exhibit were explicitly defined and demonstrated.

These discussions revealed that the leadership team had developed different sets of practices for dealing with social relations than those they had developed for dealing with learning. Importantly, they had a strong track record with the former but not the latter, and they could not simply transfer the skills they had developed in one area to the other. However, their success in supporting shared and consistent practices related to improving students' social outcomes suggested that they could work together to improve teachers' practices related to improving students' learning outcomes. These insights suggest that future research might be directed towards describing the ongoing efforts of the leadership team to transfer their skills in one area to another.

## 9.5 Methodological Issues and Debates

A negotiated approach to documenting and analysing the recounts provided opportunities for describing and analysing practice not generally afforded in traditional forms of ethnographic field work. Since the purpose of the data collection was to observe the collective practice of the leadership team, this directed the placement and movement of the researchers. All ethnographers are faced with choices about where to locate themselves during field work, particularly in large and complex contexts. These choices are often made during the research in response to the researchers' growing familiarity with the site, and emerging lines of interest in the research (*see* for example Forsey, 2007). In negotiated ethnography, the placement of researchers is generally worked out with the participants before the commencement of the field work. This process allows participants to know about the purpose of the research and facilitates the researcher's access to the site.

The centre piece of a negotiated approach is the production of a research artefact (in this case a recount of practice) that makes it possible to consider familiar and taken-for-granted practices in new ways. By their nature, ethnographic artefacts are often 'charged with meaning' because they can inadequately, negatively and undemocratically represent those whom they attempt to describe (Rohatynskyj & Jaarsma, 2000, pp. 13–14). A negotiated approach is just as open to these types of criticisms but it does provide multiple checkpoints for confirming details and testing assumptions. It also provides a mechanism by which participants can speak with their own voice and represent themselves – two main criticisms of how ethnography objectifies its subject (Rohatynskyj & Jaarsma, 2000, p. 5). While a negotiated approach provides a means by which participants are invited to play a role in representing themselves, there are no guarantees that they will be happy with their image, or that the process will produce more transparent relationships between researchers and participants. It does at least provide opportunities for honest exchanges, notwithstanding the 'ambiguity of meaning in social life and the historically contingent and culturally configured nature of ethnographic knowledge' (Rohatynskyj & Jaarsma, 2000, p. 5).

This approach attempts to speak *with* the participants (not on behalf of them) in order to develop a more useful formulation of the problem of improving practice. Its usefulness may be limited to inquiry into this particular kind of activity in schools and other settings where there is strong support for inquiry into improving practice, and recognition of the complexity of challenging contexts. In professions where quality control and adherence to well defined standards is expected, this kind of research may not be tolerated as there is too strong a risk of litigation.

There are a number of ethical challenges associated with doing research in a context characterised by high levels of poverty and difference, not the least of which is the fact that research can drain already stretched resources. Also, competition for students makes it increasingly difficult for schools with weak academic outcomes to hold onto to their students and not lose them to schools with stronger reputations for success. Hence, particular care needs to be paid to shielding the identity of participants and sites when reporting research findings, so as to do no further harm

to a school's reputation. While I acknowledge Walford's (2002) arguments against anonymity, including the likelihood that many sites are identifiable and therefore not protected from exposure and possible damage, the geographical size of Sydney makes identification less likely, and certain features of the description have been removed or modified to reduce the likelihood of identification.

## 9.6 Conclusion

The matching of an appropriate methodology to the question under investigation is, for the most part, a logical consequence of the type of question being investigated and the setting in which this investigation takes place. Questions of human activity (practice) demand detailed descriptions of their form, but how they function is not necessarily clear to either the observer, or the observed. What *is* going on may emerge by noticing the patterns and effects of practice captured in representations, but these kinds of processes take time and resources. In already fragile and turbulent environments, researchers are under additional ethical obligations to ensure that the research processes and outputs are *really* useful to participants. Negotiated ethnography, like other forms of ethnography, has the potential to shine a soft light or a harsh spotlight on practice, but it makes its own processes visible and accessible in ways that expose researchers and their practice to the scrutiny and ongoing influence of participants.

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# Chapter 10
# Provoking Change – The Role of Research in Institutional Learning and Organisational Change

**Ken Johnston**

I recently had the good fortune to work as a research colleague with Dr Hayes. The research involved a close study of four disadvantaged schools and its purpose was to work with school leaders and teachers to shift their focus and action from a welfare-oriented approach to a learning-centred approach (Hayes, Johnston, & King, 2009). After one long meeting with a principal and his executive, where they discussed their views of what went on in the school, I wrote the following (Research Note, 25/09/05):

> Our work with the school has both a professional development and a research focus. We have to marry these two roles and I can already envisage that this is not going to be easy. At the moment, the professional development role is uppermost. The principals and senior executive are fairly comfortable with academics who try to understand their situation in order to come up with helpful advice. I realise that we are still at the stage in our project where we are gaining the initial consent of the participating schools and building up trust and understanding about the research. But I think we need to develop our ideas about our research role in the school, the questions we might be interested in following, the kind of data that would be useful, and how we might analyse it. We need to be as clear and explicit about our research role in the school as we are about our role in helping shape the change process itself.

What was my sense of unease here? Why was I insisting that our project had both a research and professional development focus?

On reflection, I think that we were coming at the problem of organisational change from two different directions. One orientation had its home within the more normative framework of educational research, where the researchers develop a collaborative relationship with school leaders and teachers to reflect on their organisational behaviour and explore new and better ways to improve their practice. The researchers may come to this relationship armed with expert knowledge or advice and ready-made solutions, or they may come with a technique, such as the protocols

K. Johnston (✉)
Honorary Associate, Faculty of Education and Social Work, University of Sydney, Sydney, NSW, Australia
e-mail: kmjohnston@westnet.com.au

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associated with action research, and be prepared to facilitate a process of joint reflection on current needs and possible changes.[1] When I referred in my written note to the 'professional development' focus of our research, this is the orientation that I had in mind.

It is also the orientation that, as a sociologist, I was least at home with. I approached the problem of organisational change from a more classical social science position. The working assumption here is that, before the researchers can come up with proposals for change, they must first study the social dynamics within the school, the network of relations formed by the various groups of social actors whose lives intersect within the organisation, their multiple points of view and interests, and the systemic connections between the school and institutions within the wider social system. Analysis comes first, and proposals and implications for change are suspended until the final chapter. And this in fact became the standard way in which social scientists dealt with questions of inequality and schooling. Paul Willis's (1977) influential study of resistance to schooling within a group of working class boys, *Learning to Labour*, ends with a chapter entitled *Monday morning and the millennium*. The authors of *Making the Difference*, (Connell, 1982), an equally influential book about social differentiation within schooling, end with a chapter called *Inequality and what to do about it*.

This brings me to an issue at the heart of negotiated ethnography. What role can researchers play in the process of social or organisational change? Is it simply a question of making one's expertise available for clients or movement activists? This point of view was put strongly by Bourdieu (2003) towards the end of his life. He argued that activist sociologists and social movement activists must come together to collectively discuss and analyse the situation and organise novel forms of political action and mobilisation. Or is there an argument that the roles of researcher and subject need to be collapsed? Some activist ethnographers (for example Skeggs, 2001; Thomas, 1993) argue that it is necessary for the researcher to engage with their subjects as co-activists in working towards social change and justice. How else will subjects come to understand the roots of their own oppression and overcome it?

Negotiated ethnography involves the participants in all stages of research, including the identification of issues, the creation and collection of data, and the analysis of field data. This might give the impression that it is a type of action research, and certainly both research styles try to close the gap between researcher and subject. Action researchers also adopt participatory, democratic procedures in which the researcher works as a facilitator to assist the subjects to reflect on their situation, identify issues of concern, introduce changes and reflect on the outcomes. The question I want to pursue, however, is whether the task of conceptual and theoretical development also has a place within such a participatory research practice as negotiated ethnography.

When we look at the research artefacts that are central in negotiated ethnography we can see that something different is going on from what occurs in action research

[1] For more details about action research, *see* Chapter 5 (Groundwater-Smith & Irwin, this volume).

settings. I am using the notion of 'artefact' here to refer to the forms in which the data was worked over and presented to the subjects for discussion and analysis. In the case of the leadership team at Lone Tree Public School, the artefact was a document that recounted in detail their activities in the course of a school day.

The production of an artefact is an interesting process in itself. Most are an attempt to capture everyday institutional practices by recording activities as they occur from one moment to the next. I will give an example of how a particular research artefact was produced. The *Day Diaries* are recounts of actions and interactions that occurred during the lessons of a Year 8 class over the course of one school day. Three observers followed the students from lesson to lesson, recording in as much detail as possible the interactions they observed. Two of the observers were members of the research team, and the third was a teacher at the school who was familiar with the local scene. At the conclusion of each lesson, the three observers sat down with the research coordinator to construct a recount of the lesson. The aim was to produce a relatively short description of the teacher's and students' activities, and the interactions that shaped these events. They took special care to shed from the recounts any evaluative statements or overtones. After the observers had agreed that the recount covered the essential actions and interactions, it was shared with the teacher who had given the lesson to check whether he or she also agreed that it was an accurate record of what had happened. Through this process, ethnographic observations were shaped into descriptive recounts.

There are two purposes for bringing artefacts such as these into joint sessions attended by researchers and participants. One is to stimulate analysis of the field data. The artefacts become tools to think with. The participants and researchers work together to clarify the patterns in the data and generate new insights about the practices described in the recounts. The second purpose is to provoke a change in consciousness. The assumption here, as described in the preceding chapter's account of negotiated ethnography (Hayes, Chapter 9, this volume), is that practitioners, especially in challenging schools, must begin to see their practice in a different light before they can envisage new possibilities or alternative ways of doing things. The artefacts, which are based on ethnographic based observations of their own practices, may provoke or unsettle strongly held, unquestioned justifications and explanations.

Now this sounds like an ethnographic approach in which researchers and participants co-produce new knowledge and understanding as the basis for organisational change. But if negotiated ethnography is to be distinguished from action research, which also emphasises the co-production of knowledge as the basis for innovation and change, we need to examine much more closely its potential for theoretical discovery and conceptual development.

Snow, Morrill, and Anderson (2003) give a number of examples of ethnographers deriving concepts and theoretical principles from their ethnographic observations rather than from imported or existing theories. Erving Goffman's *Asylums* (1961), for example, provides the reader with wonderfully evocative 'insider' accounts of inmates and custodians within 'total institutions' such as prisons, monasteries and mental asylums. We gain great insight into the tacit rules and conventions that enable

one to be a member within these closed institutional worlds, and the justificatory frameworks that support the institutional arrangements. But the most powerful features of Goffman's analysis are the theoretical formulations regarding institutional control, identity formation and resistance, and the mid-level theoretical concepts such as 'underlife', 'mortification processes' and 'moral careers'. These theoretical constructions, generated from the ethnographic detail, became highly influential in a range of different fields and sites.

Another example that more closely parallels the dual purposes of negotiated ethnography – enhanced analysis and organisational change – suggests one way to develop its potential for theoretical discovery and conceptual development. A group of Finnish researchers in Helsinki were concerned about a widely perceived problem with the provision of children's health care. When children entered the health care system with multiple diseases or ailments, they moved from one specialist or health professional to another and from the health centre to the hospital with little or no coordination or communication between the medical staff and between the health professionals and the family. The practical research task was to discover and develop new ways of working so that parents and practitioners from various health care organisations might collaboratively plan and monitor the children's trajectory of care.

Engestrom and his colleagues approached this task using activity theory, an approach to social learning first proposed by Vygotsky in the early years of the Soviet Union and developed by Leont'ev in the 1960s and 1970s. The story of how they developed these seminal ideas into an elaborated theory is interesting but not relevant to my line of argument here.[2] What is relevant is the *explanatory framework* and the *investigative design* they adopted to research organisational change in the hospital setting (Engestrom, 2001).

Engestrom and his fellow researchers set their investigation within a *learning framework*. They were interested in how learning leads to new patterns of behaviour when there is no readily available model to fix the problem, and no wise teacher in the background with the correct answer. When we normally think of learning we have in mind a process whereby a person acquires skills or knowledge in such a way that it leads to a sustained change in the behaviour or perception of the person. It is assumed that skills and knowledge are reasonably stable and well defined and that there is a competent teacher who already knows what is to be learned.

The difficulty with this conception of learning, says Engestrom, is that learning within most complex organisations violates these presuppositions. That which is learnt is not stable, or coherent. Learning has to occur without a teacher who knows in advance what is to be learned. We have to learn something that is not yet there. We learn in social situations as new insights or knowledge are being created.

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[2]Yrjo Engestrom and his colleagues at the University of Helsinki have developed an extensive research program. A full bibliography of their work is available on the website of the *Centre for Research on Activity, Development and Learning*: www.helsinki.fi/cradle/index.htm.

This learning framework provides a more powerful language to understand the process of organisational change than the explanatory framework that we adopted in negotiated ethnography. When in our analysis we use phrases like 'unsettling the understanding of participants', 'creating moments where new understandings and possibilities are opened up in the space between experiences and discourse', and 'deconstructing and reshaping the taken-for-granted', we are using a therapeutic language of personal emancipation or enlightenment. Such a language points to the emancipatory outcome of a learning process, but the important social process of learning itself remains inaccessible.

The *investigative design* also provides an interesting contrast. The researchers set up a series of meetings. On one side of the room were doctors, nurses and staff from the Children's Hospital, and on the other were doctors and health professionals from the primary health care centre. The voices of the patient's family came from the front of the room from videotapes made by the researchers by following the patients through their hospital and health centre visits. The video excerpts, which illustrated critical incidents between the patients and the health professionals, were selected to stimulate discussion.

The problem was that individuals within each activity system (hospital staff, primary health care staff, and patients and their families) were locked into their own procedures, norms and justifications and were resistant to change. Central to activity theory is the idea that contradictions or tensions are the energising force for transformative change. To jolt the actors out of their self-justificatory responses, writes Engestrom (2001), the critical incidents had to

> . . .touch and trigger some internal tensions and dynamics in their respective institutional contexts, dynamics that can energise a serious learning effort on their part. (p. 140)

The study is a fascinating account of how the participants worked through their differences, agreeing to let go of the cognitive frameworks and institutional models that they had developed within their own particular activity system, in order to negotiate new ways of thinking and new models of child support that were aligned across all three activity systems. Engestrom (2004) has called this higher order learning *expansive learning*.

> Radical exploration is learning what is not there. . . It is the creation of new knowledge and new practices for a newly emerging activity, that is, learning embedded in and constitutive of qualitative transformation of the entire activity system. (p. 15)

To enhance the analytic possibilities, the researchers recorded the interactions that occurred within the 'change laboratory' sessions. They subsequently developed a detailed meta-analysis of the cognitive trails and shifts, and the accommodations and boundary-crossings that occurred as the participants jettisoned old positions and collaborated on the production of new knowledge. Overall, the research not only provided the participants with an improved, innovative model of child support across institutions, but it also offered the researchers new theoretical understandings about institutional learning and organisational change that could be applied across other sites and institutional settings.

Returning to negotiated ethnography, I will conclude with a brief example of how we were able to enhance the analytic possibilities of the research artefacts. Earlier I described how we went about constructing the *Day Diaries* of actions and interactions within classrooms. We used these research artefacts in sessions with principals and teachers. Our hope, as researchers, was that the stark reality of the information contained within these research artefacts (restricted teaching and learning scripts, minimal literacy demands, intellectually undemanding tasks, little explorative talk, little if any choice over how and what to learn, etc.) would, as with Engestrom's 'critical episodes', jolt the actors out of their self-justificatory responses and energise a serious learning effort among the participants.

In fact, the discussions were at first very defensive. There was a tendency for the school executives to see themselves as remote from the classroom. They stressed the exceptional nature of the situation, the special characteristics of the students, the particular qualities of the teachers who featured in the *Day Dairies*, the fact that the observation took place on a particular day and so on. It was clearly very difficult for the participants to stand back and see the overall patterns of learning and trace the systemic reasons for the impoverished teaching and learning scripts that were revealed in the *Day Dairies*.

We were able, however, to enhance the level of analysis and critical reflection when we constructed a simple matrix diagram, as shown in Fig. 10.1, based on two variables that emerged as important when the participants discussed the *Day*

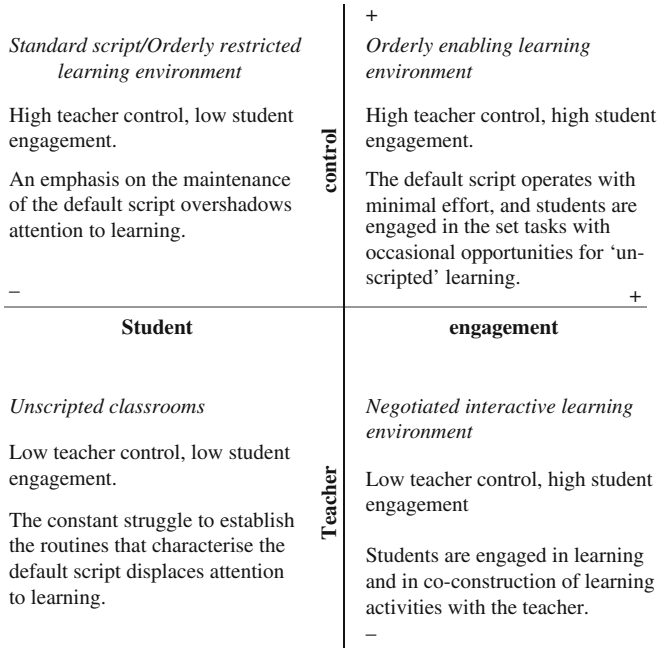


**Fig. 10.1** Teacher control and student engagement in set tasks

*Dairies*. The variables were the degree of teacher control during the lesson, and the degree to which students were engaged in the task.

The principals and teachers immediately recognised the tension between the demands of a tightly controlled classroom and high levels of student engagement. This matrix has since proved to be a very productive tool to stimulate principals and teachers to question the practical knowledge that they have derived from experience and see broader patterns and possibilities. To extend our understanding of why this has been so, we would need to follow the use of the matrix more systematically in 'change laboratories', recording in detail the responses of the participants, and developing a meta-analysis along the lines that Engestrom and his colleagues have indicated.

I began my discussion of negotiated ethnography by describing my unease in combining the roles of professional development and social researcher. I have stressed the importance of theoretical discovery and conceptual development not only because they are in danger of slipping out of the picture once we collapse the distinction between the researcher and participants, but, more importantly, because these qualities are essential if we want to apply our ethnographic insights to other institutional sites and social settings. A key task of the researcher in negotiated ethnography is to rework the raw ethnographic data into conceptual tools to think with. This analytical and theoretical task is not only an essential element in ethnography itself, it is also a means whereby the researchers make their expertise and knowledge available to their research subjects as a basis for institutional change.

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# Chapter 11
# Drawing on the Arts, Transforming Research: Possibilities of Arts-Informed Perspectives

**Ardra L. Cole and J. Gary Knowles**

## 11.1 Introduction

For the past 14 years we, alongside several generations of graduate students, have evolved a qualitative methodology informed by processes of art making and representational forms of the arts. Over a range of inquiry projects spanning a decade or so earlier, we engaged various articulations of qualitative research to explore topics broadly related to education. In this chapter we trace the evolution of, and describe, arts-informed research as a qualitative methodology for personal and social transformation.

## 11.2 Problem Space, Genesis and Intellectual Roots

As teachers, teacher-education scholars, and educational researchers we moved from public to post-secondary institutions dissatisfied with the conventions that defined those educational and academic contexts. The limiting conventions included those that defined research and publishing. The language of the academy and all that it symbolised fell short in its ability to capture and communicate the complexity and diversity of human experience. Even challenging conventions of positivism and following qualitative research methodologies resulted in research representations wrung dry of life – of emotion, sensuality, and physicality.

We sought methodologies that honoured diverse forms of knowing, and that paid respect to both research participants and those who 'read' or might be interested in 'reading' research texts. Our goals related to integrity, relevance, accessibility, and engagement. We wanted research to reach audiences beyond the academy and to make a difference.

We turned our attention to the relationship between art and research, and the possibilities inherent in infusing processes and representational forms of the arts into

A.L. Cole (✉)
Department of Adult Education and Counselling Psychology, Ontario Institute for Studies in Education, University of Toronto, Toronto, ON, Canada
e-mail: acole@oise.utoronto.ca

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social science research. We began by dabbling with two- and three-dimensional art, performance and fiction mainly for purposes of representation. At the same time, we encouraged graduate students to explore media of poetry, literary prose, playwriting, visual arts, dance and music as alternative approaches to knowledge representation and advancement.

In the early 1990s a wave of change in methodological innovation began to swell. In 1993, in a distinguished Presidential Address to the Annual Meeting of the American Educational Research Association, Elliott Eisner (1993) speculated about the future of educational research as it witnessed an expanding array of research methods to acknowledge and account for the range of forms and modes of understanding that comprise human development. Soon after this, the Arts-Based Educational Research Special Interest Group of AERA (ABER) was formed, and grew quickly. At about this time a small but growing number of scholarly outlets (books, journal publications and professional and academic conferences) started to support 'alternative' qualitative research. For example, in 1993 the first Arts-Based Research Institute was held at Stanford University, California to explore the role of the arts in advancing understanding about the state of American schools. The first issue of the prestigious journal *Qualitative inquiry* edited by Norman Denzin and Yvonna Lincoln was published in 1995 and featured an article *Researcher as artist/artist as researcher* by Susan Finley and Gary Knowles (1995). In 1996 AltaMira Press launched a book series *Ethnographic alternatives* that emphasised experimental forms of qualitative writing (Bochner, 1996).

Two separate and rather serendipitous moments – both encounters with works in art galleries – re-enchanted (Gablik, 1991) our perspective on our work and redefined for us our commitment both to the research we do and the research we facilitate. For Ardra it was a visit to an art gallery in New York City and a retrospective exhibit of the three-dimensional installation art of Edward Kienholz and Nancy Reddin Kienholz (*see* Cole, 2004). For Gary it was a chance encounter in an art gallery in Ottawa, Canada with the work of Newfoundland photographer and installation artist Marlene Creates. The subject matter of the artwork – social commentaries on elements of the human condition – reflected themes of social science research, and we could see methodological connections with, and possibilities for, our work. The key difference, however, was our engagement with the work and its lingering impact. From those epiphanal experiences we imagined that research, like art, could be accessible, evocative, embodied, empathic and provocative. Since then we have been driven by that commitment.

The timing of those encounters, within a climate of bold methodological challenge, set the stage for us to forge ahead with formalising and articulating theoretical underpinnings, practices and issues associated with the methodology that was emerging from our research and that of the graduate students with whom we worked. In 1998, at the Ontario Institute for Studies in Education of the University of Toronto, we started an informal working group of faculty and graduate students with a shared commitment to exploring, articulating and supporting each other in bringing together art and social science research. As word got out and interest grew,

the working group became formalised. Then, in 2000, we established The Centre for Arts-informed Research.

Arts-informed research is a mode and form of qualitative research in the social sciences that is influenced by, but not based in, the arts as broadly conceived. In other words, the arts are used to advance a research agenda. The central purposes of arts-informed research are: to enhance understanding of the complexities of the human condition through alternative (to conventional) processes and representational forms of inquiry, and to reach multiple audiences by making scholarship more accessible. The methodology infuses the languages, processes and forms of literary, visual and performing arts with the expansive possibilities of scholarly inquiry for purposes of advancing knowledge.

Arts-informed research is a way of redefining research in form and representation, and of creating new understandings of process, spirit, purpose, subjectivities, emotion, responsiveness and ethical dimensions of inquiry. This redefinition reflects an explicit challenge to logical positivism and technical rationality as the only acceptable guides to explaining human behaviour and understanding. It is part of a broader commitment to shift the dominant paradigmatic view that keeps the academy and community separated; to acknowledge the multiple dimensions that constitute and form the human condition – physical, emotional, spiritual, social, cultural – and the myriad ways of engaging in the world – oral, literal, visual, embodied. Bringing together the systematic and rigorous qualities of conventional qualitative methodologies with the artistic, disciplined and imaginative qualities of the arts acknowledges the power of art forms to reach diverse audiences and the importance of diverse languages for gaining insights into the complexities of the human condition.

As a framework for inquiry, arts-informed research is sufficiently fluid and flexible to serve either as a methodological enhancement to other research approaches or as a stand-alone qualitative methodology. As a methodological enhancement, one might conduct an arts-informed life history study, an arts-informed phenomenological inquiry, an arts-informed narrative inquiry, or an arts-informed ethnography. In the case of an arts-informed life history study, for example, the research is underpinned by the epistemological assumptions that define life history methodology and guided by the principles and qualities of arts-informed research. As a stand-alone methodology, broadly defined within a qualitative framework, arts-informed research perspectives guide all aspects of the inquiry from conceptualisation through to representation (e.g., Knowles & Promislow, 2008; Knowles, Promislow, & Cole, 2008).

Arts-informed research is not defined by a fixed set of procedures or protocol orientation. Rather, it is an orientation to qualitative research that rests in three key perspectives: inspiration from an art form, artwork or collection of artwork, artist or artistic genre; artful ways of working in harmony with the art form or genre and infusing it into the processes of researching; and, artful representations intended to facilitate communication of research in fundamentally different ways and to broader audiences than more traditional conceptions of academic scholarship. Arts-informed research methods layered over other qualitative research approaches give rise to

a creative and imaginative rendition of the phenomenon being explored and the underlying qualitative method.

## 11.3 Methodological Features

Broadly grounded in assumptions that define a qualitative paradigm, arts-informed research has three main defining elements generally guided by the questions: How can inspiration from the arts inform the conceptualisation of research efforts? How do the arts inform the research process? How do the arts inform the research representation?

First and foremost, arts-informed research involves a *commitment to a particular art form* (or forms in the case of mixed or multimedia) that is reflected in elements of the creative research process and in the representation of the research 'text'. To embrace the potential of the arts to inform scholarship is to be open to the ways in which, for instance, the literary, visual, or performing arts – and the inherent methods and processes of those various art forms – can inform processes and representations of scholarly inquiry. The selected art form or forms serve to frame and define the inquiry process and text. The relationship between and among research purposes related to knowledge advancement and research communication, art form, and the artist-researchers' grounding in and developing competence with the chosen art form is key.

Following the emergent nature of qualitative research in general, *the creative inquiry process* of arts-informed research is defined by an openness to the possibilities of the human imagination. Rather than adhering to a set of rigid guidelines for gathering and working with research material, a researcher using arts-informed methodology follows a more natural process of engagement relying on common sense decision making, intuition and a general responsiveness to the natural flow of events and experiences. The processes of art making inform the inquiry in ways congruent with the artistic sensitivities and technical (artistic) strengths of the researcher in concert with the overall spirit and purpose of the inquiry.

The choice and articulation of *representational form* is a third defining element of arts-informed research. Representational form is integrally tied to issues related to *audience engagement* and the *transformative potential* of the work. Arts-informed representations of research have the express purpose of connecting, in a holistic way, with the hearts, souls and minds of diverse yet defined audiences including but beyond the academy. 'New' forms of representing research, through alternatives to traditional scholarship outlets such as journal and monograph publications, motivate and engage diverse audiences in multiple ways. They make accessible to various communities research-informed ideas, theories, issues, findings with policy and practice implications that promise transformational possibilities.

Like all research, studies following an arts-informed research methodology must be subjected to scrutiny to assess, and perhaps help to explain, their worth or value as research. The following are features or qualities of arts-informed research that demonstrate how the arts contribute to knowledge production and advancement

within the context of social science research and serve as means to judge the 'goodness' of such an inquiry.

- *Intentionality.* Consistent with the broad agenda of social science research to improve the human condition, arts-informed research has a clear *intellectual purpose.* It also has a *moral purpose.* Arts-informed research representations are intended as opportunities for transformation, revelation, or some other intellectual and moral shift. They must be more than good stories, images, or performances. The transformational potential must be evident.
- *Researcher presence*. As in most qualitative research, the subjective and reflexive *presence of the researcher* is evident in the research text in varying ways depending on the focus and purpose of the inquiry. In arts-informed research, the researcher's artistry is also predominant. By artistry we include conceptual artistry, imagination, and creative and aesthetic sensibilities, not only technical skills or an externally sanctioned title of 'artist'. Extending the idea from qualitative inquiry of 'researcher as instrument', in arts-informed research the 'instrument' of research is also the researcher-as-artist. A researcher's presence is evident in a number of ways throughout an arts-informed research 'text' (in whatever form it is presented and, by implication, throughout the entire researching process). The researcher is present through an explicit *reflexive self-accounting*; her presence is also implied and *felt,* and the representational form clearly bears the *signature* or *fingerprint* of researcher-as-artist. An important sidebar here is that, while the presence and signature of the researcher are clearly evident, the researcher is not necessarily the focus or subject of study. Although we operate on the assumption that all research is inherently autobiographical – a reflection of who we are and what drives our work – an explication of autobiographical beginnings is usually only a small, albeit defining, part of an arts-informed study.
- *Aesthetic quality.* The central purpose of arts-informed research is knowledge advancement through research – not the production of fine art works. Art is a medium through which research purposes are achieved and, indeed, fine art works may be produced. The quality of the artistic elements of an arts-informed research project is defined by how well the artistic process and form serve research goals. Attention to the aesthetics of a particular genre is, therefore, important; aesthetics of form are integrally tied to communication. To paraphrase Elliott Eisner (1993), the form needs to inform.
- *Methodological commitment*. Arts-informed research reflects a methodological commitment through evidence of a principled process, procedural harmony and attention to aesthetic quality. The *methodological integrity* of the research is determined in large part by the relationship between the form and substance of the research text and the inquiry process reflected in the text. The rationale for the use of photography, for example, as the defining art form guiding the inquiry or representation must be readily apparent by how, and how well, it works to illuminate and achieve the research purposes.
- *Holistic quality*. From purpose to method to interpretation and representation, arts-informed research is an holistic process and rendering that runs counter to

more conventional research endeavours that tend to be more linear, sequential, compartmentalised, and distanced from researcher and participants. A rigorous arts-informed 'text' is imbued with an *internal consistency* and *coherence* that represents a strong and seamless relationship between purpose and method (process and form). The research text also evidences a high level of *authenticity* that speaks to the truthfulness and sincerity of the research relationship, process of inquiry, interpretation and representational form.

- *Communicability.* Research that maximises its communicative potential addresses concerns about the *accessibility* of the research account through the form and language in which it is written, performed, or otherwise presented. Accessibility is related to the potential for audience engagement, meaning making and response. Depending on the complex interaction between research purposes, representational form and intended audiences, communicability of arts-informed research representations is variously defined by its evocative, empathic, embodied, provocative qualities of engagement and transformative potential.
- *Knowledge advancement.* Research is about advancing knowledge, however 'knowledge' is defined. The knowledge advanced in arts-informed research is generative rather than propositional and based on assumptions that reflect the multidimensional, complex, dynamic, inter-subjective and contextual nature of human experience. Accordingly, knowledge is broadly defined to encompass rational, non-rational, emotional, embodied and spiritual ways of knowing. The use of the arts in research is explicitly tied to moral purposes of social responsibility and epistemological equity. Thus, research representations are 'open' texts intended to involve the reader/audience in an active process of meaning making that is likely to have transformative potential. These texts are presented with sufficient *ambiguity* and *humility* to allow for multiple interpretations and reader response.
- *Contributions***.** Tied to the intellectual and moral purposes of arts-informed research are its theoretical and practical contributions. Sound and rigorous arts-informed work has both *theoretical potential* and *transformative potential.* The former acknowledges the centrality of the 'So what?' question and the power of the inquiry work to provide insights into the human condition, while the latter urges researchers to imagine new possibilities for those whom the work is about and for. Researchers' responsibilities are toward fellow humans, neighbours, community members and society at large.

## 11.4 Arts-Informed Research in Practice: Examples

### *11.4.1 Students as Researchers*

Gary has a history of teaching in secondary schools and of working with and for students. In schools, students often struggle to find meaning and connections. With Suzanne Thomas he was interested in exploring students' 'sense-of-place' within the bureaucratic institution called school. The means of inquiry were derived and

gained inspiration from a variety of sources: personal experiences, such as Gary's viewing of artist Marlene Creates' photographic installations and Suzanne's experiences with art-making students (*see* Knowles & Thomas, 2001); interests in and facility with methods of visual arts inquiry (both are artists, Gary working in paint and photography, Suzanne a poet, and photographer); and interests in facilitating students' development in visual art through meaningful projects.

The purpose of the study was to examine secondary school art students' experiences of 'place' in schools. Place was broadly defined to mean physical locations within schools (or school property) that, for an individual student, epitomised specific emotional experiences. They were places that represent, in literal or metaphorical terms, a focus of a student's responses to being in school. Gary and Suzanne wanted to know what students thought about their places within school communities.

In conceptualising this project, Suzanne and Gary were interested in presenting, for public display and scholarly interrogation (as in analysis), visual and artistic images of and by students that depicted their varied experiences. They trusted that the students would do this in multiple and authentic ways, broadly adhering to the information gathering and exhibition structures provided, so that the artwork created was at once data and representations of experiences. They re-imagined a template for information gathering and representation of 'findings' based on Marlene Creates' life history inspired photography (*see* Knowles & Thomas, 2001; Thomas & Knowles, 2009). Underlying these considerations, Gary and Suzanne were interested in working with teachers and schools where the public exhibition of students' art was celebrated.

The first requests of students were: Tell about your experiences of school; . . .your 'place' in this school; . . .a significant or meaningful 'place', perhaps within, or immediately outside, the school building; . . .how you see yourself in this 'place'; . . .what you think about school.

The second request of students was that they apply a 'model' or structure to their artistry based on Creates' artistic work in Newfoundland. Her model of inquiry consists of assemblages that explore the relationship between human experience and landscape or sense-of-place. Creates' work and its structure was reinterpreted and modified for the purposes of student inquiry to aid the process of art making and the articulation of experience. The components of this model include seven linked elements providing for a multi-dimensional representation and format:

1. a photograph of the student in the foreground – a self portrait – identifying the artist/narrator of the text
2. a cognitive memory map, a pencil drawing of the student's 'place' within the school property that traces the storyline
3. place as visualised in the memory map photographically represented to show the student in the context of the place
4. a narrative representing the student's experiences of and in place – elicited in conjunction with the memory map
5. a photograph depicting a conceptualisation of students' sense-of-place

6. through other than photography, students rendered their syntheses of place explorations using any medium desired – the intention being to authentically represent lived experience, and
7. found objects that provide a physical dimension to the 'place presence' and 'place-based meaning'.

The exhibit of the students' inquiry projects was a forum for interaction and dialogue between students and among students, teachers and administrators, and students, parents and community members. The multiple representations were as a complex language and visual dialogue with the potential to empower students by giving a public face to their experiences.

Analysis was evident in the way Suzanne and Gary used augmented information to enhance and emphasise points made by students. They wanted to make obvious the raw realities of many unheard students' lives by relying on the emotive nature of two- and three-dimensional depictions of experience. Possibilities for students to see themselves and their peers in ways that were mainly of their own construction were central. It was also important that viewers felt the emotions embedded in students' stories, and it was hoped that fundamental assumptions about schools as locations for adolescents' learning and growth might be questioned by students and adults alike. These collective works were exhibited in several major North American cities in public and research conference contexts; several other inquiry projects were inspired by this work, one being with kindergarten preservice teachers at Macquarie University, Australia (Sumsion, 2007).

### *11.4.2 Pre-tenured Teacher Educators*

Ardra engaged with six teacher educators in different Canadian teacher-education institutions to explore with them their experiences of being teacher educators new to the professoriate within a contemporary climate of change. They had in-depth conversations and electronic mail exchanges about personal and career histories and their experiences in the academy. She spent time with them in their places of work and, in some cases, their homes. She gathered institutional and personal documents and artifacts including autobiographical writing, course syllabi, appointment books and institutional policy documents.

The paradoxical nature of much of the professors' experience was an overarching theme from the research analysis, as was their experience of struggle or conflict. Often, when talking about certain issues and experiences, words seemed woefully inadequate to convey the passion and emotion felt. Frequently, the teacher educators used graphic language to create images or metaphors to describe elements of their experiences. The power in their message could not be contained by or adequately communicated through printed words on a page. With the help of three colleagues,[1]

[1]The installation 'Living in paradox' was constructed with J. Gary Knowles, Brenda Brown and Margie Buttignol.

Ardra constructed *Living in paradox: A multi-media representation of teacher educators' lives in context* that represented three of the overarching themes that emerged through analysis. The artistic renderings were also informed by her own experiences as a teacher educator and teacher-education scholar and well documented and supported in other research and literature on the teacher-education professoriate (for fuller account see Cole, 2009).

### *11.4.3 Caregiving and Alzheimer's Disease*

For more than a decade Ardra and co-researcher Maura McIntyre have led a program of research focussed on understanding the emotional and psychosocial complexities of what it means to care for a loved one with Alzheimer's disease. Assuming a moral imperative to make research findings accessible to broad and diverse audiences and to create opportunities for public education about caregiving and Alzheimer's disease, they have drawn on the arts for inspiration and guidance, and used a variety of representational forms to reach multiple audiences.

Informed by the work of installation[2] artists and art museum curators, they created and exhibited, in numerous public venues, three large-scale multi-media installations to represent their research. *Living and dying with dignity: The Alzheimer's project* (Cole & McIntyre, 2006; McIntyre & Cole, 2008a), a seven piece installation depicting predominant themes and issues associated with caring for a loved one with Alzheimer's disease, was displayed in prominent, public venues in four major Canadian cities. *Putting care on the map: Portraits of care and caregiving across Canada*, an eleven-piece installation created from data gathered in a cross-Canada study of what care looks like for family caregivers in diverse care circumstances and locations, had a week-long exhibition in the very busy rotunda of Toronto City Hall. *Gray matters: A collective remembering of care* is a large collection of symbolic 'care' artifacts gathered from family caregivers and thematically arranged to depict diverse elements and meanings of the care-giving experience. It has been exhibited as part of *Putting care on the map* as well as on its own in three public venues in Ontario, for public education and for Alzheimer Society fundraising events. Virtual tours and images of these exhibits are available on the research website (Cole & McIntyre, 2010).

From stories gathered in conversation with family caregivers, Ardra and Maura also created *Love stories about caregiving and Alzheimer's disease* – a 45-minute spoken word performance in three acts – that they performed to audiences of family caregivers, health professionals, high school students, academics, and members of the general public (McIntyre & Cole, 2008b). Subsequently, they worked with a playwright and group of professional actors to produce an audio CD version (McIntyre & Cole, 2008c) intended for wide distribution. Video and audio clips of the performance and CD also are available on the above website.

[2]See Cole and McIntyre (2008) for a discussion of installation art-as-research.

## 11.5 Methodological Issues and Debates

Arts-informed research requires a reconceptualisation of what counts as knowledge, who defines knowledge to be counted and determines what knowledge is advanced, where knowledge is constructed, how research texts are read, and why and for whom research is conducted. Following Suzi Gablik (1991), arts-informed research is part of a larger agenda to re-enchant research. According to Gablik, re-enchantment:

> means stepping beyond the modern traditions of mechanism, positivism, empiricism, rationalism, materialism, secularism and scientism – the whole objectifying consciousness of the Enlightenment – in a way that allows for a return of soul. . .. It also refers to that change in the general social mood toward a new paradigmatic idealism and a more integrated value system that brings head and heart together. (p. 11)

There are numerous challenges to conceptualising and completing qualitative research informed by the arts. Conceptualisation of work that embraces the messiness of the arts, draws inspiration from the arts, and accesses the arts in all phases of researching, from conceptualisation to representation, demands a commitment to developing harmonious and congruent methods that honour the various elements and qualities laid out earlier in the chapter. A willingness to trust a process or processes that may appear amorphous is fundamental. Some researchers new to arts-informed research at first may find discomfort in walking on undefined ground, despite acknowledging that sound research can be done in alternative ways to more conventional approaches. Locating mentors who accept non-linear processes can often be a challenge for emerging researchers (see Knowles & Promislow, 2008; Knowles et al., 2008). For some, acknowledging that creativity resting in the arts can legitimately inform empirical work is an eye opener and an invitation, while for others socialised understandings about 'how "good" research looks' can be a challenge to adopting an arts-informed perspective. Overall, the complexities of doing this work and communicating it to broader audiences, along with locating and accessing supporting resources, are challenges.

A technical challenge often experienced by researchers new to arts-informed research relates to researchers' perceptions of their own skills. While many literary, visual, multimedia and performance artists, for example, embrace and complete arts-informed research projects, they often begin or gain entry to the work by drawing on knowledge, comfort and technical/craft skills associated with their artistry. Because researching from an arts-informed perspective is not an elitist endeavour, and researchers well grounded in qualitative research orientations but who do not see themselves as artists are not excluded from undertaking an arts-informed research project, what is usually required is the development or enhancement of artistic skills (often of a technical nature) in a chosen art form. Such new learning may be accomplished, for instance, through coursework of various kinds within formal and informal learning environments, internships, mentoring activities, and volunteering within arts-related organisations or through working with professional artists.

The complexities, demands, and myriad skills required to bring arts-informed research projects to completion are easily overlooked by naïve observers. Invariably arts-informed projects are less predictable than more conventional research in terms of time, energy, resource needs and community outreach. The temporal, energy, and resource allocations required to complete arts-informed research projects are often far greater than for more conventional qualitative research studies. If time and money are deciding factors (and often they are), it is important to take these into account prior to embarking on an arts-informed project. Gray and Cole (2008) provide a comprehensive discussion of some of the challenges associated with funding arts-related social science research. External funding may often be forthcoming when funders realise the communicative potential of research that is addressed to wider audiences. Performances and exhibits, for instance, are, in this regard, particularly attractive.

For new researchers, in particular, expertise or interests of colleagues or mentors in supporting arts-related inquiry projects is crucial. The prevailing climate regarding the conceptualisation of empirical research in any one program, department, faculty, or institution can either misinform and muddle, or enhance and enliven, the possibilities for integrity and coherence within arts-informed research projects. We have witnessed many cases where emerging arts-related scholars are coerced by well meaning supervisory committees into compromising conceptions and articulations of their work. In such cases the elements and qualities representing 'goodness' of arts-informed research are not consistently played out in the work because of concerns that the structure of an 'acceptable thesis' must conform with convention, or that a mixed-method study, for example, will yield more accurate information, or that measures of reliability and validity are not addressed, and so on (*see* Knowles & Promislow, 2008; Knowles et al., 2008).

Communicating 'findings' or engaging audience (readers) through performances, exhibits, or multimedia displays opens up many possibilities for inspiring transformation. While representation and transformative possibilities are endless, regard for a wide audience involvement can also present a challenge for researchers wanting to present the work in academic venues. Editors' expectations of representational forms and other technical requirements for communication purposes may limit representation possibilities, although, increasingly, this is changing. Editors are increasingly open to alternative representations for reporting qualitative research findings, and on-line technology is creating capacity to translate and present alternative texts.

## 11.6 Conclusion

Knowledge articulated by the social science research community is seldom communicated in ways that reach the general public or practitioners. The track record of research stories finding their way into public discourse and community is dismal. The issue of research accessibility in general is an important topic; it becomes especially so when the topics of the research are a vital part of the social condition. Tied

to moral purpose, arts-informed research is an explicit attempt to make a difference through research in the lives of ordinary citizens and in the thinking and decisions of policy makers, politicians, legislators, and other key decision makers. Readers of research need to be moved to feel and think, and to be inspired in some way. It is our responsibility as researchers to provoke that kind of encounter. Research that is accessible, evocative, embodied, empathic, and provocative more fully portrays the complexities of the human condition to broader audiences and takes important steps towards bridging academy and community.

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# Chapter 12
# Investigating the Liminal in Professional Education Through Arts-Informed Research

**Robyn Ewing**

## 12.1 Introduction

The role that arts can and should play in learning generally and in arts-informed research is not as widely acknowledged internationally as it should be. My response seeks to broaden the discussion about arts-informed research by extending Cole's and Knowles' (Chapter 11, this volume) focus in the previous chapter to ensure narrative is included. Its appropriateness as a research methodology in addressing liminal professional issues and dilemmas is considered through several current arts-informed research projects underway at the University of Sydney. It is natural that new and innovative research approaches generate tensions, and this chapter concludes with a brief consideration of several.

Initially, however, it is pertinent to contextualise this response chapter by sharing a little of my own experience. Like Coles and Knowles, for me there have been some significant moments in my research journey that have led me to explore arts-informed methodology and to supervise a number of graduate students who have chosen it as a methodology.

## 12.2 The Journey into a New Methodology

I came to arts-informed inquiry through researching the importance of narrative in learning during my doctoral exploration of newstime ('show and tell') as a taken-for-granted part of the curriculum in K-2 classrooms (Ewing,1995). At the American Educational Research Annual (AERA) conference in 1995, where I presented my findings, I was enthralled by the research presentations chaired by Elliott Eisner. Researchers chose to represent their findings using the arts. One had crafted a readers' theatre to report her findings. Another had created a dance to embody the process and the outcomes. As someone convicted of the importance of the arts, I was

R. Ewing (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: robyn.ewing@sydney.edu.au

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motivated to explore this innovative approach. I discovered that Eisner had established the first AERA Arts-Based Research Institute in 1993 in the hope that the arts would help educators understand research problems and practices in schools more imaginatively, or with what Maxine Greene (1995) has called 'wideawakeness'. Eisner and Gardner then engaged in a series of debates about the definition of research at subsequent AERA annual meetings. Again, I was privileged to experience their 1999 discussion in Montreal. Eisner particularly identified arts-based research as important when investigating those aspects of educational life that often get neglected. He argued that arts-based researchers were pushing the boundaries of more conventional methodologies to challenge longtime assumptions and stereotypes.

Back in Australia, at the Faculty of Education and Social Work, a small group of faculty began to have conversations about arts-informed inquiry with our research students. In contrast to Cole and Knowles, narrative inquiry (e.g., Beattie, 1995; Clandinin & Connelly,2000) proved to be our way into arts informed research. This was partly through a workshop with Mary Beattie at the Australian Association of Teacher Education annual conference in 1996. David Smith and I had further opportunities to explore arts-informed inquiry more intensively through reading theses at Victoria University on Vancouver Island and then at the Ontario Institute for Studies in Education in Toronto in 1999. We became more excited by the possibilities of such approaches when we had the privilege to work with Ardra Cole and Gary Knowles.

On returning to the University of Sydney, we shared our new understandings with a number of research higher degree and honours students who were similarly provoked. It seemed that arts-informed research provided a way for professionals to explore the complexities of their identities – to push the boundaries. Our first colloquium on Arts-Informed Inquiry in November 2002 attracted a great deal of interest across the university and more broadly. We started to record the process of introducing this new methodology to the faculty and wrote about some of the challenges encountered by our research higher degree students. I used narratives of early career teachers to provide more in-depth explanations for the attrition of early-career teachers from the profession (Ewing & Manuel,2005). We also examined the criticisms and the questions raised by our colleagues about arts-informed inquiry (Ewing & Hughes,2008; Ewing & Smith,2004).

## 12.3 Arts-Informed Research as a Research Methodology

In the 1990s many researchers drew strong connections between interpretive research and artistic activity (e.g., Barone,2001; Denzin,1992; Eisner,1991; McNiff,1998; Richardson,1994). In their chapter, Cole and Knowles (2008, Chapter 11, this volume) represent arts-informed inquiry as an alternative approach that developed for them from their dissatisfaction with more traditional methodologies. There is, however, a place for the whole spectrum of research methodologies, and it is important that a researcher chooses the methodology that best enables the

research question, dilemma or concept to be explored systematically. As Barone and Eisner (1997) assert: 'There are limitations to any approach to the study of the world. That is why multivocality is so important' (p. 8). Arts-based research and arts-informed inquiry should not be seen as superior to traditional forms of social science research. Rather, it should be regarded equally as a legitimate research methodology.

It is just as possible and plausible to know and understand phenomena in the world through dance, song, poetry, theatre, drawing, sculpture and story as it is through a conventional scientific report. Arts-informed researchers, like many of their qualitative colleagues, view reality as constructed not given, multiple not singular, subjectively experienced rather than 'objective'. These commitments are not solely those of arts-informed researchers. As with action research, arts-informed inquiries strive to increase the agency of those involved, to reform professional practice, to explore the taken for granted anew. Arts-informed researchers, like many other researchers, also aim to inspire ethically informed social action. In addition, because of the accessibility of the arts, such research outcomes or findings can be shared with the wider community. It is certainly true that such inquiries have enabled research traditionally confined to the academy to have a much broacher impact, as seen by, for example, Cole and McIntyre's Alzheimer research (2004). In fact, Patti Lather (1995) believes that arts-based representations have the potential to reach beyond what their creator intended.

In the preceding chapter Cole and Knowles (Chapter 11, this volume) describe arts-informed research as

> a mode and form of qualitative research in the social sciences that is influenced by, but not based in, the arts... . Bringing together the systematic and rigorous qualities of conventional qualitative methodologies with the artistic, disciplined and imaginative qualities of the arts acknowledges the power of art forms to reach diverse audiences....(p. 127)

Other terms used in the literature to describe this and similar methodological approaches, including 'arts-informed inquiry', 'arts-based research', 'arts-based inquiry' and 'arts-based educational research,' also appear to conform to this broad definition. For Eisner (2005), for example, the distinguishing feature of arts-based research is that it uses aesthetic qualities to shed light on the educational situations we care about. He sees that deliberately crafting the situation artistically allows it to be seen from other angles, or from multiple lenses/perspectives. It is often claimed that these approaches have evolved from narrative inquiry and educational criticism, but it seems more useful to regard arts-informed research as an inclusive term and not to fragment the discussion by using very similar terms with very fine-grained distinctions. Artistic forms of narrative inquiry would also be included under the arts-informed research umbrella. In addition, arts-informed research does not have to be employed as an exclusive methodological approach. Artistic processes can combine with other methodologies to inform the inquiry and/or its analysis and/or its representation. Arts can be viewed as both central to the actual process of the inquiry (Diamond & Mullen,1999) and/or to the product of the research.

## 12.4 Investigating the Liminal

Barone (2001) has drawn attention to the value of arts-informed research in exploring educational issues. Writing about the teacher who is the subject of his book *Touching Eternity* he discusses the:

> enormously complex, wide ranging, highly ambiguous, profoundly personal, unquestionably social, intrinsically political and inevitably subjective nature of the outcomes of teaching and learning. Nevertheless the process of searching for these answers may offer the pleasantly unexpected: the appearance of additional questions quite numerous and splendid. (pp. 1–2)

As John Hughes and I (Ewing & Hughes,2008) have recently argued, this methodology would seem most appropriate when exploring the liminal (Conroy,2004). The liminal is perceived as 'a place where disparate cultures, ideologies and frameworks may meet' (Conroy, 2004, p. 54) and this would seem highly applicable to the complexities of professions such as teacher education and social work. Thus, in discussing arts-informed inquiry, it is not productive to take a defensive position, but rather it is preferable to investigate what sorts of educational questions can be best enabled using such approaches. Surely, extending the ways that researchers can describe, interpret and analyse issues improves inquiry possibilities and outcomes? It is my belief that arts-informed approaches are more appropriate for investigating those research questions or issues that involve the practices and lived experiences of individuals. Often they allow the boundaries of these practices to be explored.

The next section illustrates this argument through the use of several current research projects at the University of Sydney as exemplars.

## 12.5 Current Exemplars

The following projects demonstrate the relevance of arts-informed research in collecting evidence and/or analysis and/or representation when investigating liminal professional issues, dilemmas or questions.

- Teaching style is very much related to the identity of the individual, yet this personal-professional identity is difficult to articulate. Victoria Campbell (2008) is using oral storying (Lowe,2002) with early career primary teachers to explore the development of their professional and personal identities as well as their emerging pedagogies. The participants will create a dramatic oral artwork of their early teaching experiences. Campbell is investigating whether finding one's own authentic voice through a creative activity empowers an early-career teacher, enabling them to establish a more resilient professional identity. This is important, given the high attrition rate of teachers in their first 3–5 years of teaching.
- Linda Hodson has chosen to investigate the practices of two teacher educators recognised as outstanding to develop an understanding of the role of affect and emotion in quality tertiary teaching. She explores the insights and experiences

that inform their ways of engaging with pre-service teachers and, reciprocally, how these pre-service teachers experience their pedagogy. She has chosen to craft DVDs of these teachers' practices alongside their narratives and those of the pre-service teachers as well as her own. She uses poetry, metaphor and other literary devices in developing these narratives.

- In Australia, reconciliation between Aboriginal and non-Aboriginal Australians has been a controversial issue. Jane Moore, an Aboriginal researcher, has used the Aboriginal concept of 'songlines' with the music, poetry, songwriting and painting of primary children in two primary schools to investigate whether art and music can help them develop an understanding of the complex concept of reconciliation.
- Kirsty McGeogh (McGeogh & Hughes,2009) used digital storytelling in her teaching of English courses to enable newly arrived students. Her research demonstrates how the students' creation of their own digital stories enabled them to develop rich cultural understandings and tolerance of each other while learning academic English.
- Nikki Bunker has used portraiture to explore how well primary teachers can support the social and emotional wellbeing of children in their care whilst grappling with a neo-liberal emphasis on narrow academic achievement. She has created a patchwork quilt to represent the separateness of the academic discourse from that of social and emotional well being.

## 12.6 Tensions and Dilemmas

As with any new and innovative approach to research, however, there have been lively debates about the appropriateness of arts-informed research to investigate questions and dilemmas in professional education. Many of these have emerged in the proposal development or during the supervision and examination of projects such as those described above.

Tensions inherent in the development and use of any research methodology should be viewed positively, rather than seen as a requirement to continually justify an approach. Eisner's (2005) discussion of the tensions embedded in arts-informed research has been used as a starting point to better understand the principles that characterise it.

1. Arts-informed research highlights, and in fact often celebrates, the personal and the particular. The very nature of such approaches requires the researcher's explicit participation in the process. The researcher is very much the lens through which the research is undertaken, as Hodson's research above illustrates. This could be one of the reasons why self study is often linked with arts-informed research – the professional and personal boundaries are often blurred and inform each other.
2. There is therefore no basis for making any use of the traditional conventions of generalisation and replicability. Eisner (2005) suggests, however, that there is

some veracity in the general residing in the particular, and that it is not uncommon for generalisations to be based on something singular. It is also the case that many studies using more conventional research frameworks over generalise, and often statistical findings are also interpreted out of the context in which they were gathered and constructed. One of the key features of a well designed arts-informed investigation is that the experience resonates with that of others – it is therefore trustworthy.

3. When working with aesthetics, there can be pressure for the artistic considerations to override the actual findings. However, because such research is morally motivated, it is important that the research contributes to social justice and equity, rather than findings being lauded for their innovativeness or novelty. Eisner exhorts us to ensure that what is significant is foremost.
4. Text-based arts-informed inquiries are characterised by the use of imaginative writing. Language is expressive and evocative. This use of affect and emotion can be confronting and provocative. While arts-informed researchers have made a deliberate choice to write in this way, some find it disturbing that the habitual way of reporting and representing research has been disrupted. Others are positive about this use of expressive language because of its increased accessibility beyond the academy.
5. Such research can lead to more questions than answers. While this is not a negative outcome, in the current increasingly conservative political climate, it can be more difficult for such research methodology to attract large-scale funding. Neo-liberal governments want definitive answers quickly.
6. Arts-informed research processes can enable different and multiple voices to be heard about a particular issue or experience – again the removal of the 'expert' knower about this issue is challenging for some.

Arts-informed research methodology is part of a group of emerging, innovative qualitative approaches to research. The term 'third space methodologies' has been coined by O'Toole and Beckett (2010). It has provoked a disruption of conventional and taken-for-granted ways of thinking about knowledge and research and aims to encourage a rich and broad discussion about questions of meaning and experience on the edge of possibility. Arts-informed research methodologies deserve to have much wider use in exploring research questions, dilemmas, issues or experiences that touch on the liminal nature of professions like education and social work. It is time that this is acknowledged more widely in the academy.

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# Part III
# Classical Research Approaches in New Social and Political Contexts

# Chapter 13
# Historical Analysis: New Approaches to Postcolonial Scholarship and the Subcontinent

**Tim Allender**

## 13.1 Introduction

Historical analysis is a broad church and its approach depends on the categories of evidence in play. Powerful critiques emerge as analysis is variously derived: from obscure documents hidden in long-forgotten corners of archives; from careful collation using pre-organised databases; from oral sources; or even from well worked over texts as the arrival of a new paradigm allows new ways of looking at old problems. This chapter begins by examining the development of the discipline of history as both an inclusive and an exclusionary domain. To narrow down such a broad fare of possibilities, it then focusses on one aspect of historical research: that relating to postcolonial scholarship and India – a field that has witnessed much innovation in the last 15 years. Most especially, this chapter examines the new approaches that have emerged in framing the interaction of the European and the 'colonial', particularly in regard to knowledge transfer. In addition, in terms of overused globalisation critiques, it explores how new histories are being written that emphasise the 'local' in the global context and the way history is referenced to deepen comparative analysis between national domains. Subaltern, gender and textual approaches are examined; these are apposite to my research into the educational history of colonial India. Finally, there is a discussion about the directions that new research might productively follow to better illustrate those phenomena that postcolonial scholarship has yet to fully understand.

## 13.2 Problem Space, Genesis and Intellectual Roots

In the public domain, history is seen as accessible to all who may be interested. It is not veiled in an esoteric methodology. However, when those engaging in the discussion neglect to consult the relevant evidence, their range of perspectives tends to cluster around artificial binaries that actually denature the essential business of

T. Allender (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: tim.allender@sydney.edu.au

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the discipline. For example, in predominantly white settler colonies, where contact history and revised postcolonial paradigms might be employed, the discourse has transcended the political scene where 'black armband' controversies have raged. This disciplinary dissonance has been played out in the US, in political controversies such as the one that erupted in 1994 when the Smithsonian Museum exhibition about the dropping of the atomic bomb on Japan conveyed a new moral uncertainty. In Australia the generative, at a national level, has been Keith Windshuttle's (1994) attack on Henry Reynolds (1981) and others over frontier conflict and whether there really were massacres of Aborigines (Macintyre & Clark, 2003, pp. 161–162). Furthermore, also in response to popular demand, there has been a rise in the more academically corrosive 'factition'– the melding of fact and fiction – to create a 'good story'.

Such dissembling of the historian's craft is generally transitory, like most political critiques. Yet there remains an ageless anxious desire to learn from history's 'lessons'. George Bush tapped into this with his invocation to invade Iraq. This was based on the lessons to be learnt from failed appeasement pre-World War II. Another example was the warnings to the London G-20 summit in April 2009 about the events that followed when international cooperation broke down at the London Economic Conference in 1933 as the Great Depression deepened. Such 'lessons' usually concern events long past, and professional historians would hold that the complex intersections and interventions in play at any given time render comparisons with much later events of negligible value – except for those wishing to push other agendas. History's meaning becomes further obscured when its fulminations are inserted back into the social settings whose pasts it analyses, where the contemporary power relations in these settings then shift its frame. For myself, the often quoted musings of historical novelist Milan Kundera (1992/1995) have better resonance:

> Man proceeds in a fog. But when he looks back to judge people of the past, he sees no fog on their path. From his present, which was their far-away future, their path looks perfectly clear to him, good visibility all the way. Looking back he sees the path, he sees the people proceeding, he sees their mistakes, but not the fog. (p. 235)

Put plainly, history's fascination is about understanding why events have occurred, particularly the conjunction of causes that brought them about. But at what level this understanding is pursued, how it is theorised, and what the actual 'events' are that history configures as significant, remain central to its epistemology. The illustrative of the human condition – more ageless in some senses – is its other great contribution.

## 13.3 Methodological Apparatus

Although there have been attempts to characterise a settled 'methodology' in history research (Topolski, 1973), these characterisations, when taken to a deeper level, are

less satisfying as they fragment around questions of subjectivity and categories of evidence gathering. Nietzsche's assertion that the historian

> puts his own ideas of causation into the external world, which can perhaps be explained only from within; and assumes the existence of chance where thousands of small causes may be at work. (Nietzsche, 1873/1957, p. 38)

offers a better definitional boundary. Of course, historical approaches have evolved over time, from the top-down Whig viewpoint of Thomas Macaulay (1848) and the story of the politically powerful, through to Lewis Namier's (1929) forensics using, mostly, the eighteenth century Newcastle papers to establish more sinister systems of patronage and corruption in state craft. In the 1940s R. G. Collingwood's (1946) brilliant *The Idea of History* proffered a seminal view of the discipline. It opened up new ground that anticipated later developments on several fronts. Collingwood saw history as bound up with philosophy and personal reflection, as representing a knowledge form different from, but of the same standing as, the natural sciences.

The debates such works have subsequently sponsored have been rightly criticised as too Anglo-centric. And they are certainly exclusive of historical frameworks developed much earlier in Asia as part of broader socio-cultural systems of ethical conduct and spiritual prescription, such as in the *Puranas* and *Siddhanta* of early India.

A more productive discussion in this chapter, though, is about how categories of evidence come into play as historians triangulate perspectives and different forms of data, whether these are the result of using premeditated databases or, more usually, statistics and primary sources originally written for other reasons. Categories of evidence are also important. A government report, the result of committee consultations and sensitive to perceived public values, is likely to yield an agreed reality, reflective of the public sensitivities of the time, by contrast with a private letter or diary. History can also appropriate the work of poets, novelists or storytellers in the pursuit of a new perspective. The organising hand of the archivist can come into play, too, as evidence is categorised and privileged according to signifiers of the era when archives and other depositories were originally assembled.

Decoding subtexts and identifying hidden and marginalised voices is another consideration, as is the use of visual sources: the latter being used in postmodernist work – not often part of history writing – to construct multi-dimensional narratives. In addition, secondary sources give rise to a historiography that references a particular event, past or present, but where the immediacy of the first-hand emotional engagement of historical actors and observers is usually given broader perspective by a stronger meta- narrative. When handling these different categories of evidence, historians usually do this intuitively and unconsciously to build their analysis and interpretation. Subjectivities that identify personal standpoints can be a strong part of the modern historian's work, as subjectivity, consciously considered, has become a more comfortable aspect of historical inquiry. So also has the use of hypotheses and abstract formulations that pre-organise, exclude and include the ambit of archival and other primary and oral source searches.

Theorisation, and how this relates to evidence, is a primary point of access to history's epistemology. This epistemology is usually organised in economic, social, political or ideological categories, each with conceptual subsets that include power, class, the state and gender. Inductive/grounded theory approaches are common, where the emerging evidence-based story is given form and broader significance by the writer's own theorisation about events or the thoughts of others in history. Another approach is to use the theoretical schema and paradigms built by scholar communities such as Marxist critiques, comparative history frameworks, social history or the emerging multi-paradigmatic approach of world history. In this latter setting history is decentred, as in the work of Bernadette Baker (2009) and others, where reference to such fields as global studies, historical sociology, critical race theory, post-structuralism and national imaginaries offer transformative history directions that are multi-disciplinary. Furthermore, the advent of museum studies has allowed for new ways to represent history's complexity, including its most painful parts, such as: a British Empire and Commonwealth museum as well as a Slavery museum in England; imaginative ways to depict indigenous spirituality, done particularly creatively regarding Maoris in New Zealand museums; and the many holocaust museums throughout the world.

In all of this, how evidence is used remains a critical issue. Responding to postmodern narratives almost two decades ago, Keith Jenkins (1991) decried history's ponderous use of documents and obsession with the facts. He made a strong call to arms to see the discipline as always theoretical, with theories positioned and positioning, with history, only interpretative, at its core. This is an alluring métier for some historians. And we live in an age where such approaches, also with a broad global perspective, animate academic publishing houses that have key words and world library market lists in mind. However, there remains a concern that history fields can become over-theorised, where writing is merely reactive to other theorisation, and as the evidential base, sometimes contained in archives that are expensive or inaccessible to visit, is detached from the academic business at hand.

## 13.4 New Approaches to Postcolonial Scholarship and Knowledge Transfer in Practice

This section narrows the discussion to historical analysis as it relates to postcolonial scholarship, focussing on the vast spectrum of language and communal layering of the subcontinent and, more specifically, approaches that concern knowledge transfer during British colonial rule.

The consideration of knowledge transfer has, in fact, been long thought about. India has been well established (ever since the publication of Eric Stokes' (1959) work *The English Utilitarians and India*) as a stamping ground for utilitarian brands of bureaucratic innovation to be piloted, before lessons were applied back at the metropolis. However, there has been a long interregnum since that time to build on Stokes' work. When studying the educational link between Great Britain and India

in the colonial phase, it is immediately obvious that there were strong transformational interchanges that most contemporaries – whether apologists for empire or not – were keen to acknowledge. Yet centre–periphery approaches used in postcolonial scholarship in the latter twentieth century have been unsuccessful in tracing this complex relationship, particularly if the colonial period is perceived as one relatively even enterprise of imposition upon settler societies and 'native' communities. Networks amongst colonies themselves – and ex-colonies such as the American/Indian relationship – also come into play, creating a perplexing web of imperial and international connections that are impossible to adequately map. This academic impasse has been frustrating, because colonial India in the early to mid nineteenth century clearly represented a unique terrain for educational and other experimentation. Furthermore, some of this experimentation had an impact directly on the metropole society 'at home'; an interplay that powerfully inverts the centre–periphery paradigm. This might also be said of other colonial domains, and new work has recently emerged concerning how empire affected the populace in the 'home' country, particularly its socio-cultural outlook (Goodman, McCulloch, & Richardson, 2009).

For India, this move represents part of an enormous shift in a very active field since the 1970s. Rehearsing all of this is beyond the scope of this chapter, but key signposting of the change provides essential reference to recent scholarship concerning knowledge transfer and Indian education generally.

In the 1980s the Subaltern Studies Group (SSG), appropriating the term 'subaltern' from the writings of the Italian Marxist Antonio Gramsci (*Prison Notebooks*, 1929–1935), began an influential tradition of writing 'history from below'. This school produced powerfully theorised work by talented writers whose audience was Western academe, rather than India, and where the hidden voices of the marginalised in empire, including women, peasants, prostitutes and slaves were exemplified and defined by their consciousness, political action and oppression. Led by editor Ranajit Guha, the first six volumes of the Subaltern Studies Group (SSG) appeared in the 1980s and were probably the most influential in changing the academic frame. The SSG was dismissive of earlier postcolonial writing as elitist and mechanical although Gayatri Chakravorty Spivak (1988) located subaltern writers within mainstream Western thought, offering revised Marxist and humanism critiques. There was an evolution, too, within SSG ranks moving from a discussion of action against the raj to one where the raj was moved mostly out of the picture and analysis centred on the interaction within subaltern groupings themselves and with Indian elites. Despite being accused of taking the European dynamic too much out of the picture and creating overly rigid categories which denied the possibility of oppression within subaltern classes, the approach of this school remains important in developing deeper understandings of the colonial experience in India. Concerning current scholarship Masselos (2002, p. 188) rightly suggests that '. . .the subaltern subject has been lost in the theoretical and methodological structures erected over them and the academic agendas created around them.' Yet it is this very methodological ambivalence which offers new theoretical access to a rising generation of writers of the subcontinent.

As for studies into colonial education, subaltern scholarship delayed deeper analysis and relegated it in the interim to the uncertain field of cultural studies. Krishna Kumar (1991) argued more elementally that colonial rule did not introduce a 'new' type of education but merely reshaped an existing tradition by altering its epistemology yet allowing its pedagogical traditions to remain. Significant, however, is the evidential base that brings in, again, the Western dynamic. For example, when emerging elements of the resistance movement mustered their convincing arguments against British education at key forums such as the Hunter Commission in 1882, the idiom and the educational alternatives proposed were almost entirely Western-referenced. These and, of course, many other indicators of a Western impact in colonial India required a reconciling and rethinking of the European in the wake of an evolving subaltern scholarship. Regarding information transfer, foremost in this new direction was Chris Bayly's (1997) *Empire and Information*. His work reframed earlier colonial interaction as being one between a weak colonial state, forced to accommodate and negotiate with the East, which engaged with an *ecumene* of indigenous collaborators, spies and runners who aided the British in intelligence gathering and rumour mongering. This Realpolitik emanating out of a weak colonial state also created a space for genuine Western scholarship in the 1820s and 1830s, particularly Orientalist fascination with ancient Indian languages and the knowledge embedded in these languages.

Such academic repositioning has influenced my own work. Tracking the processes of disengagement from the very rich Orientalist period of the early raj to the age of high imperialism in the late nineteenth century has been an important part of my research for the past 15 years. This story has been about how raj engagement with indigenous intellectuals and other local educational stakeholders gradually withered away in the wake of a starker imperial mission. Seeing this process work through the formalised education departments in north India was the object of my book *Ruling Through Education* (Allender, 2006). And, although the subcontinent does not lend itself to grand narratives, there has been the need to recreate a broader schema of India's intellectual relationship with outside domains. Broadly framing this in key time periods, each with their own problematics and nuance, and including an expatriate community, has also been a necessary academic enterprise (*Learning Abroad*, Allender, 2009).

Furthermore, the growing conceptual repertoire about processes of intellectual transfer and new work regarding 'policy borrowing' (Phillips & Ochs, 2003) has destabilised earlier assumptions about colonial authority and power, most particularly how this relates to the actual interchange of ideas and the building of knowledge. My work has argued that colonial India was a unique intellectual territory, where centuries of accommodative invasion by highly literate races had established deep traditions of trans-cultural transfer, much more prevalent than in Europe. Yet it was the colonial state itself, serving its own sense of imperial mission that artificially simplified the colonial binary, mostly by normalising, as matters of 'routine', new bureaucratic structures that progressively restricted multi-dimensional avenues of knowledge exchange. Amongst other things, in the education domain, this then gave permission for the mediating school text in

the latter nineteenth century to create a false sense of Eastern intellectual deficit (*Closing Down an Intellectual Interchange*, Allender, 2012).

Subaltern referencing and recent work outside this school have also influenced scholarship and theorisation in other directions. This includes analysis of early Indian and European women abroad, pursuing the professions of nursing and teaching (the only ones available to them within the confines of the raj). Much work has already been done on female European philanthropists, peering out to the non-white empire from their middle-class homes at the metropole; their writings intended to raise their own profile 'at home' rather than effect much actual change abroad. But new work on Indian feminism rightly questions and appropriates subaltern historiography and its close use of Marxist paradigms of rigid 'elite' and 'oppressed' categories. For example, Padma Anagol (2005) has placed subaltern approaches under scrutiny, particularly their neglect of the differentiated roles of women on the subcontinent. And earlier lively scholarship, like that of Kapil Kumar (1989), shows the dominating activities of Indian women *taluqdars* (land holders) and money lenders in the 1920s, where their education identified them as privileged in one sense, compared to their illiterate sisters, whilst they were still oppressed in terms of the mostly male *bhadralok* (middle-class merchants). There is also the less comfortable aspect of indigenous complicity in accepting and projecting the Western credo of saving 'fallen' races, such as Sayyid Khan's Aligarh Movement for Muslim education; a complicity that fed into the female education domain, serving as a conduit for broader local consumption of raj constructions of the 'respectable' Indian woman.

Men dominated the emerging nationalist movement of the late nineteenth century, yet it was women's issues such as widowhood, *sati* and child marriage that defined communal renovation, particularly within the Hindu polity. Good studies deal with the writings of middle-class Indian women regarding their connection to world knowledge. However, my current work concerns the way other Indian women, and European women, particularly in religious orders, related to slum dwelling girl 'orphans' and other underprivileged females. Western brands of professionalism were mistrusted by an emerging India that sometimes retreated, for a time anyway, into starker communal refuges of oppression concerning women. But the lifetime work of some women, well engaged with local communities, and actually teaching children, could transcend the raj state divide and their labours, not coterminous with empire, were strongly positioned to accommodate the change that partition inevitably brought in 1947. Their work was not a remnant of empire, nor was their professionalism seen as an imposed Western fetish.

## 13.5 Methodological Issues and Debates

### *13.5.1 What the Subcontinent Says Today*

Of course, digging into India's past, away from popular culture, is a complex deal and it remains compelling. Today there are strong narratives about an India emerging

on the back of a thriving 350 million strong middle class, with yet more 'trickle down' promises for those who remain poverty stricken. These loosely proffered promises bear an uncanny resemblance to failed raj strategies of 'filtration' in the earlier nineteenth century. As before, it remains debatable whether such manna will ever reach the very poor, who still exist in vast numbers, while caste as well as class sensibilities remain strong, and while there is keen dependency on regional governments – ranging from communist to BJP. The underprivileged also have to navigate local language, bureaucratic, communal and gender barriers more than their rising middle-class counterparts.

In addition, the modernity polemic on the subcontinent, including Bangalore and ICT, serves to further shift from the national psyche much thought of its painful colonial past. This is so despite the fact that many raj citadels unconsciously remain. These include the contours of form, procedure and protocol to be encountered on any visit to the subcontinent. More fascinating are the many colonial buildings that are remarkably unchanged from 60 years earlier, whether these be the dusty red-roofed bungalows that still cling to the hillside around the Viceroy's lodge in Shimla; museums such as the Wonder House in Lahore; or the central mission compound buildings which are restored colonial markers sitting awkwardly as part of modern universities. Fertile ground, one would think, for future research into the semiotics of colonial India, Pakistan, Burma or Sri Lanka.

### *13.5.2 The Intervention of the Comparativists*

When it comes to applied knowledge, new inroads are being made by the work of comparativists, moving on in some cases from rather overused globalisation critiques. They are currently looking to greater historicity in their work, and this promises to have a strong impact on how intellectual transmission is viewed in colonial domains in the coming decade. For example, J. Schriewer and C. Martinez (2004) compare Spain, Russia/Soviet Union and China in their analysis of the variable degree and the dimensions of the internationalisation of educational knowledge between the 1920s and the 1990s. D. Phillips and K. Ochs (2003) suggest another useful approach, particularly their theorisation regarding 'externalising potential', the significance of context and the 'indigenisation' of policy exported from external domains. These frameworks have yet to be really applied to colony and empire, but they offer new ways of understanding intellectual and cultural transmission across colonial boundaries, including colonial India, that are not dependent on the metropole/colony binary. An alternative frame is that offered by the work of C. Hall and S. Rose (2006), who examine the impact of empire on constructions of womanhood, masculinity and class 'at home' in Britain.

### *13.5.3 Understanding the 'Local'*

At the other end of the spectrum is new scholarship concerning the rubric of the 'local', as mentioned earlier in this chapter. This helps to prevent over theorisation at the macro level obscuring critical trajectories that have worked their way out from

village, town and province to the broader imperial and international stage (De Neve & Donner, 2006). This approach is particularly useful in postcolonial analysis of the transfer of knowledge, most especially how particular localities, neighbourhoods and urban spaces articulate global processes. In the colonial era, Nita Kumar (1999) studies an attempted colonial transfer of knowledge in this city's schools without Western theories of child pedagogy to underpin it. And Joseph Bara (2005), drawing on impressive regional forensics, shows at the tribal level – Munda, Uraons and Hos – how finely tuned British educational deliberations and interventions could be at the village level, whilst also eliciting an equally idiosyncratic local response.

Taking a broader perspective, Bagchi, Sinha, and Bagchi (2005) destabilise the stereotype of information, communication and technology as hallmarks of India's modernity, seeing such developments as having strong roots in history that date from pre-modern times: encompassing continuities and ruptures across the vast and localised canvass of India. And Baljit Kaur's (2004) work examines the experience of early childhood in Eastern India in the early colonial period; this experience being garnered in the intimate setting of the local village, but discouraged by a raj more interested in more senior, centralised and visible schooling monuments to Western civilisation.

### *13.5.4 Intellectual Transmission not Coterminous with the Colonial State*

There is also the refreshing work of those that argue that empire and the arrival of colonial power was not a natural dividing line in the intellectual history of any colonial domain. In this vein Hayden Bellenoit (2007) frames missionary educators, principally in north India, outside the boundaries of British colonial rule. Their contribution is seen as part of a much longer tradition of intellectual transmission between East and West, facilitated particularly by Hinduism's *bhakti* (devotion) tradition. The book argues for a more formative role for the missionaries in the emergence of modern India. There is also the issue of what happened to the clients of missionary schools once they left the compound in the latter nineteenth century. Padma Anagol (2005) has helped to fill in this picture by examining Indian women converts who 'indigenised' their Christianity and expected missionaries to argue their theology in response to Hinduism at an intellectual level.

Anagol's assertion on this point nicely complements Bellenoit's characterisation of the pre-British period of intellectual transmission via comparative exegesis that was not necessarily coterminous with the British colonial state. It also confirms his assertion that missionary educators – neither Anglicists nor Orientalist – engendered particular aspects of Indian culture and morality that gave impetus to the hybridism practised by Indians themselves.

### *13.5.5 Western Knowledge Paradigms and the Colonial Domain*

What is noticeable in these new directions is that there has been a more confident application of Western theorists in making sense of the colonial education

experience in India, including the use of the work of Pierre Bourdieu and Max Weber. However new awareness has emerged also that postcolonial research, which has history at its base, also has assumed that there is only one way of constructing and 'knowing' knowledge, with that way being in the Western tradition. There is, of course, a good sense in current scholarship of Eastern mythology and spirituality, and it gains greater privilege in the business of understanding contact history or even cultural exchange today. But taking this to a deeper level, to understand how pre-contact societies melded and garnered disciplinary and interdisciplinary frameworks of their own, is a much more illusive prospect. Work in the future will better track such constellations, even for non-literate societies, constellations that were used to build functional, complex and enduring societies. With much longer traditions than most Western domains, these societies needed to understand notions of tribe, territory, rite and environment for their own survival.

Sanjay Seth's work (Seth, 2007) also concerns this theme and offers new ways of conceptualising the colonial education experience in India between approximately 1835 and 1930. His scholarship is principally about how Western education was received and consumed in India, rather than being concerned with the thinking and intentions of the coloniser. He consciously uses chiefly Western paradigms for understanding knowledge – the only knowledge framework available – to also understand how Western epistemic presumptions were problematised in India. And where they reshaped the education enterprise of the subcontinent: part of a much longer intellectual tradition of accommodation and assimilation.

## 13.6 Perspectives and Extensions

In the future, postcolonial approaches will prove to be one of the most enduring methodologies for research, informing history research, cultural studies, sociology and cross-cultural scholarship. Its precursors of power relations, colonial and neo-colonial domination – both formal and informal – remain key dynamics in the modern world, particularly as ethnicity and religion provide, surprisingly perhaps, newly active spaces in the twenty-first century.

For India, there remains a stronger immediacy. On my last trip to Jawaharlal Nehru University (JNU) in New Delhi, the city was abuzz with news of the Academy Award nominations for the film *Slumdog Millionaire.* The television news services were almost entirely taken over by this news. But there were also accusations of clichéd representations of India's slums, indeed of a Western transmogrify of this into 'poverty porn'. The implication was that this film was another objectification of the Indian 'condition' in the tradition of Rudyard Kipling or American journalist Catherine Mayo's *Mother India*; that it verified Edward Said's *Orientalism* (Said, 1979) view of Western stereotyped 'orientalism', extending it beyond Arabs and the Middle East to also confirm subcontinental moral and social frailty.

*Slumdog Millionaire's* success as an art form has since freed it from these deeper academic questions. But the debate it has sponsored, at least amongst India's intellectual diaspora in the West, suggests postcolonial scholarship has not yet had its

day in a world where globalisation might otherwise suggest rendering faithfully and fearlessly one's culture and voice is the main game. For postcolonial research into the history of education this is particularly so when taken in broader view from global pedagogical, institutional, politico-cultural, gender and sociological perspectives. These perspectives lead to directions that are almost infinite. There is much still to be done. Perhaps it is reassuring that the subcontinent's complexity and diversity, as well as the layering of numerous foreign interventions over many centuries, mean that expertise can only know any one part of it.

Finally, Western historiography has in the past underestimated Asian capacity, in particular, to develop independently. It might also be possible that social history staples concerning the Far East, including notions of ownership, caste and tribe, are artificially rigid Western constructs that require further academic examination (Bayly, 2002). What is also significant for future research are the stereotyped identities and vistas created by Occidentalism, with the West in critical view from non-Western perspectives. How such a knowledge base is formed and transmitted in both past and present settings is surely a rich field yet to be explored. Only few forays have been attempted so far, including the work of Ian Buruma and Avishai Margalit (2004) *Occidentalism: the West in the Eyes of its Enemies*. Giving greater system and historicity to this approach will be the work of future scholars.

## 13.7 Conclusion

This chapter has illustrated just one site where the intersection of evolving history and postcolonial approaches offer new ways to look at the key question of knowledge transfer and education. The field beyond this is vast. Yet this chapter has illustrated that history has embraced other fields in a multi-disciplinary sense for many decades now. History's episteme will remain strong and centering in future research. However, new directions in framing historical problems, and the new theorisations that emerge to better analyse these, will, in turn, determine how new schools of thought are built by selectively appropriating the approaches of other disciplines in multi-disciplinary work. That this is already happening, gathering pace in the past 10 years particularly, is a tantalising prospect. But how much scholars will want history to continue to be decentred in this way in their quest to find new ways to make sense of the past is probably the next academic anxiety that the discipline of history will need to confront.

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# Chapter 14
# Postcolonial Scholarship in Social Justice Research

**Ruth Phillips**

## 14.1 Introduction

Tim Allender demonstrated in the preceding chapter (Allender, Chapter 13, this volume) that postcolonial theory can be used as a methodological framework for historical research. For many scholars engaged in social justice research, postcolonial theory has also become an important approach for research design and analysis, and this chapter presents perspectives that are quite distinct from the very focussed historical analyses of colonial education in India provided by Allender. It discusses how social justice researchers understand and apply postcolonial theories and perspectives, with a focus on the important influence of feminism. It also explores the various ways in which scholars and social policy makers use a postcolonial position in the process of researching or addressing social problems in international, global and Australian contexts. For social work and social policy practitioners, research methodology – the theory and analysis of how research should be conducted (Harding, 1987) – must be consistent with the social change objectives of their research. As Harding and Norberg (2005) observed of feminist researchers' elucidation of knowledge and power, where they have developed research principles and practices that are sensitive to what the marginalised groups that are the focus of study want to know, this methodology seeks to make researchers more accountable to the research groups or people who are affected by the social problems under study.

The epistemological origins of postcolonialism are rooted in the social constructivism also adopted by feminist theory. Importantly, they share a resistance to positivistic scientific constructions of truth or positivism (which, for feminists, has been a highly masculinised view of the world) as a means of research and of building knowledge (Beetham & Demetriades, 2007; Harding & Norberg, 2005). Postcolonialism and feminism also share influences from deconstructionism and postmodernism, depending on the discipline of thought, or field of humanities or

R. Phillips (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: ruth.phillips@sydney.edu.au

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social science, that forms the paradigm for such developments. There are broad parallels between postcolonial and feminist theory and methodology that rely on the experiences of oppression to inform critical voices or perspectives in research and analysis, and it is this aspect of theory as research methodology that is the focus of this chapter, in response to Allender's exposition on postcolonial historical analysis.

As a feminist researcher, I agree with Chandra Mohanty's view that feminist scholarly practices are inscribed in relations of power – relations that are countered, resisted or on occasion supported. This, as further suggested by Mohanty, leads to the conclusion that there can be no apolitical scholarship (Mohanty, 1997, p. 256). As one of the most influential feminist postcolonial theorists, Chandra Mohanty does not support 'a notion of gender or sexual difference or even patriarchy which can be applied universally and cross-culturally' (Mohanty, 1991, p. 51) and recognises the differences in the construction of identity and power relations between men and women as being situated at the local level, evident in class, ethnic, historical and cultural differences.

As Narayan and Harding (1998) note

> . . .postcolonial feminist concerns transform mainstream notions of experience, human rights, the origins of philosophic issues, philosophic uses of metaphors of the family, white antiracism, human progress, scientific progress, modernity, the unity of scientific method, the desirability of universal knowledge claims... (p. 1)

and it is the nature of this transcendence in theory and the journey beyond rigid disciplines that are the basis of feminist postcolonial research.

Social work, social policy or global social policy research engage with the present in an ongoing analysis of the processes, context, production and impact of social policy. This requires a persistent interrogation of political, ideological and theoretical framing, and critical interaction is essential via an ongoing self-reflectivity about how 'I' or 'one' as the researcher/analyst positions oneself. This means constantly confronting the position from which one speaks though a consciousness of race, class and gender. In my study of issues such as poverty, sexual and domestic violence, inequality and welfare, this has led to many struggles about my own acknowledged identity, and a resistance to exploiting the power of a privileged voice and world view as a white middle-class woman/scholar.

## 14.2 Postcolonial Ideas

The postcolonial ideas employed in social justice research, although possibly sharing a similar canon as 'the' postcolonial thinkers such as Edward Said (1978), Frantz Fanon (1967a,b, 1970) or Homi Bhabha (1994), are more likely to draw on feminist scholars interested in the relationships between race, nation and gender, such as Gayatri Spivak (1985, 1998, 2008) and Chandra Talpade Mohanty (1991, 1997, 2004). Although in Allender's (2002, Chapter 13, this volume) own work the writing of history includes women as a focus in postcolonial examinations of the history of education, there has been a very long tradition of excluding women as subjects

in historical analyses and writing and in research generally (Harding & Norberg, 2005).

For social policy analysis, historical context is important, as social policies are products of political and social change, and in examining present policies we often have to review the origins and context for the emergence of a specific policy response intended to address a specific problem. I have therefore become increasingly interested in using a postcolonial research paradigm in my research on, for example, the global context around women's poverty, or food security and health, or, in the local context, in Australian social policy, or when producing teaching scholarship on social policy responding to Indigenous social issues.

This is a process of not so much identifying *with* postcolonial writers or intellectuals, who are post-colonial in the sense that they emerged in the postcolonial era, from postcolonial states, but rather as a framework of recognition of the social, political and economic impact of colonisation and how that is played out in terms of gender, nation and race in an ongoing way. This implies that a postcolonial analysis does not merely engage with the era of 'postcoloniality', as having specific claims for specific peoples, but that it also acknowledges the failures within the postcolonial, and the lasting impact of having been *colonised*, particularly for the 'subaltern' (Spivak, 1998). Prior to exploring this idea further, it is important to discuss what is meant by 'the colonised'. The following draws on the insights of Edward Said (1989), which have been extremely influential across many disciplines, including international or global politics, development studies and global social policy.

## 14.3 The Colonised?

In clarifying the notion of 'the colonised', Edward Said (1989) points out that its meaning has shifted over time. Its origins were the pre-World War II idea of the colonised as 'inhabitants of the non-Western and non-European world, which had been controlled and often settled forcibly by Europeans' (Said, 1989, p. 206). In the post-war period 'Three Worlds' became a dominant view in both theory and praxis, and 'the colonised' became synonymous with the 'Third World'. This occurred whilst there were still colonised states, mostly in Africa and Asia; so 'the colonised' was not only an historical group, but a category that included the inhabitants of newly independent states, as well as those in adjacent territories still settled by Europeans, such as Australia, that were 'owned' and still dominated by the colonisers. In Africa in particular, but arguably in Australia also, we have seen ongoing effects of racism as an 'important force with murderous effects in ugly colonial wars and rigidly unyielding polities' (Said, 1989, p. 206).

Postcolonial perspectives are informed by the experience of being colonised – the experience of being dependents, subalterns and subjects of the West's experiences; this did not end with the achievement of independence. To have been colonised was an experience that mostly led to poverty, dependency, underdevelopment, abuses of power, corruption and war. In some cases it brought about a new form of literacy and economic development, although, as Said points out, the 'postcolonial' people

ended up with a mix of characteristics: the colonised people freed themselves on one level, but ensured that they remained victims of their past on another (Said, 1989, p. 207). In a postcolonial framework the concept of the 'the colonised' has expanded to include women, subjugated and oppressed classes, and national minorities who are 'fixed in zones of dependency' located in the periphery and stigmatised by terms such as 'underdeveloped', 'less-developed', and 'developing states'. This chapter focusses on how postcolonial analysis or critique is used and, to some extent, can inform social justice research, particularly in social policy analysis.

## 14.4 Postcolonial Feminism

Postcolonial feminism is primarily concerned with gender, race and nation. The postcolonial feminist literature that I have encountered in research, although perhaps using its challenges to hegemonic discourses to find a place from which to speak, is not bounded by postmodern theory and is driven by political resistance. Reflecting a departure from the episteme of Western feminisms is important, as Mohanty (2004) points out that

> one problematic effect of the postmodern critique of essentialist notions of identity has been the dissolution of the category of race – however this is often accomplished at the expense of recognition of racism. (p. 107)

Mohanty's view reflects a postcolonial critique that represents a progression away from the earlier use of postcolonial discourse by what Hoogvelt terms 'Third World intellectuals arriving in First World academe', which was strongly criticised for taking the postmodern into a debate that, from a Marxist perspective, should remain attached to a critique of the sweep of global capitalism via colonisation (Hoogvelt, 1997, pp. 156–157). She observed what she described as an 'epistemological twist', where she saw postcolonial *discourse* 'engaging with global times' but repudiating a foundational role for capitalism in history and becoming apolitical and ahistorical (Hoogvelt, 1997, p. 157). Hoogvelt adopts a more positive view of postcolonial *critique*, however, as she recognises its formation via cultural theory, as effective and emancipatory of diverse social groups (Hoogvelt, 1997, pp. 158–159) via a theory of development of hybridity in postcolonial culture where many voices of the subaltern can potentially be heard by hybrid cultures where 'traditional cultures may survive through transformative engagements with modernity' (Hoogvelt, 1997, p. 159). In the case of feminist postcolonial critique, this is a hybridity that recognises women as requiring certain freedoms from tradition.

Mohanty (2004) also sees a similar effect in regard to the emphasis on discourses of diversity and pluralism as promoting an apolitical individualised point of view. This suggests that analysing or theorising difference is better served in cross-cultural feminist projects and networks and by focussing on the theorisation of the experiences of different women. Connell (2007) made a similar observation about the dangers of dismissing all generalisations when postmodernist researchers might

suggest that 'the local is the only site of knowledge or legitimate site of politics' (p. 206). She further suggested that generalisations are the lifeblood of social science as cultural formation and, I might add, of movements for broad social change. Connell (2007) observes that, 'generalisation is involved in communication, in testing claims, in use of knowledge, in the capacity of knowledge to grow' (p. 207). She cautions, of course, that this does not include a commitment to abstract universalisms, importantly keeping in mind the context from which generalisations emerge.

In the context of postcolonial states, part of the political project of addressing gender issues such as women's poverty, women's subjugation by certain practices and women's exclusion from social and economic power is centred on the generalised struggles for social justice that are manifest in literal struggles at all levels of community: local, national and global. The postcolonial feminist concern with nation is tied to the exclusion of most women from equal citizenship in most postcolonial states, where they remain outside formal state power and politics and the nation, as such, does not speak on their behalf. This exclusion is experienced differently in different countries, but is often shared by women across nation states as a form of systematic repression and inequality through social and economic imbalances between men and women. What is helpful for such women is that postcolonial critique recognises from where they speak and affords legitimacy to the voices of women on the periphery of state power (Germer, 2006).

Feminist postcolonial writers, who are varied in their political identities as well as their state-based identities, tend to share analyses of the problems of the postcolonial nation state and the kinds of nationalisms that emerged and continued to maintain women's subjugation in one way or another. This is characterised by the historicisation and location of political agency of women within and across postcolonial states. Mohanty (2004) argues that

> the challenges posed by black and Third World feminists can point the way toward a more precise, transformative feminist politics based on the specificity of their historical and cultural locations and the common postcolonial context of those struggles. (p. 107)

Research engagement with postcolonial feminist theory as a 'paradigm of enquiry' is widespread. It is applied in disciplines such as women's studies, literature, education, nursing, globalisation studies,anthropology, development studies, cultural studies, social policy and global social policy. Across these disciplines, researchers seem to arrive at postcolonial readings and analyses because they are critical thinkers who share social justice orientations, primarily concerned with social inequalities and directing their work toward positive social change. Social justice researchers are also concerned with social theory and the fundamental issues that social theory has struggled with since the nineteenth century, such as the nature of social structure, issues of power, culture and human agency. They hold that one key purpose of *doing* research is to engage in the ongoing refinement of social theory, not merely to describe social life (Carspecken, 1996, p. 3). This is particularly so for postcolonial feminisms.

In summary, postcolonial feminist concerns include several key perspectives. First, the relationship between women and nation, which relates to the situation of women in emergent nationhood dominated by political and religious frames that oppressed/oppress and excluded/exclude women from civic life. This is not to say that women weren't engaged in nationalist, independence struggles, but once the dust settled they often found themselves subjugated by religious majorities or strong patriarchal dominance in struggles for power despite the success of liberation from the colonisers. Allender's (Chapter 13, this volume) historical focus on women and education in India supports this view.

The second point relates to the relationship to feminist/women's movements driven by the West and the need to avoid a colonisation of ideas that do not take into account the distinctive experiences of women in other cultures. This is exemplified in the struggles within feminism, as mentioned above, that began with the critique of structural feminisms by postmodern theoretical challenges in objection to the universalisation of women's oppression and so on. Anderson (2000) argues that a

> postcolonial feminist perspective provides a theoretical lens that enables [the unmasking of] taken-for-granted [often invisible] processes that structure life experiences, and ways of being in the world. (p. 225)

as well as allowing the examination of how such processes have been produced.

The third key perspective is about recognition of a space from which to speak. As mentioned above, this is a key political component for postcolonial feminists as the 'subaltern' is excluded from formal spaces in every sense. They are underrepresented in formal politics, excluded from economic power and often silenced in social interactions in both domestic and public spheres. This concern has been most thoroughly addressed through the feminist use of the notion of the 'subaltern'.

## 14.5 The 'Subaltern'

As discussed by Allender (Chapter 13, this volume), the idea of the subaltern has been a dominant theme in postcolonial literature and analyses. Gayatri Spivak (1985), after borrowing the term 'subaltern' from Gramsci (1992) has put forward a highly influential consideration of the term in feminist postcolonial research. In her notorious article *Can the Subaltern Speak?: Speculations on Widow Sacrifice*, which has been reprinted and referred to extensively, she describes the process of 'sati' – the process of widow suicide of a young Bengali woman – and explores a failed attempt at self-representation. Spivak's analysis of this event saw this young woman's process of 'speaking' outside normal patriarchal channels as a failure to be understood or supported and concluded that, 'the subaltern cannot speak' (Spivak, 1985).

Spivak's key point was not that the subaltern woman does not cry out or speak, but that 'speaking' must be 'a transaction between speaker and listener'. This emphasises the continued place of the subaltern as excluded from the power of communication and lodged firmly in the periphery – as if continuing to be colonised.

Spivak has also argued that the use of the term subaltern does not just describe 'the oppressed' or 'other'. From a postcolonial perspective, she stated,

> . . .everything that has limited or no access to the cultural imperialism is subaltern – a space of difference. Now who would say that's just the oppressed? The working class is oppressed. It's not subaltern. (as cited in de Kock, 1992, pp. 45–46)

In my own research, this has been a useful framework when examining women's poverty in Sub-Saharan Africa, for example, where in many countries there is a continued 'subalternity' for women because their status has not changed or has been re-subjugated by tradition or ethnic and religious structures and positioning in post-colonial states. This is also the case in much of South Asia, where, as Khan points out, Pakistani women largely constitute the economically excluded and, due to their femaleness, are 'commodified within a society structured by neo-colonial injustices' (Khan, 2005, p. 2031). By this she means that women bear the brunt of suffering in Pakistan due to the effects of

> past and current forms of colonial and neo-colonial exploitation, a process through which more and more women suffer the effects of poverty, and increased vulnerability to state and familial control over their sexuality. (Khan, 2005, pp. 2031–2032)

How then do Western feminist researchers support struggles against practices that control and hurt women, such as in the practice of female genital mutilation in many African countries such as Somalia, Nigeria or Sudan or child brides in Yemen – practices both illegal and directly connected to the global state of women's poor health and poverty (Phillips, 2009)? Support needs to be provided without risk of imposing a Western feminist imperialism in addressing women's social problems. However, as Aihwa Ong (2007) points out,

> in international feminist discourses, women in postcolonial situations are framed as the dual victims of age-old cultural traditions and postcolonial nationalism. (p. 32)

Postcolonial scholars argue that we need to respect the inner spaces of community and the life of specific nations and allow, to a large extent, the transformations within postcolonial states to open up their own spaces for the subaltern. This may have happened in countries where there is economic development, where, for example, capitalism has demanded women's equal participation in the market place as Ong (2007) has observed of Malaysia. However, in countries where there is little economic development and nationalism does not embrace a form of democracy, women are firmly lodged in the subaltern by the nature of the *postcoloniality* they are experiencing. This is evidenced in a long list of transgressions across many nations. Women are the on the frontline of the many conflicts taking place in sub-Saharan Africa, for example. Viewed as trophies and metaphors for conquests, women are systematically raped in incursions in Somalia, Southern Sudan and, most recently, in the East Congo (Gettleman, 2007). The history of colonisation lingers on in the conflicts and violence in states that were left with the legacy of centralised government in countries previously comprised of multiple communities with their own power structures, now seeking to reclaim their power in civil wars and ethnic cleansing.

Many women's NGOs across the world have formed cross-cultural alliances to provide support for feminist activists in countries such as Afghanistan, Iraq, PNG and Nigeria. This alliance building is important, but given the effects of a globalised economy, and the globalisation of many social problems,Western feminism can contribute to these struggles via other institutions – in scholarship by developing research that takes a postcolonial perspective. Further, Khan (2005) suggests an approach that recognises the voices of the local as being an important part of understanding the impact of 'the global' by recognising the value of what she terms 'native informing'. In other words, hearing the narratives of women oppressed by specific, targeted oppressions, and linking those voices, will disrupt binary thinking about 'oppressed' Third World women and thus create connections between women in a global context (Khan, 2005).

Most importantly, Spivak sought to emphasise that postcolonial research can, as critical analysis or critique, be practiced not to *give* the subaltern a voice, but to *clear the space* to allow the subaltern to speak, to work against 'subalternity'.

## 14.6 Indigenous Policy in Australia

A further research engagement with postcolonial critique has been in the analysis of Australian social policy targeting disadvantaged Indigenous Australians. Even though Allender speaks of more nuanced understandings of the impact of colonisation, it is difficult to go beyond the history of persistent failed policy for Aboriginal Australia. This was contexualised by a history of Aboriginal non-citizenship, paternalistic policies of exclusion from public social life (such as a ban from access to alcohol), the forced removal from country, the stealing of children, and so on.

More recent social policy history surrounding Indigenous Australians has encompassed endless attempts at re-colonisation, assimilation, self-determination, reconciliation and revisited assimilation with the 2007 Northern Territory (NT) Intervention policy of the conservative Howard government, and then the social inclusion policies of the Rudd Labor government 'Closing the Gap', which is effectively a further process of assimilation.

One way of explaining the persistence of these policy failures is to view the position of Indigenous Australians as being 'subaltern'. There have, of course, been many struggles for voice and role in the 'nation' by Indigenous Australians and this persists, but the NT intervention highlighted the distinctiveness of different communities of Indigenous Australians, as did the failure of most prior policies in trying to squeeze difference in cultural identity into one social problem – the major project of colonisers.

There is a general resistance to this perspective by policy makers as it raises complex propositions in the broader Australian polity. Issues of poverty and alleged abuse demand a response equal to that carried out in non-Indigenous communities in Australia. In social policy interventions into Indigenous policy issues there is often a failure to meet the essential requirement to 'clear the space' from which Indigenous communities can speak.

A reorientation towards a postcolonial perspective or methodology of policy analysis of Indigenous social policy responses by the Federal and State governments in Australia should have a key priority of 'clearing a space', not for one homogenous group of Indigenous Australians, but for the many diverse communities and identities that are so often grouped as one social policy 'problem'.

## 14.7 Conclusion

The key aim of this chapter was to elucidate the applications of postcolonial research methodology by presenting an overview of its contribution to research for social change. Implicit in social justice research in the fields of social work and social policy is the aim of bringing about positive social change. Postcolonial research is an important and theoretically rigorous approach that provides an intrinsic perspective on the 'why, how and what for' of the research process. As noted by Allender (Chapter 13, this volume) in relation to history research, postcolonial approaches offer new ways of approaching social justice research. Driven by disciplines that have advanced greatly under contemporary influences of self-reflective practice and research methods, postcolonial methodology informed research has, like broader feminist methodologies, intrinsic capacity to contribute by producing 'a liberatory, transformative subjectivity in an oppressed or marginalised group' (Harding & Norberg, 2005, p. 2011), whilst at the same time producing useful knowledge for that group and those who work in support of them. This type of methodological outcome lends itself directly to social work and policy practice as it aims to create spaces from which to speak for groups or individuals that are invariably the clients or target groups for social work and social policy outcomes. Although based on effectively applied theories within disciplines such as literature, history, gender studies or cultural studies, postcolonial theory has not been extensively applied in social justice research. It therefore offers a new methodological approach, especially for research on Indigenous and refugee policies, where many vexatious problems arise for social policy and social work practice.

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# Chapter 15
# Analysing Policy as Discourse: Methodological Advances in Policy Analysis

**Susan Goodwin**

## 15.1 Introduction

Policy analysis has become one of the 'established knowledge industries' of our era as increasing numbers of people have become involved in the production, assessment and interpretation of policy knowledge for government and other organisations. Policy analysis can also be considered, more broadly, as a means of understanding contemporary social systems and cultural practices. Thus researchers undertake policy analysis for multiple reasons, including *for* policy, in order to contribute to the making of policy, and *about* policy, in order to contribute to understandings of contemporary social life.

Recent theoretical developments about the nature of knowledge and knowledge production have, however, recast understandings of policy, rendering problematic some of the traditional conceptual tools for researching and analysing policy. In particular, there is a growing interest in the role of policy in constructing the world via language and discourse. As a result, there is an emerging literature demonstrating the applicability of discourse analysis to policy research.

This chapter provides an account of the ways in which policy has come to be understood as discourse, and what this means for how (and why) policy is subjected to analysis. It also introduces a specific approach for analysing 'policy as discourse': the 'What's the Problem Represented to be?' (WPR) framework developed by Carol Bacchi (2009). This approach provides analysts and researchers with a systematic way of exploring the discursive aspects of policy, including how problems are represented in policy and how policy subjects are constituted through problem representations. To illustrate the ways in which this framework enables researchers to unpack and participate in struggles over meaning, the chapter includes concrete examples from research that provide alternative 'ways of seeing' through policy analysis.

S. Goodwin (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: susan.goodwin@sydney.edu.au

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Policy analysis is also important as an avenue by which researchers participate in the political processes of democratic polities. The distinction between policy analysis *for* policy and policy analysis *about* policy is rarely clear cut, as policy analysts often seek also to contribute alternative 'ways of doing' policy. Here we see one of the distinctive aspects of policy analysis as a research method: it can be understood as both an information-collection activity and a political activity. Unlike many other research methods, the separation of facts from values, and knowledge from politics, is less readily achieved. Rather than viewing this as problematic, the policy as discourse approach begins from an assumption that they are indivisible. However, this aspect of the policy as discourse approach places it in an ambivalent position in the real world of policy production. In a political environment where 'evidence-based' policy is privileged, researchers who understand policy as discourse face the additional task of contesting dominant ideas about what constitutes 'evidence'.

## 15.2 Problem Space, Genesis and Intellectual Roots

### *15.2.1 What is Policy?*

Commentators on policy analysis often begin with statements about the struggle to define policy, resulting in what Fenna (2004) regards as 'conveniently vague definitions' in which 'virtually everything and anything "society" does is policy' (p. 322). There is general agreement, however, that, in essence, policy is concerned with the principles and practices of pursuit by government of social, political and economic outcomes (Fawcett, Goodwin, Meagher, & Phillips, 2010). For this reason, policy analysis conventionally focusses on government action. The types of government action regarded as 'policy' are various. Policy consists of a range of actions – and inactions – including, but not limited to, laws, policy statements, programs, statements of principle, processes and performances. As such, the objects of policy research and policy analysis are also various. Policy researchers analyse texts, institutions and institutional processes, as well as interactions between policy players. They also interrogate values and principles and evaluate outcomes. This broad definition of policy brings to the fore a crucial aspect of the work of the policy analyst: with nothing concrete to go on – no definitive 'policy'– the policy analyst is embroiled in a process of marking off and marking out territory for analysis. In this chapter I suggest that choosing what to analyse is an interpretive act.

### *15.2.2 Historical Roots*

A range of different conceptual schemas have been employed to make sense of the field of policy analysis, often focussed on distinguishing between the different relationships between knowledge and politics. For example, Torgenson (1986) distinguished three distinct 'faces' or phases in the field: from positivism, where knowledge purports to replace politics; to the critique of positivism, where politics

purports to replace knowledge; to post-positivism, where knowledge and politics, in his view, attain a measure of reconciliation. Other common distinctions include the identification of approaches as 'traditional' or 'rationalist', which are contrasted with approaches regarded as 'critical' approaches and 'interpretive'.

### *15.2.3 Rationalist, Critical and Interpretivist Approaches*

According to Blackmore and Lauder (2005) 'rationalist' approaches to policy analysis dominated the field of policy studies up until the 1970s. Rationalist policy analysis presumes that experts trained in proper analytical techniques can apply them systematically to inform policy production. In addition, there is a prevailing view of policymaking as relatively orderly: policymaking is often described as a process that can be divided into 'stages' or discussed as a 'cycle' (*see* Fawcett et al., 2010). Here researchers disaggregate policy problems into component parts in order to 'better' analyse discrete decisions (Shaw, 2010). In summary, these approaches view policy analysis as a tool, based in rationality and processes capable of reaching objective conclusions, in order to solve problems. The rationalist approach is an optimistic view that reflects the positivism of the social sciences that have been at the core of the interdisciplinary field of policy research (Shulock, 1999).

From the early 1970s, rationalist orientations in policy analysis were strongly criticised as a shift was made to more 'critical' orientations in policy studies. New sociologies of knowledge, the rise of critical social science and the emergence of feminist perspectives on research practices all questioned the purported value neutrality of the research methods underpinning the rationalist approach. They also challenged claims to generalisability and the legitimacy of research conducted for policy (Blackmore & Lauder, 2005; Marston, 2004). As in the tradition of the critical social sciences, critical policy analysis is interested in not only 'what is going on and why, but is also concerned with doing something about it' (Troyna, 1994, cited in Taylor, 1997, p. 24). As a result, policy came to be seen as the product of contestation between stakeholders with unequal power, and policy analysts became more concerned with demonstrating how different interests are mobilised through policy.

'Interpretive policy analysis' is a broad and general label referring to the analysis of meaning and symbolism in policy-related interactions. The interpretive approach to policy analysis focusses on revealing the meanings, values, and beliefs expressed in a given policy, and on the processes by which these meanings are communicated to and 'read' by various audiences. As Yanow (2000) explains, interpretive methods are 'based on the presupposition that we live in a social world characterised by the possibility of multiple interpretations' (p. 5). Interpretive approaches to policy analysis suggest policy analysis is a tool for understanding governance, including understanding the framing of issues, the mobilisation of political interests, the intersubjectivity of the analyst and the social struggles over ideas. Attentive to human subjectivity and social meaning, it places policy research in its relevant political and historical contexts.

### *15.2.4 Policy as Discourse*

More recently, post-structuralist and social-constructionist theories have extended understandings of policy analysis. In particular, the ways in which discourses regulate knowledge of the world and our shared understandings of events have been highlighted. While there are various strands within the turn to discourse in policy analysis, most draw to some extent on Foucault's theories of discourse. Policy analysts influenced by Foucault, or by post-structuralism more generally, have taken to describing policy *as* discourse (Bacchi, 1999, 2000, 2005, 2009; Ball, 1990, 2006; Marston, 2004; Shaw, 2010).

As Bacchi (2009) states '[t]he concept of discourse is notoriously difficult, not least because it means different things in different analytic traditions' (p. 35). For example, linguists usually use the term to refer to language and language use, while in social theory the term is used to make apparent the connection between language use and power relations. Policy as discourse approaches start from the assumptions that all actions, objects, and practices are socially meaningful and that the interpretation of these meanings is shaped by the social and political struggles in specific socio-historical contexts. This conceptualisation of discourse is considered highly relevant in policy research, as it captures the ways in which policy shapes the world through the framing of social 'problems' and government 'solutions' and the construction of concepts, categories, distinctions and subject positions. As with other forms of discourse analysis, policy as discourse analysis involves exploring the processes of meaning construction, of 'truths'. Policy as discourse analysis requires policy analysts to uncover the normative nature of statements that appear to be obvious, inevitable or natural, to test judgements about truth claims, and to consider or imagine alternative ways of developing policy and practice.

Policy as discourse approaches have been particularly important in shifting the focus of policy analysis to the role of policy in 'making' social problems. Rather than understanding policy as the *response* to pre-set policy problems, this approach recognises that various actors differ in their interpretation of the problem, and these different interpretations affect the proposed solutions. As Shaw (2010) asserts '"problems" are never innocent but are framed within policy proposals' (p. 201). Policy analysts have thus begun to develop approaches to analysing policy making that go beyond taking social problems as given, and concentrate on the *meaning creation* involved in policy design (Colebatch, 2006; Marston, 2004). This work starts from the idea that 'people do not discover problems, they create them' (Bacchi, 1999, p. 9). Thus the focus for policy analysts is not 'problems', but problematisations.

## 15.3 Methodological Apparatus: WPR Approach

Despite the growing appeal of understanding policy as discourse, and discourse analysis more generally, there are few accounts of the methods used in this approach. As a result, those embarking on policy as discourse analysis have had few clues

about what steps to take, and the obliqueness of methods used in some research can appear, at times, as unsystematised speculation. One explanation for the tendency not to declare method in policy as discourse research relates to what has been called 'the positivist trap' of essentialising and prescribing research methods. Graham (2005) suggests that this may have become a trap in itself – by not being explicit about what one is doing, work that uses discourse analysis 'becomes vulnerable to judgement against competing epistemological claims to methodological superiority' (p. 6).

While there is no unitary 'method' for analysing policy as discourse, Bacchi (1999, 2000, 2008, 2009) has developed a very useful framework for analysing the discursive aspects of policy. Her approach has enabled policy analysts across a range of fields to move beyond arguments about the best way to address social problems and to instead probe the conceptual underpinnings of problem representations. In her recent book *Analysing Policy: What's the Problem Represented to be?* (2009), Bacchi sets out the framework in detail. The method, which is abbreviated to WPR, draws on four intellectual traditions: social construction theory, post-structuralism (including post-structuralist discourse psychology), feminist body theory and governmentality studies. While the theoretical underpinnings of the WPR approach are significant, Bacchi makes the point that it is possible to apply the approach 'without immersing oneself in complicated theory. Indeed it is the simplicity of the approach that recommends it for wide application' (2009, p.xxi). As with other discourse analysis frameworks (e.g., Fairclough, 1992, 2003; Parker, 1992, 2002), Bacchi's approach is not concerned with providing a series of pre-defined steps through 'the research process', but instead provides a conceptual 'checklist' that guides the analytic process. Specifically, the WPR approach introduces a set of six questions to probe how 'problems' are represented in policies, which she has developed through a decade of researching problem representation in policy discourses.

### *15.3.1 Data Gathering*

The WPR approach recommends 'working backwards' from concrete policies, programs and policy proposals to reveal what is represented to be the 'problem' within them. Thus, the work of the analyst begins with *texts*.'Text', in this context, is a generic term that refers to the various forms of written, verbal and nonverbal communication from the recent or distant past that are subjected to study and interpretation. Thus policy texts can include documents, such as organisational files and records, legislation, judicial decisions, bills, speeches, interview transcripts, media statements, organisational charts, budgets, program contracts, research reports and even statistical data. Textual analysis can also be applied to phenomena that are not literally textual and objects not found in formal documents, such as ceremonies (as spoken and acted text) or organisational culture (as symbols). As with other textual and discourse-analysis techniques, the policy as discourse analyst will always be open to claims about partiality in the selection of texts (*see* Marston, 2004).

Often texts are selected because they represent a 'moment of crisis' or are considered typical or representative of a particular practice (*see* Fairclough, 1992). Bacchi (2009) draws on Foucault's (1984) suggestion that analysts focus attention on 'prescriptive texts' or 'practical texts'. These are the texts produced for the purpose of 'offering rules, opinions, advice on how to behave as one should' that were

> designed to be read, learned, reflected upon, and tested out, and they were intended to constitute the eventual framework of everyday conduct. (pp. 12–13)

From this perspective, '*each and every policy* is a practical text' (Bacchi, 2009, p. 266, emphasis in the original). At a more concrete level, analysts using WPR often have a critical intent, and it is those policies, programs and policy proposals that provoke a 'cause to question' (Bacchi, 2009, p. 267) that are most often selected for analysis.

Policy analysts are involved in an interpretive process of marking off and marking out territory for analysis. In the WPR approach, this involves making decisions about which text or texts will be the objects of analysis. In some cases, a single text, such as policy statement, media release or piece of legislation, will provide a starting point for analysis. In others, a textual corpus is established that draws on material from a variety of genres and organisational sources, including, for example, government policy documents, organisational corporate plans and promotional literature, community campaign materials, media articles and press releases. Most importantly, in the WPR approach policy text selection is only the starting point for data gathering. As the following discussion of techniques for analysis demonstrates, deconstructing policy to reveal problem representations may also involve ongoing data gathering from a range of sources.

### *15.3.2 Analysis*

The WPR approach is perhaps better described as an analytic strategy than a research method: it is not concerned with rules and procedures in order to produce scientific knowledge, but rather with strategies that enable the analyst to obtain knowledge that is critically different from the existing system of meaning (*see* Andersen, 2003 for a fuller discussion of the distinction between method and analytic strategy). In addition, the WPR approach to policy analysis is not concerned with the *intentional* shaping of issues, or with intentionality (Bacchi, 2009). Indeed, attempts to acquire knowledge about 'what policy makers *really* meant to do' does not fit with the epistemological orientation of this approach: the purpose is to ascertain representations of the truth, rather than the 'truth'. Hence in the WPR approach, Bacchi organises what is, in effect, an epistemology into a set of questions and associated strategies that she (and others) have found useful in de-familiarising policy.

The six questions are elaborated more extensively in *Analysing Policy: What's the Problem Represented to be?* where each strategy is illustrated with examples

**Table 15.1** A summary of the WPR analytic framework

| Question | Goal | Strategies |
|---|---|---|
| 1. What's the problem represented to be? | To identify the implied problem representation. | Identification of the problem as it is expressed in the policy. |
| 2. What presuppositions or assumptions underlie this representation of the problem? | To ascertain the conceptual premises or logics that underpin specific problem representations. | Foucauldian archeology involving discourseanalysis techniques, such as identifying binaries, key concepts and key categories. |
| 3. How has this representation of the problem come about? | To highlight the conditions that allow a particular problem representation to take shape and assume dominance. | Foucauldian genealogical analysis involving tracing the 'history' of a current problem representation to identify the power relations involved in the prevailing problem representation. |
| 4. What is left unproblematic in this problem representation? Where are the silences? Can the 'problem' be thought about differently? | To raise for reflection and consideration issues and perspective that are silenced in identified problem representations. | Genealogical analysis, and cross-cultural, historical and cross-national comparisons in order to provide examples of alternative representations. |
| 5. What effects are produced by this representation of the problem? | To ascertain discursive effects, subjectification effects, and lived effects. | Discourse-analysis techniques including identification of subject positions, dividing practices where subjects are produced in opposition to one another and the production of subjects regarded as 'responsible' for problems. Impact analysis: consideration of the material impact of problem representations on people's lives. |
| 6. How/where is this representation of the problem produced, disseminated and defended? How could it be question, disputed and disrupted? | To pay attention to both the means through which some problem representations become dominant, and to the possibility of challenging problem representations that are judged to be harmful. | Identification of institutions, individuals and agencies involved in sustaining the problem representation. Mobilising competing discourses or reframing the 'problem'. |

Source: Bacchi (2009).

from policy analysis. The WPR framework includes some of the analytic strategies used by Foucault, including discourse analysis, genealogical analysis and archeological analysis. But it also includes strategies associated with critical policy analysis and other forms of interpretive analysis, including an analysis of the 'lived effects' of problem representation, comparative cross-national and cross-cultural analysis, and the identification of interests and the mobilisation of interests. Table 15.1 summarises the framework.

The WPR framework provides suggestions, rather than a recipe for analysing policy as discourse. Each suggestion provides a line of inquiry that can be taken in order to answer one central question: what is the problem represented to be in this policy, program or proposal? However, embarking on an historical, genealogical, archeological and discursive analysis of even a single policy text can potentially lead the policy analyst into a labyrinth of meaning-making practice. In my experience, the policy as discourse analyst often 'wraps up' their analysis at the moment when they obtain knowledge that is critically different from the existing system of meaning. That is, when they encounter a new way of seeing the policy, program or proposal.

## 15.4 Policy as Discourse Analysis in Practice: Examples

In this section I provide two examples of policy as discourse analysis in practice. The first is a brief one from education. The second is an example where a single document provoked 'cause to question' and was subjected to analysis drawing on the WPR approach.

### *15.4.1 Problem Representation in Educational Policy*

Ball (1990) is well known for bringing an alternative way of seeing education policy through the study of policy as discourse. In particular, his analysis of education policy during the Thatcher years in the UK carefully elaborated the way in which emergent political and economic discourses defined the field in particular ways and subtly set limits to the possibilities of education policy. This work has influenced education policy research internationally, and much education policy commentary is now attentive to the significance of meaning creation in education policy. For example, in Australia, McInerney (2008) brings a study of discourse to his interpretation of education policy under the conservative Howard government. Here, like Bacchi, he was interested in analysing 'what the problem was represented to be'. His analysis suggests that the 'problem' of educational disadvantage was radically reframed: educational disadvantage became a problem of deficits in individuals rather than associated with structural disadvantage. In particular, policy represented educational disadvantage as individual literacy and numeracy skills 'deficits'. Correspondingly, the 'solution' to these problems was to compel students to stay longer at school and to impose stricter accountability frameworks in the form of standardised testing regimes and prescriptive curriculum measures (McInerney, 2008). However, policy commentary based on policy as discourse analysis often concentrates on elaborating the 'surprises' unveiled, rather than the research process itself, making it difficult for other researchers to observe the steps involved in identifying dominant discourses and revealing problem representations.

### 15.4.2 Analysing a Policy Statement: The Announcement of the NT Intervention

On June 21, 2007, the then Federal Minister of Families Community Services and Indigenous Affairs, Mal Brough issued a policy statement through a media release which outlined a set of wide ranging reforms to the governance of Aboriginal people living in the Northern Territory (Brough, 2007). This set of reforms is now referred to as the 'NT Intervention', or simply 'the intervention'. In the policy statement, these reforms were framed as a national response to the sexual abuse of children. Many of the ideas and issues raised in this example of policy as discourse analysis are now quite well rehearsed – what I want to underline, however, is that, in the first few weeks after Brough's policy statement, much of the commentary about these very controversial policy proposals concerned the way that the Federal Government intended to address what was regarded as a serious policy problem. Taking a 'What's the problem represented to be?' approach, my colleagues[1] and I took a step back to look at how the 'problem' was represented in that initial statement. Our aim was therefore not to *evaluate* the proposals contained in the statement in terms of their suitability as measures to address a 'problem'. Nor was it to uncover the hidden intentionality in the Minister's rhetoric. Instead it was to ascertain the conceptual premises and logics that underpinned this dramatic policy move. How, for example, were the wide ranging reforms linked to the 'problem' of child sexual abuse? What discursive devices were employed in order for the statement to 'make sense'? It was, after all, a policy statement that provoked a 'cause to question'.

Implicit in the decision to employ the WPR approach was the notion that a 'problem' had been constituted in the text of the policy statement. This is not to say, of course, that child sexual abuse is not 'real', nor is to say that it is not a 'problem'. What our approach did acknowledge, however, is that the proposals advanced to 'address' child sexual abuse *gave a particular shape* to the phenomenon. Thus the Minister, in his policy statement, actively created a particular way of understanding the issues. Therefore how the problem was represented in the text was significant.

As a first step, the text was analysed in terms of the *expressed* concern. That is, we asked what the author had articulated as the problem. This also involved identifying the articulated 'causes' of the *stated* problem. The expressed concern in the text was to protect children. The measures were expressed as a 'response to the national emergency confronting the welfare of Aboriginal children in the Northern Territory' and 'all action at the national level is designed to ensure the protection of Aboriginal children from harm' (Brough, 2007). In the statement, the *causes* of the problem were represented as follows (in order of their appearance): alcohol availability and abuse, substance abuse, welfare payments, impoverishment, poor school attendance, parents not paying for school meals, insufficient health checks, inadequate police presence, community self-governance, unclean and unsafe housing, subsidised housing, access to pornography, lack of governmental authority, customary law, enclosed communities and the permit system, and land rights.

[1] Suzanne Egan and in correspondence with Carol Bacchi.

At the time (and now) the connection between these 'causes' and the 'problem' of child abuse were either contested or spurious, bringing into question the relevance of the proposed measures, or 'solutions' to the 'problem'. For example, there are a range of competing views about the association between alcohol, substance abuse, pornography, poverty, and abuse. Even more startling, however, was the linking of income support, land rights, self-determination, housing subsidies, the permit system and customary law to child abuse. Bacchi (2008) suggests that where there is a mismatch between the expressed concern and the delineation of causes that have little to do with that concern, the WPR approach allows policy analysts to look beyond what is said to identify the unstated objectives. In our analysis, other 'problems' were represented in the statement and discursively 'attached' to child abuse. These 'problems' included:

1. *Self-management and self-determination.* In the policy statement, one problem represented was lack of government control of Indigenous land and the communities living on this land. The policy statement suggested a range of measures to address this problem, including rescinding permits, leases, rights of way, land rights, self-governance and customary law.
2. *Irresponsibility.* A second 'problem' represented in the policy statement involved the construction of community and parental irresponsibility. Many of the measures in the policy statement concerned the responsibilisation of Indigenous communities: coercing school attendance, restricting autonomous consumption practices (holding back income support), enforcing cleaning and repairing of houses, enforcing work for the dole and making parents pay for school lunches and housing.

The logic of the policy statement linked these two problems together: the attack on self-determination asserts that these communities could not be responsible for themselves. The 'responsibilisation' measures confirm this representation: since they aren't responsible, we will make them so. Here the WPR approach renders visible the kind of logic the policy statement depends upon. Clearly, accessing this logic only provides a starting point for further analysis as it raises a set of additional questions about the problem representation. For example: What features of the social and political context made it possible for these links to be made and to *make sense*? How was it possible to target Indigenous Australians in this way, at this time? The genealogical, archeological and comparative work discussed in the previous section could be usefully employed to explore these types of questions.

Our analysis also explored the 'effects' of this policy statement, as they occurred within the text. These included the subjectification effects, including the identification of the production of subject positions, dividing practices and the production of subjects regarded as 'responsible' for the problem. The policy statement produced an entirely new category in Australian public policy: 'prescribed communities'. The category 'prescribed communities' involved a lumping together of over 500 diverse communities, who shared indigenous self-management (rather than child abuse) in common. 'Prescribed communities' include all land held under the Aboriginal Land

Rights Act (Northern Territory) 1976, all Aboriginal community living areas and all Aboriginal town camps – some 600,000 $km^2$. Prescribed areas encompass over 70% of Aboriginal people in the NT and directly affect 45,500 Aboriginal men, women and children. The policy statement was the first time the term was used in public discourse in Australia, but it has since become a politically cogent category, even used by anti-intervention movements (although sometimes used in inverted commas, to indicate its contingency). Thus a new policy subject was produced and was attributed responsibility for the 'problem'.

In addition, the statement involved dividing practices in order to construct the national government as responsible for implementing the 'solution'. The proposal for the NT Intervention involved the national government taking on new powers in the Northern Territory. To enable this, the statement represented the national government as 'active and enforcing', as opposed to the NT government which had 'failed', for example, 'to provide services, enforce laws'. So in sum, the Minister had produced a social problem: not children suffering abuse, but a whole set of communities requiring government control and responsibilisation *and* a territorial government requiring overruling.

The effects of this 'problem representation': discursive, subjectification as well as what Bacchi calls the 'lived effects' or material impacts on people's lives, are ongoing, and the policy measures implemented following this initial policy statement have largely remained in place. In this example, the WPR approach enabled a deconstruction of the policy statement, producing new ways of seeing the policy. To take this analysis further, it would be useful to consider the final question in the WPR approach: How/where is this representation of the problem produced, disseminated and defended? How could it be questioned, disputed and disrupted? In particular, this example underlines the ongoing importance of engaging in struggles over meaning, and particularly struggles over the power to *make discourse.*These struggles involve not only changing language, but institutional practices, power relations and social positions (*see* Ball, 1990, 2006).

## 15.5 Methodological Issues and Debates: The Legitimacy of Policy as Discourse in a Climate of Evidence

Thus far I have provided an account of the development and refinement of policy as discourse analysis in the field of policy research. But as I pointed out in the introduction, policy analysis is concerned with knowledge *and* politics, in that it is concerned with 'what is going on and why, and doing something about it'. Hence policy analysts often seek to engage with politicians and policy-makers and conduct research *for* policy. In this section I discuss the relationship between policy as discourse analysis and the policy world.

Research is clearly important in policy development. It can inform and affect all stages of the policy process, from the politicisation of issues, the interpretation of problems, working out how issues can be responded to, and the impact and effects of such responses. In recent decades, however, the 'evidence-based policy'

movement has contended that research is perhaps *the* most important input into the policy process, on the assumption that it establishes a rational foundation for policy development, analysis and review. From this perspective, it is proposed that evidence can (and should) replace politics in decision-making (Fawcett et al., 2010).

Policy as discourse analysis is thus situated in a policy world in which rationalist approaches to policy continue to represent the norm. As Shaw (2010) points out, in this world, there is a tendency to concentrate on 'what works' rather than on how 'the working of things' (p. 197) changes or could potentially change. In Bacchi's (2009) language, this tendency can be seen as a tendency to concentrate on 'problem-solving' rather than 'problem-questioning' (p. 271). In the face of this, researchers working on a wide range of policy issues have argued the potential of methods capable of apprehending the discursive aspects of policy *for* policy development. Fischer (2003), for example, suggests analysing policy as discourse can help decision-makers and citizens develop alternatives that speak to their own needs and interests rather than those defined and shaped for them by others. Other policy researchers suggest interrogating the assumptions and pre-suppositions within policy discourses are important for the opening up and democratisation of policy processes, enabling deliberation and public learning, rather than governmental control. Here policy analysis is understood, not as a problem solving tool, but as a significant instrument in the democratic process.

Bacchi (2009) is more hesitant about the likelihood of a shift in 'official' discourses concerning policy method. She asks:

> Is this shift from 'problem solving' to problem-questioning' likely to occur in the current climate? Probably not. But at least it should be possible to put in question the contemporary near hegemony of a 'problem-solving' paradigm. A WPR approach to policy analysis encourages such interrogation. The suggestion is that asking 'what's the problem represented to be' will leaven, if you will, or counter-balance the fashionable weight accorded to 'evidence' (pp. 271–272)

## 15.6 Conclusion

The aim of this chapter has been to introduce policy as discourse analysis as a relatively new development in the policy analysis field. In order to describe policy as discourse, I have situated it within a narrative about the policy analysis field in which distinctions have been made between rationalist approaches, critical approaches, interpretive approaches and policy as discourse approaches. These different approaches are presented as having quite different epistemological bases and also quite distinctive methodological apparatus.

The purpose of narrating the field in this way is to provide a way into understanding a research approach that is not concerned with 'fact-finding', but rather with the nature of facts and how they are brought into being. Hopefully the narrative also provides a rationale for this kind of research, as it was assembled to emphasise the political nature of problematisations: that policy problems are *made* by people and that *how* policy problems are constructed give shape to people's understanding

of and experience of the world. This narrative also provides an introduction to the concepts embedded in a specific research approach that has been developed for the purposes of analysing policy as discourse. The WPR approach enables researchers to operationalise many of the otherwise fairly abstract ideas in empirical work. That is, they can apply these ideas in the concrete tasks of analysing policy proposals, policies and programs.

In my view, Bacchi's elucidation of this approach is an important contribution to the field, as it enables policy researchers using discourse-analysis techniques to be more explicit about the steps they have taken to arrive at what I have called 'moments' of obtaining knowledge outside the existing system of meaning. Given the politics of research, which involves struggles over epistemology and methodology, and the politics of policy, which involves struggles over the use of research and the meaning of evidence, it is important that those who see policy research as a way of participating in political processes are able to describe their methods.

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# Chapter 16
# Policy Analysis and Social Transformation: Making Connections Between Policy Fields and Contemporary Social Life

**Amanda Elliot**

## 16.1 Introduction

Transformations in one policy field do not usually happen in a vacuum. They are often connected, in ways that are sometimes not obvious, with what is happening in other policy fields and with broader social transformations. This response chapter builds on the preceding chapter (Goodwin, Chapter 15, this volume), arguing that the WPR (What's the Problem Represented to be?) approach to policy research and analysis is also useful in enabling researchers to map meaningful transformations between policy fields, as well as transformations in relations between states, markets and citizens.

Changes in how we understand the role of the state, the market, the constitution of citizenship and the relationship between each of these have been a key focus of research in the social sciences over the past 20 years. For most researchers it has become clear that these understandings, and the practices of institutional support for particular configurations of these roles and relationships, are in a process of transformation that takes place alongside other kinds of transformations (for instance in paid work, gender roles, familial life). Together these changes amount to a significant, or in some cases revolutionary, transformation of social life. Policies not only play a significant role in moulding the way in which many of these changes affect the everyday lives of individuals and communities, they also help to constitute those changes themselves. That is, the discourses available to policy makers are not simply constructed by those with authority; they are rendered possible because they too exist within such discourses. The WPR approach encourages us to explore how discursive practices constitute the subjects of policy, but also how discursive practices constitute and delineate the possibilities open to those with the institutional authority to make policy. Thus, with its focus on who has the power to define social problems for action and which explanations are silenced, together with its sensitivity to how particular problematisations position and affect individuals and

A. Elliot (✉)
Department of Sociology and Social Policy, Faculty of Arts, The University of Sydney, Sydney, NSW, Australia
e-mail: amanda.elliot@sydney.edu.au

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communities, the WPR approach offers analysts a methodological framework that is sensitive to broader changes.

To illustrate how the WPR approach lends itself to making these connections, this chapter takes the example of the NT Intervention, offered by Goodwin (Chapter 15, this volume) in the preceding chapter, and sets it alongside another concrete illustration of the WPR approach being applied in policy research: the organisation and configuration of health care financing in Australia through the late 1990s. Central to this example is the idea that (as Goodwin has argued) if we are to understand policy we must understand the way in which specific policies provide solutions to discursively constructed, rather than objectively constructed, policy problems (Bacchi, 1999, 2009; Elliot, 2006; Marston, 2004). In the period between 1996 and 2000, health policy in Australia underwent significant reform. During these years substantial changes designed to promote private health insurance membership were introduced: specifically a 30% private health insurance rebate (30% rebate), Lifetime Health Cover (LHC) and a Medicare Levy Surcharge (MLS). These policy reforms provided a mixture of 'carrots and sticks' to promote increased membership of private health insurance funds: the 30% rebate provided either a direct 30% reduction in the cost of premiums or an equivalent tax rebate; LHC added a levy on premiums for private health care insurance for individuals over the age of 30 taking out their first such policy (with the levy increasing for each additional year of age over 30); and the MLS through a direct increase in taxation for higher income earners who did not have private health insurance.

The complex operation and implications of these reforms for private health insurance membership has been the subject of much debate, with some analysts focussing on what was the most cost-effective policy and others examining the assumptions about the relationship between public and private health systems upon which these reforms were predicated (*see* for instance Butler, 2002; Duckett, 2005; Duckett & Jackson, 2000; Gray, 2000, 2004; Hall, De Abreu Lourenco, & Viney,1999). While debate about the effectiveness of these reforms in relation to increasing private health insurance membership is important, here our focus is on how such reforms were justified to the electorate through a coherent and persistent representation of the 'policy problem' of Medicare and private health insurance, followed by the proposal and implementation of solutions to this specific problem. The analysis provided below is drawn from research and investigation of a corpus of texts: over 100 primary speeches, statements and responses to 'questions on notice' in Hansard, as well policy speeches and press releases by Ministers. Taken together, this data provides a coherent set of statements and arguments made by the government about the central 'policy problem' in the Australian health system and their 'solution' to it. A more detailed account of this narrative can be found elsewhere (*see* Elliot, 2006). What follows is a brief summary of that research, designed to provide a stepping stone to examining how the WPR approach facilitates the making of broader connections between policy fields, and between those connections and broader social transformations.

While there are many subtleties to the argument developed, in brief, the government of the day argued that the core problem with the health system in Australia was

that a decline in private health insurance membership was placing increased pressure on the public hospital system, meaning that those who could not afford private health insurance were unable to access the public hospital system. This representation of the problem is not difficult to find in the various policy texts. In fact the following quote from the then Opposition Leader, John Howard, launching the Coalition's health policy in the lead up to the 1996 election outlines this representation. Once in power, representations by both Prime Minister Howard and government Ministers maintained the central narrative outlined here:

> ...the policy addresses *the core problem of health policy* at the present time and this is the exodus of people from private health insurance and the burden that it places on the public hospital system, and to the extent that we provide people with incentives to stay in private health insurance, we are not only helping those people through those incentives, but we are helping other people who don't have private health insurance by taking the load off the public hospital system. (Howard, 1996, p. 10, emphasis added)

The reforms eventually introduced went a step further in representing the 'problem' of health policy in Australia. Specifically, they focussed on the idea of choice. Throughout the documents associated with the reforms there is a strong argument put forward that the core reason for the decline in private health insurance was that the state had previously denied individuals the opportunity to make choices about health care. The following quote is again typical of such a claim:

> . . .We believe in choice in health care. We will fight for choice. The essence of the 30 per cent rebate is choice. We are giving the Australian population the choice of whether or not to take out private health cover: It is up to them whether they wish to do it...
>
> Labour wishes to deny that choice. Just as it wishes to deny choice to parents to send their children to non-government schools. It is an authoritarian attitude that this government will never have. I am happy to go to any election or any forum and argue that the Australia population should be given choice ... (Wooldridge, 1999, p. 5821)

The narrative of choice developed through this representation of the policy problem and solutions was not dispersed among the general population, however. It was focussed on a specific portion of the Australian population – what the government referred to as 'middle Australia' – whose choices, it argued had been limited by previous policies. Howard, for instance, argued that the policy solutions they were proposing were specifically directed at 'middle Australia', a group of people who were constituted as wanting private health insurance if only they had access to the right kind of policy incentives. Howard, in fact, went so far as to argue that their policy solutions to this problem were designed to 're-enfranchise' middle Australia (Howard, 2000, p. 18838).

To summarise, the representation of the problem of health policy went something like this: the core problem is the decline in private health insurance; this decline is placing pressure on the public system; the reason for this decline is that the state has limited people's opportunities to choose; if the state offers incentives that support private health insurance then 'middle Australia' will make the choice to take out private health insurance and this will ensure that the public system is available for those who don't, or who are unable to, make that choice.

Just as with the NT Intervention, there is a logic of responsibilisation at work within these problem representations and solutions. In relation to health care the responsibilisation narrative operated at multiple levels: that 'middle Australia' looked after (or wanted to look after) their own health care financing through private health insurance, and that the role of the state was to facilitate such behaviour. Unlike the examples of the NT Intervention, however, the narrative constructed in this field is that the state gets in the way of the practices of good citizenship. The use of 'sticks' to promote such behaviour was minimised in key policy texts (such as speeches and media releases) in favour of an emphasis on the 'carrots' that rewarded such behaviour. The promotion of the 30% private health insurance rebate (a carrot), rather than the MLS and LHC (the sticks) became key to the overarching narrative.

In the context of the NT Intervention this narrative is turned on its head. The NT Intervention represents those subjected to such policies as requiring management. As Goodwin points out, the logic of the policy statements and the proposed solutions represents Indigenous communities as unable to take responsibility for themselves; thus the articulated role of the policies proposed and implemented under the NT Intervention was to provide a framework for disciplining and socialising such responsibility into those communities. The focus here is not on making the (right) behaviour *possible*, but on *enforcing* the right behaviour. In contrast, the logic of the health reforms discussed here constituted the state as acting *with* its citizens by facilitating behaviour that this population was represented as already wanting to engage in.

The issue then of how the representation of policy problems constitutes those who come under the influence of a policy field is an important one. It raises questions of which and why specific populations are constructed as responsible or irresponsible, capable or incapable. The key questions that form the basis of the WPR approach to policy analysis provide researchers with the opportunity to make connections between policy fields, highlighting differences and similarities in the constitution of subjects. Moreover, these two examples highlight the often subtle, but nonetheless important, shift across a range of policy fields from problematisations that rely on collective narratives based in structural conditions to the representation of problems as caused by individual behaviour, often within specified communities and structural impediments to appropriate behaviour. There is, arguably, a shared orientation in problem representation in both of these fields that: (a) specific problems have emerged as a result of individual behaviour, and (b) the actions or inactions of the state have created the 'risk' of such behaviour. With the NT Intervention the state's previous actions (for example: policies in support of self-determination and welfare provision) are represented as having helped to create the risk of substance abuse, child abuse and welfare dependency. In the case of health care, the state's previous focus on public financing and provision was represented as inhibiting choice.

In both cases the logic of the representation of the policy problem as a problem of individual behaviour requires a solution that focusses on individual behaviour. The solutions to these 'policy problems' are then constructed around the management of individual behaviour rather than macro-economic objectives or collective provision

and social protection. Whether that behaviour is understood as requiring paternal control and enforced through the threat of withdrawal of the financial support of the state, or encouraged through the offer of financial incentives from the state is, of course, important. Asking who is subjected to different modes of intervention helps us to understand how particular populations and individuals are constituted in the imagination of policy makers in relation to core ideas about competence, capacity, and exclusion. Asking these questions enables analysts to make important connections between policy fields. Such analysis also highlights the processes by which policies, and those who have the institutional authority to make policies, constitute not only what we might consider to be the obvious 'subjects' of policy ('middle Australia', 'prescribed communities') but also the way in which discourse delineates the possibilities of policy action and in turn constitute some institutional practices as legitimate while rendering others unspeakable or at the very least, less legitimate (Bacchi, 2005; Ball,1990). Thus the WPR approach enables us to consider the connections between policy and broader social transformations.

These insights provide researchers with a way of exploring policy at multiple levels: in relation to specific policy fields, the connection between specific policy fields and the relationship of changes in and between policy fields and broader social, economic and political transformations. Regardless of where one is located in terms of policy research, (within government, within the academy, within NGOs or the private sector) such connections provide an invaluable resource for understanding policy and social change. Indeed, while one might not need to be well versed in complicated theory in order to use it, the WPR approach provides a useful and clear way into thinking about (a) connections between social phenomenon, (b) which kinds of understanding and action are promoted and which are rendered invisible by particular representations of the social world, and (c) who is acted *on* by those with the power to act and who is acted *with*. Such questions and connections are at the heart of robust policy analysis and social theory.

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# Chapter 17
# The Challenge of Comparative Research: A Critical Introduction

**Anthony Welch**

*Without comparisons, we could neither talk nor think.*
(Deutsch, Dominguez & Heclo, 1981 p. 4)

## 17.1 Introduction

The science or art of comparative analysis treads the space between self and other. This chapter initially reviews literature by classical authors of Greece, China and the Arab world, whose descriptions of the cultures, and sometimes the educational systems, of other places and peoples, while not systematic, were the first attempts at comparison. The term 'place' is deliberately used here, since 'country' has an uncertain referent, while the concept of 'nation' was a much later invention, largely tied to processes of state-building and industrialisation of the eighteenth and nineteenth centuries, including the associated development of national education systems.

Later efforts, by key figures from the social sciences such as Montesquieu, J. S. Mill and Durkheim, that refined and systematised protocols of comparison, are subsequently treated, as part of a wider movement, from around the Enlightenment, to develop a science of society (Mill, 1843; Schriewer, 2006; Tiryakian, 1979, p. 189).

Treatment of the contemporary scene reveals significant tensions still evident within the field. On the one hand, a general movement, reaching its apogee in the 1960s, worked towards more methodologically rigorous forms of comparison, including more systematically comparable data. This included some methodologies that were quite specifically tied to particular forms of natural science epistemology. On the other hand, a more melioristic and practical intent is still strongly evident, that is often suspicious of moves towards scientism as both failing to capture the distinctive elements of diverse cultural contexts, and eschewing ethics. There are also those, notably methodologists influenced by ethnomethodology, postmodernity and post-structuralism, who reject the very notion of a science of comparative education

A. Welch (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: anthony.welch@sydney.edu.au

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as a categorical error. Equally, the key role of juxtaposition in comparison, as in the work of Bereday (1964), often of countries, but sometimes employing other units of analysis, is also disputed, with much of the literature in the field devoted to analyses of a single unit, with comparison only implicit. Reflecting each of these movements, this chapter concludes by arguing that a path needs to be found between the Scylla of scientism and the Charybdis of postmodernity. A more socially engaged form of comparative research is offered, that preserves the distinctive quality of diverse contexts, while maintaining a moral stance in favour of individual and social emancipation.

## 17.2 Genesis and Intellectual Roots of the Field

At first, there were travellers' tales: Xenophon's or Herodotus' comments on Persian education (Herodotus, 1964, p. 1.136; Xenophon, 1880, p. 1.2.2–12, 7.5.86, 8.6.10; Whidden, 2005); Suleiman's accounts of Chinese education; Marco Polo's reports from China, Yi-Xing's familiarity with Indian mathematics and astronomy (Sen, 2005). Much later came educational borrowing, such as by Tsar Peter the Great in the seventeenth century, who imported British teachers from their Naval Academy in an effort to develop an identical institution on native soil. In an effort to emulate the scientific and technological successes of the West, Meiji Japan adopted the principles and practices of the German university, in the nineteenth century. Such early examples provide important clues to the uneasy blend of theory and practice that has often characterised comparative analysis in education.

Much early Western thinking about systematic cross-cultural and cross-national research methods (even a brief glance at a map reveals the two are not the same), however, sprang from the Enlightenment and its aftermath. In particular, this centred on a key assumption that social research, including the nascent study of diverse systems of education, should be based on the methods of the natural sciences, where dramatic success in fields such as astronomy, medicine, physics and chemistry was held to guarantee equivalent progress in what were to become the social sciences (Giddens, 1979).

The spectre of positivism hung over some of these earliest moments in cross-cultural research methods in education, for example by Marc-Antoine Jullien de Paris (Jullien, 1817; Hans, 1949). While a contested term, positivism refers here to the broad assumption that the methods of the social sciences were parasitic upon those in the natural sciences. More particularly, this entails three key assumptions: a technical relationship between theory and practice; that social sciences were nomothetic, as with the natural sciences (and should thus aim to develop social science laws functionally equivalent to those in the natural sciences); and, lastly, that social science should be value-free (uncovering social 'facts', and eschewing value questions, just as its cousins did in the natural sciences). Facts, in other words, should be clearly separated from values, which are not the province of 'science' (Giddens, 1979; Welch, 2007).

Just as the seventeenth-century tradition of political arithmetic (Petty, 1690) held that gathering more or less systematic data on social questions could lead to their

solution (for example, the political problems of Ireland), so too in education. That is, if more or less systematic data on foreign systems of education were amassed, then 'improvements' in national systems could be effected, always allowing for changes that 'the circumstances and local conditions would demand' (Fraser, 1964; Hans, 1949, p. 1). This intellectual dependence upon the tenets of positivism was readily apparent in the work of Jullien:

> Education, as other sciences, is based on facts and observations, which should be ranged in analytical tables, easily compared, in order to deduce principles and definite rules. Education should become a positive science instead of being ruled by narrow and limited opinions... (Jullien, 1817, cited in Hans, 1949, p. 1)

Such views grew organically from the Enlightenment belief that reason or rationality was to be the new measure of intellectual and social progress – a decisive break with Renaissance and classical Greek thought, in which it was argued, as early as Protagoras in the fifth century BCE, that 'Man is the measure of all things'.

Enlightenment attempts to break free of the chains of church authority licensed forms of rationality unfettered by traditional moral concerns. Science itself, it was held, was sufficiently moral to not require further validation. As Habermas has argued,

> the concept of enlightenment functions as a bridge between the idea of scientific progress and the conviction that the sciences also serve the moral perfection of human beings. (Habermas, 1984, p. 147)

After the complicity of science in Hiroshima and the Holocaust, such views seem scarcely credible; yet this belief in the socially reformative potential of rationality needs to be seen in its historical context (Comte, 1848, 1853; Habermas, 1971a,b, 1976, 1984). Method, it was believed, would rationalise the world.

Sustained by similar world views, figures such as Horace Mann in the USA, Matthew Arnold and Kay Shuttleworth in the UK, and Victor Cousin in France had, by the end of the nineteenth century, conducted investigations of foreign systems of education. Sometimes, evidence of what was occurring in these 'other' systems was used to argue for reforms in the home system, as when, for example, Arnold used evidence from his European travels to argue that a form of the German system of systematic technical education should be adopted in England. That such cultural borrowing was a complex exercise was already understood, as (Sir) Michael Sadler outlined:

> In studying foreign systems of education, we should not forget that the things outside the schools matter even more than the things inside... and govern and interpret the things inside. We cannot wander at pleasure among the educational systems of the world, like a child strolling through a garden, and pick off a flower from one bush and some leaves from another, and then expect that if we stick what we have gathered into the soil at home, we shall have a living plant. A national system of education is a living thing, the outcome of forgotten struggles and difficulties and of battles long ago. (Sadler, 1900, cited in Hans, 1949, p. 3)

Horticultural metaphors are by no means uncommon in education, but not often used to warn of the limits of using ideas or institutions from elsewhere to reform our own system. But there is much more here to Sadler's important warning. He

goes on to defend the study of systems of education other than our own as critical, articulating an abiding rationale for comparative research. For Sadler, the careful study of international systems of education leaves us with a better understanding of, and keener insights into, our own system. Leaving the relative familiarity of our own system, we enter the unfamiliar, where much of what is taken-for-granted within our domestic system may be done quite differently, or devoted to different ends. Different ideas and institutions can provide fresh insights into our own system. Different approaches to what may seem similar problems may highlight what we take for granted in our own system, and why:

> . . .is it not likely that if we have endeavoured, in a sympathetic spirit, to understand the real workings of a foreign system of education, we shall in turn find ourselves better able to enter into the spirit and tradition of our own national education . . .? The practical value of studying in a right spirit and with scholarly accuracy the working of a foreign system of education is that it will result in our being better fitted to study and understand our own. (Sadler, 1900, cited in Hans, 1949, p. 3)

Sadler provides above both a reason for studying international developments in education and an important reminder of the complexity of doing so. Sadler's defence was much the same as that for, for example, comparative government/ politics, comparative physiology, anthropology, sociology, or comparative religion (Bierstedt, 1979, p. 12; Curtis, 1968; Deutsch et al., 1981; Roberts, 1972; Tiryakian, 1979, p. 189).

The earlier decades of the twentieth century were an uneasy mix of both nationalism and internationalism in world affairs. But research methods in international education over the first half of the twentieth century were more influenced by the nation- state than post-World War I internationalism, at a time well before the onset of contemporary debates about globalisation and the global system.

The intellectual temper of the time was still one in which, despite more than a century of positivist social science, prevailing forms and techniques of inquiry, including in education, were strongly influenced by the centuries-old humanist knowledge-frame, rooted in history, languages and philosophy. Less dominated by the scientism that became influential in post-World War II scholarship, notably in the 1960s, most pre-war figures were principally historians. The inter-war era was principally one where national 'factors' and 'forces' (the German scholar Schneider (1947) used the term 'Triebkräfte') were seen as the explanators of developments and national differences in education. Major figures such as Isaac Kandel and Nicholas Hans, while more comfortable examining the tensions between educational continuity and change using the tools of the historian, were, however, aware that the world was changing and that it was also possible to use other tools of analysis. In Kandel's *Studies in Comparative Education* (1933), for example, he pointed out that:

> The comparison of the educational systems of several countries lends itself to a variety of methods of treatment, depending somewhat on its purpose. One method of approach might be statistical . . . from this point of view there would be compared the total national expenditures for education, the cost, size and character of school buildings, per capita costs for different items of expenditure in educational systems, the enrolment, average attendance and

> retentions of pupils through the different levels of educational ladder. By another method it might be possible to institute a comparison between education and national welfare and progress as expressed in statistics of illiteracy, the volume of trade and commerce, per capita wealth, or incidence of crime and poverty. These methods are attractive and may some day prove useful; at the present stage it is impossible to institute comparisons of such a character until the raw material, the statistics, become more uniform and comparable. Still another method would be to undertake comparative studies of the quality of education in different countries; this too may be possible in time, but not before the instruments of measurement have been made more perfect and reliable than they are at present, or when aims of education in different countries are more nearly alike, or finally when tests have been developed which can measure more accurately the results of education rather than instruction in fundamentals of subject-matter. (Kandel, 1933, p. xi)

In the absence of strictly comparable data – still a problem in comparative research, as several authors indicate (Adelman, 2009; Goldstein, 2004) – and in the absence of corresponding aims of education between different countries (a further challenge for comparative research), Kandel plumped for methods of investigation of educational change and development '. . . in the light of the forces – political, social and cultural – which determine the character of national systems of education'. In doing so, however, Kandel recognised that while

> the problems and purposes of education have in general become somewhat similar in most countries, the solutions are influenced by differences of tradition and culture of each. (Kandel, 1933, p. xi)

In effect, underlying his historical approach was an appeal to the possibilities and techniques of nationalism and national character. We should not read into this appeal, however, the bloody appeals to nationalism and racism of the day, most infamously that of Nazi ideology, which became official doctrine in Germany at just the time that Kandel was writing (and of which he was properly critical). Rather,

> . . .the comparative approach demands first an appreciation of the intangible, impalpable spiritual and cultural forces which underlie an educational system; the factors and forces outside the school matter even more than the what goes on inside it. (Kandel, 1933, p. xix)

Implicit here were two key assumptions: that historical traditions powerfully influenced educational systems; and that there were, as Nicholas Hans put it, common origins (Hans, 1949, p. 6) that were differentiated via each country's historical trajectory. In claiming this, Hans was explicit in pointing to parallels with the development of comparative sciences in other fields (such as comparative anatomy, comparative law, comparative religion and comparative linguistics). Beginning with the analysis of contemporary institutions, or individual behaviours,

> . . .these comparisons led the pioneers of these studies to look for common origins and the differentiation through historical development. . . .The first step is to study each national system separately in its historical setting and in its close connection with the development of national character and culture. (Hans, 1949, p. 6–7)

Hans outlined five 'factors' that researchers should take into account: race (now normally termed ethnicity); religion; language; territory/geography; and political (including sovereignty). In practice, in his now classic work *Comparative Education*, Hans employed a typology of three factors: Natural (race, language,

and geography and economics); Religious (in his case largely restricted to varieties of Christianity, although, as a Russian specialist, he was well aware of Islamic influences in eastern parts of then USSR); and Secular (humanism, socialism, nationalism, democracy).

The decades from the 1960s saw research methods in the field fragment, with two broad trends apparent: a concern to perfect a science of comparative research in education (although without consensus about which form); and various forms of more or less explicit non-sciences of comparison. While the former predominated, reaching its apogee in the 1960s (Bereday, 1964; Holmes, 1965, 1981; Noah, 1973; Eckstein & Noah, 1969; Noah & Eckstein, 1969), there has equally been a conscious turning away from science as a basis for methodological rigour.

## 17.3 Methodological Apparatus, Issues and Debates

A broad church, with both pure and applied elements that are often in conflict, comparative education is best seen as a field, rather than a methodology. The distinction is important, since it underlines the fact that there is no overall consensus about forms of data, sampling, or styles of interpretation and analysis. In the following sections, a brief example of each of two broad approaches shows how each has embodied very different modes of data-gathering and sampling; the scale and focus of research also differs substantially. These examples also reveal a methodological trajectory from modernist to postmodernist assumptions, although this should not be understood as meaning that one has supplanted the other.

### *17.3.1 International Studies of Achievement in Comparative Education*

Modernist assumptions provided the pillars for much comparative research for at least the two or three decades or so after World War II. In common with social science more broadly, more or less explicitly functionalist research canons underpinned a modernist faith in the capacity of comparative education to contribute towards the rationalisation of society and progress towards modernity. Flowing from many of the core assumptions of social science forebears such as Comte, and the later Durkheim (1964), and Talcott Parsons (1949, 1951, 1967), functionalism took the view that more rigorous scientific models would ensure social and economic progress, the rationalisation of society, and an endpoint of modernity. Social sciences, including comparative research in education, were not merely teleological, but also nomothetic, according to this view – they aimed to develop sociological laws that were predictive in much the same way, and with the same force, as in the natural sciences.

One of the key expressions of this positivist faith reveals significant continuities with the earlier work of figures such as Jullien, whose conviction, as indicated

above, was that, if facts could be rigorously arranged in analytical tables, it would then prove possible to deduce 'principles' and 'rules'.

Much the same aspiration informed a key methodology that has spawned a good deal of comparative research over the last several decades, and which has been widely cited in the literature. The International Association for the Evaluation of Educational Achievement (IEA) was formed in 1960 to study the outcomes of education, using internationally valid survey instruments. Informed by the conviction that, for the field of comparative education to progress, 'cross national comparisons have to be quantified in order to make hypothesis accessible to strict testing '(IEA, 1970, p. v), an initial pilot programme in eight languages investigated 10,000 children in the last year of compulsory school (at the time, aged 13) in Belgium, England, Israel, USA, England, Finland, France, Germany, Poland, Scotland, Sweden and (then) Yugoslavia. Subject achievement in reading comprehension, mathematics, science, geography and non-verbal ability was investigated, leading to the assessment that the methodology was viable to support future studies of student achievement internationally (Foshay, 1962; Postlethwaite, 1975). Subsequent studies embraced science education (Comber & Keeves, 1973), reading comprehension (Thorndike, 1973), maths education (Husén, 1967; Postlethwaite, 1967), literature education (Purves, 1973) and civics education (Torney-Purta, Lehmann, Oswald, & Schulz, 2001), as well as spin-off national reports (Rosier, 1973) and a special volume devoted to the national case study (Passow, Noah, Eckstein, & Mallea, 1976). Subsequently, a series of regular international studies of achievement was instituted, most notably the TIMMS studies (Trends in International Mathematics and Science Study) (TIMMS, 2004a,b, 2007a,b). While most studies were of secondary school pupils, at least one was undertaken of pre-primary children, and another of teacher education. National centres were established in a range of countries, including France, Hungary, Australia (part of ACER), Finland, India and Iran (IEA, 1972a and b, 1973; Purves & Levine, 1975, p. 30).

In the initial mathematics study, variables studied were grouped into school policies, pupil characteristics, teacher preparation, learning conditions, sex of students and social class (Purves & Levine, 1975, pp. 2–4). Maths was chosen because (a) the (American) National Science Foundation and the OECD had already undertaken some analysis of related curricula; (b) 'new mathematics' had recently been introduced into most countries in the survey; and (c) most survey countries

> . . . were concerned with improving their scientific and technical education, at the base of which lies knowledge of mathematics. (Purves & Levine, 1975, p. 2)

Subsequent studies introduced a new element. In the *Six subject study*, four populations were identified, three of which were studied using a common definition. Population I comprised all students in full-time schooling aged from 10 years to 10 years, 10 months. Population II included all students in full-time schooling aged from 14 years to 14 years, 11 months. Population IV encompassed all students in the

final year of full-time pre-university or of equivalent length. A further sample, population III, was nationally defined for local purposes, but results from this sample were not included in the international analyses. Sophisticated multiple-regression techniques were employed as the basis for the international surveys, while specific techniques such as back translation were also used, given the multitude of languages within various surveys. Data captured was entirely cross-sectional: while it was recognised that longitudinal data would have been valuable, resources did not permit their inclusion (Platt, 1975, p. 35).

Despite careful planning, methodological limitations of the surveys were acknowledged in relation to population sampling, uniform subject content and statistical methodology. Regarding the first, it was admitted that there was significant variation in the interpretation of Population IV, for example, while there was considerable variation across countries regarding the degree to which the survey items corresponded with local curricula (Ballér, 1975, p. 86). In practice, students from some countries were presented with test items with which they were unfamiliar. Some variation was also evident from subject to subject in the kinds of performance outcomes tested (Purves & Levine, 1975, p. 5). An inherent limitation of the survey methodology used was also acknowledged:

> . . .in analysing the data of the sort that the IEA studies produced, even the most sophisticated of multiple regression techniques would not suffice, for the relationships among test scores, school, home, teacher and student variables, are complex indeed. (Purves & Levine, 1975, p. ix)

Interestingly, experts in the field of comparative education were effectively excluded from the research exercise. Clearly, their familiarity both with comparative research and several of the systems being surveyed would have augmented significantly the methodological sophistication of the exercise; yet the complications they raised meant none were invited back after initial meetings.

### *17.3.2 The Postmodern Turn in Comparative Education*

A second methodological development was predicated on very different assumptions. Rather than attempting to perfect the field via recourse to scientific methodology, a starting point for postmodern authors was their rejection of science as illustrative of the mistakes of grand theory. This was not the first time that science had come under attack in the field – Richard Heyman's attempts to marry ethnomethodological techniques to comparative education was also predicated on the view that efforts to develop a science of comparative education was a categorical mistake (Heyman, 1979, 1980; Welch, 1986).

During the 1980s and 1990s, scholars in the field, such as Paulston (1996; Paulston & Liebman, 1994), Coulby (1995; Coulby & Jones, 1996, 1997) Ninnes and Mehta (2004) and Cowen (1996) helped unfurl the postmodernist flag, undermining in the process many of the key tenets of modernist methods, such as the objectivity of knowledge, or the centrality of scientific methodology, upon which

much comparative research had been predicated. Post-colonialism too became influential, if perhaps more indirectly, and the joint insistence on heterogeneity and mistrust of grand theories informs both, and post-structuralist thought generally:

> The post-colonial distrust of the liberal-humanist rhetoric of progress and universalizing master narratives has obvious affinities with post-structuralism. (Niranjana, 1992, p. 9)

Postmodern methods, effectively dating from Rust's CIES clarion call of 1991 (Rust, 1991), are however distinct as, *inter alia*, Bhaba pointed out:

> If the interest in Postmodernism is limited to a celebration of the fragmentation of the 'grand narratives' of post Enlightenment rationalism, then, for all its excitement, it remains a profoundly parochial enterprise. (Bhaba, 1994, p. 4)

Nonetheless, an understanding of postmodernism could be relevant to comparativists, given its supposed insistence upon heterogeneity, which could mesh well with the supposed centrality of cultural diversity to comparative education. A cardinal aim arose from its rejection of what it deemed to be the universalising, monolithic tendencies of modernist thought. Postmodern methods, by contrast, sought to site difference at the heart of (social) theory, a potentially valuable corrective to the tendency of modernist comparative education methodologies towards teleology, dismissing those who diverged from a unilinear path to modernity, for example, as aberrant rather than different (Harbison & Myers, 1964; Inkeles & Smith, 1974; McClelland, 1961; *see also* Welch, 1985). The differing methodological implications of modernism and postmodernism were starkly outlined by a number of authors, including Lather (1996, p. 366).

**Table 17.1** Methodological differences, modernity and postmodernity

| Modernity | Postmodernity |
|---|---|
| Metaphysics: idealist, materialist | Antimetaphysics: rhetorical turn |
| Incorporates other into same | Non-reducible difference |
| Logic of non-contradiction | Logic of paradox |
| Optimism/pessimism | Double affirmative |
| Nihilism | Non-stupid optimism |
| Critical/confident | Meta/reflective, ironic |
| Teleological progress | Deferral, nomadology |
| Originality/originary | Parody/intertextuality |
| Whole/authenticity, unified subject | Fractured subject |
| Voice/presence | Polyphony of fragments |
| Persuasion via reason | Seduction via desire |
| Identity politics | Strategic practices |
| Salvation narrative | No escape from indeterminacy |

Discourse and textuality were an important part of postmodern methodologies, which, as Lather indicates above, often adopted a deliberately ironic tone, relied on linguistic tropes, and were insistently polyphonous.

As part of this celebration of difference, the aim to give voice to silenced ethnic and gender minorities was commonly articulated. In contrast however, to post-colonialism, where values were clearly central, the methodological protocols of postmodernism – a broad church – often eschewed any criterion with which to assess difference. Were the values of the Ku Klux Klan to be preferred over those of the African Americans they sought to oppress? How would such a decision be made? A simple celebration of difference, without resort to a set of values one might defend, provided no means to prefer one set of values to another, or deem some less legitimate, according to a specified criterion.

A further critique was of ways that postmodern methodologies tended to reduce social phenomena to text/discourse. In the process an escape from the empirical referent occurred; social phenomena became de-materialised, de-historicised. Difference, like other social artefacts, became textualised and hence suppressed, buried under an avalanche of recondite discursive devices, a sea of signifiers. The problem was expressed as one of

> . . .textualising gender, denying sexual specificity, or treating difference as merely a formal category, rather than having an empirical and historical existence. (McLaren, 1991, p. 149)

The notion of domination and hegemony, by which forms of oppression could be identified and opposed, became muted, if not abandoned. Instead, according to theorists such as Ben Agger (1991), John O'Neill (1995), Christopher Norris (1993) and others, people were effectively dis-attached from their history, floating free in a semiotic soup of images and signs. Ultimately, this offered little by way of substantive critique of the concrete processes of modernity, which in the name of progress/science, often destabilised long-standing cultural traditions (e.g. matriarchy) and oppressed less powerful social groups (e.g. small landholders and peasants).

Some postmodern theorists celebrated its capacity to map the terrain (Paulston, 1996; Paulston & Liebman, 1994). By eschewing any ethical compass, however, postmodern theories leave us unable to chart the course of change. Methodologically, this leaves researchers rudderless. Hence, in some recent works, the only means to complete the promise of postmodernity was to connect it to some of the values present in feminism and African-American literature, as, for example, in the work of Henry Giroux (1991, 1992):

> Few theorists of race and gender would succumb to throwing out general theories of domination in the name of a pluralist celebration of difference. (Morrow & Torres, 1995, p. 421)

Critics also pointed to other problems. In contrast to modernism, critiques of the totalising reason of science or other modes of universalistic reason seemed to offer space for alternative views of development, and for marginalised groups to position themselves more centrally in development processes. In practice, however, the lived reality of oppressed rural peasantry came to be obscured by layers of arcane and

opaque, densely theoretic discourse that rendered the experience of those individuals unrecognisable to themselves, and invisible to other readers. The line between people's history and fictional accounts blurred (Morrow & Torres, 1995).

Actual studies purporting to adopt postmodern research protocols mapped the academic profession (Gottlieb, 1996), gender (Stromquist, 1996), and participation in rural development projects (Mausolff, 1996); but closer study of these examples does not reveal a consistent adoption of core research protocols.

## 17.4 Conclusion: Comparative Education and Social Change

The sketch of the two methodological movements above reveals different assumptions, emphases and omissions between modernist forms (such as survey methodologies measuring educational achievement) and postmodern mapping exercises. Yet the argument above revealed that, whereas modernism represented, *inter alia*, the triumph of science over diversity (including cultural diversity), postmodernism was less about the celebration of difference than was commonly supposed.

But there are other possibilities. In opposition to the teleology and unilinear path to a prescribed endpoint entailed by modernisation theory (by which, in effect, modernisation becomes Westernisation, and science the only valid form of rationality), a comparative method worthy of its name must enshrine difference, refrain from imposing its own vision of modernity on others, and engage with the other on equal terms (Snodgrass, 1992; Welch, 2007). Equally, in opposition to the moral vacuum at the heart of postmodern methodologies, a comparative education concerned with social change and making a difference must proffer a set of values that it is prepared to defend, rather than retreat from the empirical referent into an arcane semiotic of sign, text and discourse.

Ultimately, what is proposed here is retrieving what is worthwhile from the detritus of Englightenment ideals (Adorno & Horkheimer, 1979; Habermas, 1971a,b; Hayhoe, 2000; Welch, 2007); a methodological redemption of the elements of modernism that allow practices of diversity and individual and social emancipation to flourish.

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# Chapter 18
# Know Thyself: Culture and Identity in Comparative Research

**Nigel Bagnall**

## 18.1 Introduction

Welch (Chapter 17, this volume) clearly outlines in the preceding chapter the historical nature of comparative education, with its roots emerging from several disciplines, including anthropology, sociology and history. Initially the comparativist was little more than a recounter of early travellers' tales, comparing observable phenomena such as the language, customs and cultures of people of different regions and in different parts of the world. The ways that people do things throughout the world are not and, arguably, despite globalisation and its homogenising tendency, never will be the same. Superficial similarities in dress, the spread of English as a medium of communication and the development of consumer culture may point to a gradual coming together of the world into one, but the argument is not strong. The increasingly problematic futures of organisations such as the European Union are constantly under review. Nation states are fighting back against centralising forces that advocate the abandonment of national cultural differences in favour of economic forces of unity that seek monetary and political gain at the expense of the independence of the nation state (Baylis & Smith, 1999; Hardt & Negri, 2000).

What this means to educators is clearly evidenced at the national level by studies such as those undertaken by the OECD and UNESCO, noted by Welch (Chapter 17, this volume). The OECD education indicators provide data such as the number of computers per student, how many years students stay in school, and the nature of schools (private or public) (e.g., OECD, 2009). These large-scale quantitative studies have some merit, and indeed are recognised by policy makers, educational planners at all levels and politicians as useful tools for developing long-term future strategies. To the comparativist working in the qualitative research field, they are also significant indicators for designing studies that will benefit future generations of students, teachers and educators as they ask the right questions – the questions that could provide valuable insights into the more specific details lacking in OECD-style research agendas.

N. Bagnall (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW 2006, Australia
e-mail: nigel.bagnall@sydney.edu.au

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## 18.2 Comparative Research: A Qualitative Perspective

When dealing with research in other countries, comparative education scholars need to consider four key points:

1. Know your own culture.
2. Know as much as you can about the culture that you are studying (language, customs, history, politics, sports).
3. Constantly challenge assumptions (e.g., French people are arrogant, Germans are highly organised, Australians are easy going, Laos people are gentle).
4. Assess your strengths and weaknesses and play to your strengths.

Potentially the most difficult part of undertaking comparative research is to position oneself within a cultural context. To make an assumption relating to one's culture and identity is far from straightforward (Hall, 1999). We have multiple, often conflicting, aspects to our cultural identity. At best we can acknowledge the range of conflicting cultural tensions that make us who we are.

For example, Walker (1999) reports on the experience of a white North American researcher attempting to undertake research in a predominantly black Southern town. All the participants in the study felt apprehension: the minority white population were concerned about the motives of the researcher – had he come to 'foment trouble or to organise Negro labour?'; other whites were concerned about the final use of the data being collected – if the researcher wrote a book would it accurately represent their views and perceived situation?

> Interpretation then, like portions of research, is not culturally neutral but is influenced by the beliefs, values, knowledge, and experiences of the researchers who do the interpreting. (Walker, 1999, p. 236)

The most significant comparative studies are usually conducted by researchers with a deep cultural understanding of the country they are studying. Researchers often develop a life-long connection with a country, gaining a richer understanding of its cultural and linguistic nuances over time. For myself, my fluency in French and love of France has led to an ongoing series of research projects there.

Education is a highly politicised part of any country's agenda – who is best served by the political system is often reflected in the education provided. In France, Bourdieu (1984) argues that the education system clearly favours the ruling elite and continues to reproduce the inequalities prevalent in French society.

The comparative researcher needs to constantly challenge assumptions about the country of study. There is a tendency to generalise about individuals and groups to make dealing with them easier. Comparativists do this at their peril. Making simplistic judgements about national characteristics leads to poor research.

> 'data free from bias' means 'data collection and statistical computation that do not vary in significant ways', thus allowing differences to be attributed to the independent variable, not to factors stemming from the bias of the researcher. (Wiersma, 1995 in Lagemann & Shulman, 1999, p. 226)

If comparative education is to be a useful tool in making international comparisons, it must take into account both '. . . contextual and cultural factors in cross-national research' (Crossley & Watson, 2003, p. 32).

Perhaps the most difficult of the four points I have mentioned relates to the assessment of the researcher's own strengths and weaknesses. The nature of a study should be determined by a theoretical problem that a comparativist hopes to solve, but the study must also be one they are capable to undertake. For example, a working knowledge of the language of the country under study is important. While documents such as questionnaires and surveys can be translated, the nuances of language may restrict the researcher's understanding of what has been written; this could adversely affect the outcomes of the study.

The interview skills of qualitative research studies are important; these include the need to avoid the imposition of preconceived notions. A skilled interviewer gains the trust of their subjects. Careful analysis of interview transcriptions provides much of the empirical data that constitute the major findings of a study (Atkinson, 1998).

## 18.3 Extending the Debate: Globalisation, Technology and Intercultural Sensitivity

Welch (Chapter 17, this volume) focusses in particular on the need for studies in comparative education to connect to notions of power. The overwhelming theoretical connection to power is enmeshed within the concept of globalisation. In many academic areas of research, an understanding of globalisation and how it works is necessary to provide an insight into power. In a rapidly changing world, the potential advantages provided by technology and information are critical to maintaining a competitive edge, whether in business, sport or education. A number of assumptions must be made in any comparative study. If we take for our starting point the assumption that the primary aim of compulsory schooling, for example, is to advance nation building and the creation of a unified state, any threat to this ideal, such as that provided by globalisation, constitutes a major problem. Comparative researchers who study education need to be aware that not all countries share the same notion of what it is to be a nation. This is a contested and significant point. In the same way, any assumptions that we make regarding the role of school – who attends, for how long and who pays for it – must be carefully weighed against our own starting assumptions and biases.

### *18.3.1 Globalisation and Technology*

I have previously used the example of the dark riders in *The Lord of the Rings* to show how many people react to globalisation (Bagnall, 2007, 2010). In the film, Frodo and his friends hide beneath tree roots waiting for the dark riders' horse to pass. The audience feels a sense of despair – it seems inevitable that Frodo will be found out and his mission with the ring will come to a sad end. Globalisation is the

dark rider, the inevitable force that will overpower our best intentions. Researchers often feel that globalisation makes their studies more complex as they have to position their work in a global context. However, there are positive aspects; for example, global network technology makes it possible for international interviews to be undertaken at a fraction of the price that it would cost to travel to another country (*see* Markauskaite, Chapter 21, this volume). Video conferencing, web conferencing and such widely used programs as Skype[1] make the work of the comparativist more flexible, as they can be used when face-to-face interviews are impractical or impossible.

### *18.3.2 Intercultural Sensitivity*

A final important point relates to intercultural sensitivity, about which I have written extensively elsewhere (Bagnall, 2008). Teachers should be prepared to be culturally sensitive if they are to work in international schools. Similarly, researchers in comparative and international education need to develop critical cultural reflection on their work. Bennett and Bennett (in Landis, Bennett, & Bennett, 2004, p. 147ff) propose a developmental model to show how contact with another culture affects people differently depending on their experience (Figure 18.1).

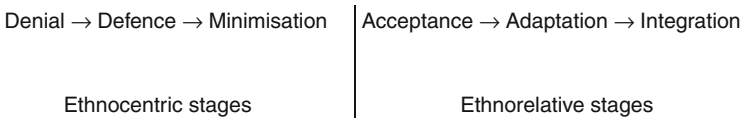


**Fig. 18.1** The developmental model of intercultural sensitivity (DMIS)

There is an assumption in the developmental model that the more contact one has with cultural difference, the further down the scale of sensitivity one travels. This may or may not be the case, but certainly there is a need for good research to be undertaken in comparative education by individuals who can successfully integrate their own cultural position with that of the new culture.

> People dealing with integration issues are generally already bicultural or multicultural in their worldviews. At some point, their sense of cultural identity may have been loosed from any particular cultural mooring, and they need to re-establish identity in a way that encompasses their broadened experience. (Landis et al., 2004, p. 157)

The first ethnocentric stage of the DMIS model, denial, assumes that there is little if any difference to be found within another society. All people are basically the same. In this category people who view the world through a denial 'template'

> . . .are likely to avoid the subject of diversity altogether if they can, or they may refer to 'them' rather than using specific group names. (Landis et al., 2004, p. 154)

[1] Skype is software that enables users to make free video and voice calls over the Internet to other Skype users around the world. URL: http://about.skype.com

The next ethnocentric stage, defence, often manifests itself in political movements such as Pauline Hanson's One Nation party in Australia and Jean-Marie Le Pen's National Front Party in France. Both parties tend to demonise certain groups within their own country who are from outside. 'Those people' are seen to be 'taking our jobs'. Immigrants and non-dominant groups are often the targets of oppression by the dominant group. This defence response is often polarised into us–them categories.

The final phase in the ethnocentric stage, minimisation, sees an acceptance that there are differences in customs and ways of doing things but that '. . .deep down we are all the same' (Landis et al., 2004, p. 155).

Ethnorelativism signals the beginning of a change in worldview; its initial stage, acceptance, while not acknowledging, liking, or agreeing with the new culture, accepts that it does exist.

> The inherent cultural relativity of the acceptance configuration marks the major issue that emerges at this stage: how to exercise power in terms of one's own values without imposing on the equally valid viewpoints of others. (Landis et al., 2004, p. 155)

The earlier stages of denial and defence demonstrate the existence of a series of unquestioned truths that are organised in dualistic categories of 'us' and 'them' as explained by Bennett and Bennett (2001). The final two phases of ethnorelativism, adaptation and integration, focus more on cultural identity. In the first of these two, adaptation, the individual is forced to make some sort of a cultural shift.

> In worldview terms, cultural empathy is the attempt to organize experience through a set of constructs that are more characteristic of another culture than of one's own. (Landis et al., 2004, p. 156)

An understanding of the DMIS helps to frame a world-view that takes the individual out of a monocultural perspective to a multi-cultural identity. The comparativist researcher is then able to interpret the data from another country with greater clarity and insight.

The work of the comparativist is not restricted to international studies. Indeed many studies take place between different schools in the same neighbourhood or different education systems in the same country. The Australian situation is typical of many countries, with different States and Territories operating different high school leaving diplomas. The New South Wales Higher School Certificate is similar to, but not exactly the same as, the Victorian Certificate of Education. These differences may appear slight, but they can be measured and evaluated using the same methodologies adopted in cross-nation studies. For example, Jane Moore (2009) is undertaking a Doctoral study in reconciliation through music in two different states of Australia. The principles and methodology relating to this study, especially in relation to the points made above in the DMIS, need to be considered as the researcher is looking at differences in a number of cultural groups in two very different schools.

Undertaking good comparative research is not easy, but the rewards are substantial. Some of the most significant studies have been carried out by researchers who

have planned their studies thoughtfully, know their own culture very well, and have been careful to work within the boundaries of the field outlined here and by Welch (Chapter 17, this volume).

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# Chapter 19
# Quantitative Modelling of Correlational and Multilevel Data in Educational Research: A Construct Validity Approach to Exploring and Testing Theory

**Andrew J. Martin, Jasmine Green, Susan Colmar, Gregory A.D. Liem, and Herbert W. Marsh**

## 19.1 Introduction

Guiding conceptual frameworks are vital for informing an investigation's factor selection, model ordering construction and data analysis. Importantly, alongside conceptual and substantive perspectives, some key methodological considerations help shape better research questions and model specifications. These methodological considerations assist decisions on operationalising research designs, sampling, the nature of measurement, and the selection of one instrument over another. In this chapter we address some of the methodological issues relevant to quantitative modelling of correlational data in educational research, with particular focus on confirmatory factor analysis, structural equation modelling and multilevel (hierarchical linear) modelling.

In line with recent advice on the need for guiding methodological frameworks to assist correlational modelling (Marsh, Martin, & Hau, 2006), we propose the construct validation approach as a means of unifying measurement and modelling to address educational questions of relevance to students, practitioners, and researchers. This approach is essentially aimed at assessing the extent to which an instrument or scale accurately reflects a theoretical construct. We further contend that the construct validation process is an iterative one in which theory, measurement, research, practice and policy play out over time, potentially mutually enhancing each other. Hence, as theory and research are used to inform practice and policy, ultimately the disregard of one component will undermine the others (Marsh, 2002; Marsh & Hau, 2007). Thus we propose construct validation as an effective and systematic way to synergise methodological, substantive and applied aspects of research.

In this chapter, we describe correlational research (focussing on confirmatory factor analysis, structural equation modelling, and multilevel modelling) through a construct validity lens, outline historical roots and developments in methodology

A.J. Martin (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: andrew.martin@sydney.edu.au

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that underpin modern measurement and correlational modelling, and summarise the types of knowledge that correlational approaches produce under a construct validation framework. We then introduce modern techniques that are geared to analyse correlational data most effectively, and we present examples from three large-scale educational studies that are based on correlational data. We conclude by describing some of the issues and debates relevant to correlational techniques and offer direction for other research methods and designs that can complement correlational construct validity approaches.

## 19.2 Problem Space, Genesis and Intellectual Roots

As indicated above, the construct validation approach is aimed at assessing the extent to which an instrument or scale accurately reflects a theoretical construct; that is, a construct not open to direct observation (Kenny & Kashy, 1992; Marsh et al., 2006). Because many educational and psychological factors cannot be observed explicitly, instruments and scales are devised in an attempt to measure or validate the hypothesised underlying latent construct (Marsh et al., 2006). Examples include intelligence, motivation, and self-concept. The construct validation approach is essentially concerned with the interplay between the theoretical elaboration of the construct under investigation as well as its methodological validation (Kenny & Kashy, 1992). Specifically, the issue at the crux of the construct validation approach is the extent to which a theoretical construct is well represented by its indicators, well defined, related to variables and conditions to which it is theoretically and logically connected, and unrelated to variables and conditions to which it is not theoretically and logically connected (Marsh, Hau, Artelt, Baumert, & Peschar, 2006).

## 19.3 Methodological Apparatus

### *19.3.1 Guiding Perspectives in Correlational Designs*

In working within a construct validation space, we propose there are four central ideas relevant to correlational investigations: (1) the role of multi-method approaches to assessing substantive issues; (2) the importance of within-network validity that seeks to assess the internal properties of instruments; (3) the importance of between-network validity that seeks to establish logical connections between factors and measures that are theoretically linked (*see* Marsh et al., 2006); and (4) appropriate recognition that educational data are often hierarchically structured (e.g., students nested within classrooms nested within schools) (Goldstein, 2003; Raudenbush & Bryk, 2002). Collectively, these four central ideas influence the research design, instrument construction and data analysis techniques (including measurement and modelling of constructs) used in correlational investigations.

#### 19.3.1.1 Multi-Method Perspective

According to Campbell and Fiske (1959) and subsequent researchers in the arena, good quality research is guided by an emphasis on a multi-methods approach. That is, the aim of multi-method approach to validation is to seek not one measure for a construct, but rather to employ systematically a set of measures whose indicators point to the same focal construct (Marsh et al., 2006).

Importantly, the term 'multiple methods' was broadly used by Campbell and Fiske to refer to multiple instruments (e.g., self-concept measures and motivation measures), multiple methods of assessment (e.g., standardised achievement tests and school grades), multiple raters (e.g., student and teacher self-reports), or multiple occasions (e.g., the same measures used to analyse the same individuals repeatedly; Marsh et al., 2006). Thus, some multi-method approaches to construct validity include: multiple indicators for each construct, multiple constructs and tests of their *a priori* relations, multiple outcome measures, multiple independent variables, multiple levels of analysis and multiple methodological approaches (Campbell & Stanley, 1966; Marsh et al., 2006).

#### 19.3.1.2 Within-Network and Between-Network Studies

Following from the multi-method perspective (*see* Marsh et al., 2006) outlined above, construct validation investigations can be categorised as either 'within-network' or 'between-network' studies. The recommendation is that within-network studies be performed before moving onto between-network studies. A within-network study is one that explores the internal structure of a construct, hence forming the measurement basis of a study. Using procedures such as factor and reliability analysis, within-network studies test the dimensionality of a construct with a view to demonstrating that the construct has consistent and distinct multi-dimensional components (Marsh et al., 2006).

In contrast, a between-network study aims to establish a logical, theoretically consistent pattern of relations between measures of a target construct and other related constructs (in the case of convergent validity), or distinct constructs (in the case of discriminant validity, Marsh, 2002). Convergent validity refers to the extent to which scores on a test or scale correlate with (or are related to) scores on other tests or scales that are designed to assess the same or similar construct. Discriminant validity is the degree to which scores on a test do not correlate or relate to scores on other tests that are designed to measure different or dissimilar constructs (Eid & Diener, 2006). Therefore, a successful measure is expected to not only converge with other measures of the same or related focal concept but also to show little empirical association with measures unrelated to the focal concept. Researchers commonly make the mistake of pursuing between-network research before resolving at least some of the within-construct issues that are the logical prerequisites to between-network validation. According to Marsh and Hau (2007), it is important to establish the validity of the relations between multiple indicators and the constructs they are intended to measure before pursuing more complex models of relations between constructs.

#### 19.3.1.3 Multilevel Data Structures

Another question relevant to construct validation research is: at what level do we conduct measurement and modelling? Multilevel (or hierarchical linear) modelling is used to test the extent to which variance in a particular phenomenon resides at the individual or group level. Education is a classic domain in which there exist hierarchically structured data, with the most obvious structure being students within classes within schools. Under hierarchical structures it is hypothesised that individuals, and the group to which they belong, influence and are influenced by each other. As Goldstein notes,

> to ignore this relationship risks overlooking the importance of group effects, and may also render invalid many of the traditional statistical analysis techniques used for studying data relationships. (Goldstein, 2003, p. 2)

In the 1980s, researchers began modelling approaches to hierarchically structured data (Goldstein, 1986). However, it was not until the 1990s that efficient software was developed to account for the hierarchical structure of data and research following from these software developments demonstrated the importance of treating data in this way (e.g., Goldstein, 2003; Muthén & Muthén, 2006; Raudenbush & Bryk, 2002).

### *19.3.2 Confirmatory Factor Analysis and Structural Equation Modelling*

In the past two decades CFA and SEM techniques have become the recommended methods for analysing correlational data (Kenny & Kashy, 1992; Marsh, 2007). Although a technical discussion of CFA and SEM techniques is beyond the scope of this chapter, it is important to note that these statistical procedures, appropriately applied, have many advantages over traditional techniques such as exploratory factor analysis or multiple regression. First, and perhaps most importantly, these statistical procedures allow researchers to investigate correlational data by specifying *a priori* the expected factor structure for the measures under focus as well as the relations between latent constructs, thereby encouraging the researcher to base predictions on prior research and theory rather than adopting an exploratory approach (Martens & Haase, 2006). Secondly, unlike many other techniques, SEM can be used to test an entire theoretical model in one analysis; a procedure that is particularly important for testing an hypothesised model. Thirdly, CFA and SEM also account for the presence of measurement error associated with each indicator (Marsh et al., 2006).

#### 19.3.2.1 The Elements of CFA and SEM

According to Byrne (1994), in CFA approaches to factor analysis the researcher draws on knowledge of the theoretical structure of the variables, proposes the factor structure *a priori*, and then tests this hypothesised factor structure. In CFA it is

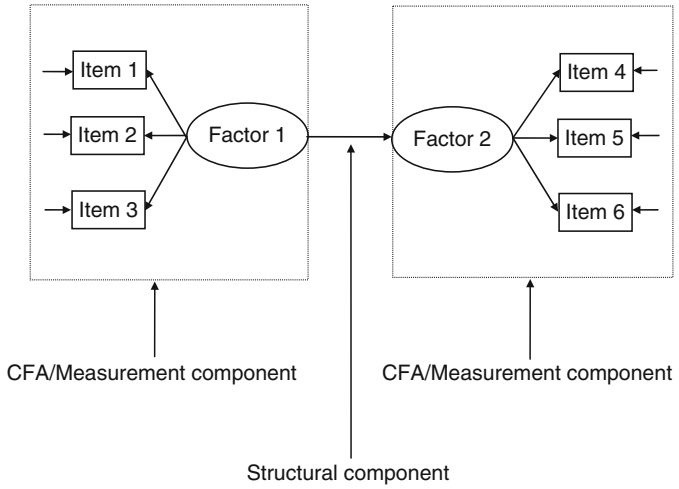


**Fig. 19.1** Measurement and structural components of a structural equation model

hypothesised that (a) each measured variable will have a non-zero loading on the factor it is designed to measure and a zero loading on all other factors, (b) all factors are correlated, and (c) the error terms (referred to as uniquenesses) for each measured variable are uncorrelated (unless stated otherwise). Moreover, using CFA procedures, higher-order factors can be generated in which, for example, a second-order factor is hypothesised to underlie the first-order factors. Fig. 19.1 shows a CFA structure in which there are two factors for which there are three indicators each. SEM refers to the structural relationships between the latent factors generated in the CFAs (see Fig. 19.1). In SEM, the structural processes proposed in a study are typically estimated through a series of regression equations, but based on latent factors (corrected for unreliability). This model can be tested in a one-step (simultaneous) analysis and goodness of fit indices can be assessed to determine the test of the fit between the model and the data.

#### 19.3.2.2 Longitudinal Approaches

SEM is particularly suited for the analysis of longitudinal correlational data. The characteristic feature of a longitudinal research design is that the same measurements are obtained from the same sample at two or more points in time and thus can provide stronger empirical evidence of how variables influence one another (MacCallum & Austin, 2000). Longitudinal investigations provide an opportunity to assess the stability of hypothesised models over time, account for the correlation of error terms, examine time-sensitive processes, and ascertain the direction of relationships between variables (MacCallum & Austin, 2000).

One of the most prevalent procedures for modelling longitudinal data through SEM is through autoregressive paths (Kenny & Campbell, 1989; MacCallum &

Austin, 2000). Autoregressive paths are essentially paths which link variables measured at Time 1 with corresponding variables measured at Time 2 (e.g., the path between Time 1 motivation and Time 2 motivation). The influence of any remaining constructs on the Time 2 construct is viewed as conditional on the Time 1 construct (Kenny & Campbell, 1989; MacCallum & Austin, 2000; Martens & Haase, 2006). The classic cross-lagged panel framework (e.g., Burkholder & Harlow, 2003; Crano, Kenny, & Campbell, 1972) is a good case in point. Under this design, researchers examine the salience, for example of Time 1 (T1) motivation in predicting Time 2 (T2) achievement relative to the salience of T1 achievement in predicting T2 motivation. If, for example, T1 motivation reflects a stronger pattern of predictive paths than T1 achievement, it can be suggested that motivation is salient over achievement. If both T1 motivation and achievement are significant on T2 achievement and motivation, respectively, we can conclude reciprocal roles (i.e., each affects the other).

#### 19.3.2.3 Mediation Models

Much correlational research typically examines the link between predictor factors (e.g., motivation, engagement, self-concept) and outcome factors (e.g., achievement). Once a relationship such as this is established, it is not uncommon for researchers (particularly in psycho-educational research) to begin investigating the role of a third variable in clarifying the nature of the relationship between predictor and outcome factors (Baron & Kenny, 1986). The introduction of a third variable can result in a model in which measurable processes are proposed to mediate the predictor and outcome variables (Baron & Kenny, 1986). It has been highlighted that such relations should ideally be grounded in theory (Frazier, Tix, & Barron, 2004). In order to establish the plausibility of the sequences implied by theory, the testing of mediating variables is deemed a useful lens through which to examine the processes by which variables are related (Frazier et al., 2004). Because of the advantages of SEM outlined earlier, SEM is the preferred method through which to explore mediating variables within the one correlational model (Baron & Kenny, 1986). A critical, often neglected requirement in demonstrating mediation is a clear causal ordering in which the mediating variable follows the independent variable and comes before the dependent variable. Without longitudinal data, it is extremely difficult to support this critical assumption.

### *19.3.3 Multilevel (Hierarchical Linear) Modelling*

Thus far, the focus of our discussion has tended towards individual and individual-level (e.g., student) data. Importantly, however, it is not appropriate to pool responses of individuals without regard to the groups to which they belong (e.g., students within classrooms within schools) unless it can be demonstrated that these groups are not significantly different from each other. In cases where there are systematic differences between groups, then single-level analyses that ignore this nesting of individuals into groups may be invalid. If this is the case, there may be

violation of statistical assumptions, increasing the likelihood of finding a significant effect when there is none. Moreover, attributes associated with individuals can be confounded with those of the group to which they belong. Such cases require multilevel analytic approaches (Goldstein, 2003; Marsh, Martin, & Cheng, 2008; Martin & Marsh, 2005; Muthén & Muthén, 2006; Raudenbush & Bryk, 2002).

A multilevel approach enables researchers to pursue questions about how effects vary from group to group. The approach also enables researchers to determine the characteristics of groups associated with this variation. This is particularly important in studies where critical variables may be associated with individual-level factors (e.g., student motivation) and group-level factors (e.g., class and school motivational climates). Hence, the multilevel approach provides a more appropriate approach to evaluating important educational issues than would be possible with more typical single-level analyses that ignore the clustering of individuals within groups (*see* Goldstein, 2003; Marsh et al., 2008; Martin & Marsh, 2005; Raudenbush & Bryk, 2002).

## 19.4 Correlational Methods in Practice

To illustrate these issues, we present three examples of correlational educational research. The first draws on work by Martin and colleagues (Martin, Marsh, & Debus, 2001a, 2001b, 2003; Martin, Marsh, Williamson, & Debus, 2003, 2005) investigating self-worth protection and failure dynamics amongst university/college students. The second draws on work investigating academic personal bests (PBs) in the school context (Martin, 2006; Martin & Liem, 2010). The third summarises findings from multilevel modelling of student motivation data (Marsh et al., 2008; Martin & Marsh, 2005). In different ways, each study was guided by construct validity considerations, underpinned by within-network (with particular focus on confirmatory factor analysis), between-network (with particular focus on longitudinal structural equation modelling), or multilevel (with particular focus on multilevel modelling) approaches to correlational educational data.

### *19.4.1 Longitudinal Modelling of Self-Worth Protection*

#### 19.4.1.1 Rationale

For some students, the motive to protect self-worth is paramount and can sometimes be more important than the need to learn and perform successfully. According to the self-worth theory of motivation (Covington, 1992), the need to protect self-worth arises primarily from a fear of failure and the implications this failure may have for one's private and public sense of ability and subsequent self-worth. Individuals who see failure as reflecting poorly on their ability are inclined to protect the self because ability is typically equated with self-worth (Covington, 1992). Students can use a variety of strategies to deal with threats to their self-worth. This section focusses on three such strategies: (i) self-handicapping (e.g., procrastinating, doing

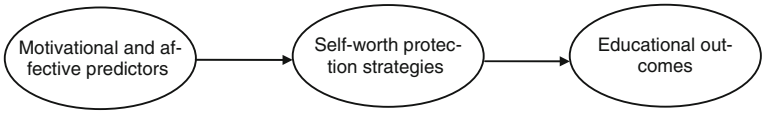


**Fig. 19.2** Basic structure of the hypothesised self-protection model

little or no study, investing little or no effort that can then be used as the reason for possible poor performance rather than a lack of ability; Martin et al., 2001a, 2001b, 2003), (ii) defensive expectations (setting unrealistically low expectations so that 'failure' is less likely against these lower expectations; Martin et al., 2001a, 2001b, 2003), and (iii) reflectivity (thinking through possible outcomes and what is needed to succeed and to avoid failure; Martin et al., 2001a, 2001b, 2003).

Numerous motivational and affective factors have been proposed to underpin the need to manoeuvre strategically in a self-protective manner. Each of these factors is suggested to be a facet of the motive to protect the self and argued to render the individual's self-worth particularly vulnerable in the event of failure. Moreover, because self-protective strategies constitute students' cognitive and behavioural reactions to achievement scenarios that pose the threat of failure, it follows that these strategies ultimately impact on important educational outcomes. Thus, the characteristic way in which students react to potential failure, and the implications this failure has for their ability, can influence their achievement-related behaviour and, indeed, achievement itself.

It seems, then, that there exists a process by which students self-protect in the academic domain. Essentially, this process is one in which a variety of motivational and affective factors render students vulnerable to the ability-related implications of failure. In response to this, students strategically maneuver so as to alter the meaning or implications of this anticipated failure. In turn, these strategies impact on important educational outcomes. This basic process is presented in Fig. 19.2. The complete model explored by Martin and colleagues (see Fig. 19.3) is one that incorporates a variety of motivational and affective predictors that are proposed to influence the tendency to self-handicap or be defensively pessimistic. In turn, these strategies are hypothesised to impact on a variety of educational outcomes. The model presented in Fig. 19.3 is primarily based on two waves of data. Thus, the self-protection process was assessed in a longitudinal fashion. This involved surveying a sample of undergraduates in their first and second years at university about the variety of constructs shown in Fig. 19.3.

#### 19.4.1.2 Methods and Top-Line Findings

Students were enrolled in teacher-education programs from three universities in metropolitan Sydney, Australia. They were surveyed midway through their first year at university (Time 1) and again midway through their second year (Time 2). Data for both Time 1 and Time 2 were available for a total of 328 respondents. At Times 1 and 2, questionnaires were administered to students during lecture time. Students were briefly oriented to the broad aims of the study, but were not informed about

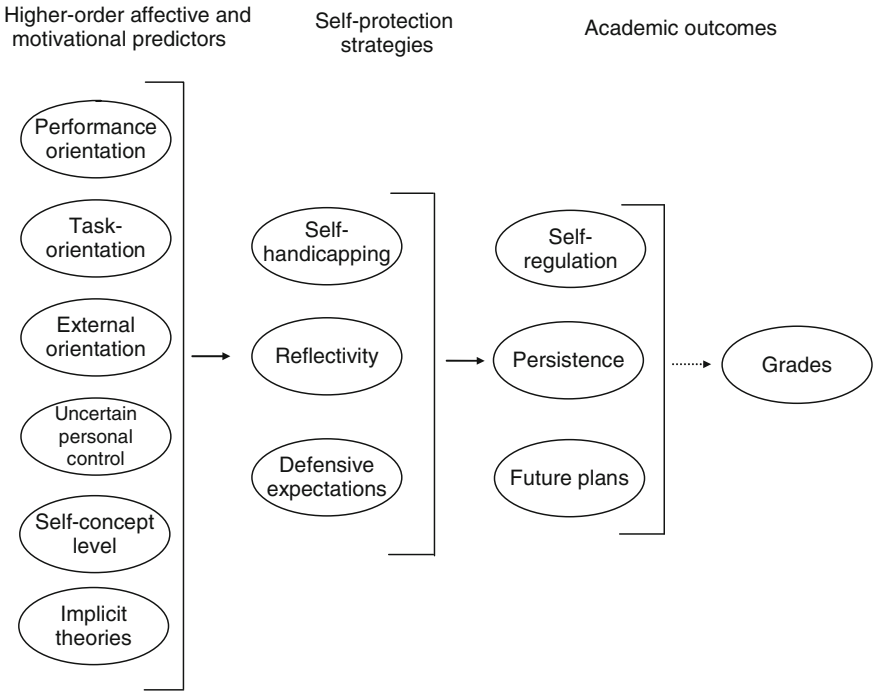


**Fig. 19.3** Proposed self-worth protection model

the specific issues of interest to the researcher. The background questions on the instrument were worked through by the researcher with the group. Following this, the rating scale was explained to students and a few related example items were also worked through with the group. Students were then asked to complete the questionnaire on their own and to return the completed form to the researcher at the end of the lecture time. SEM, performed with LISREL (Jöreskog & Sörbom, 2003), was used to test the hypothesised model.

In students' first ($N = 584$) and second years ($N = 489$) at university, CFA demonstrated a sound factor structure (for both first- and higher-order factor solutions) that was invariant across gender and year-level. SEM supported the hypothesised self-protection model at each time wave. Specifically, external attributional orientation, performance orientation, uncertain personal control and anxiety all positively predicted self-handicapping, defensive expectations, and reflectivity, while task-orientation was found to negatively predict self-handicapping and defensive expectations and positively predict reflectivity. In turn, self-handicapping and defensive expectations negatively predicted persistence and self-regulation, while reflectivity positively predicted these outcomes. A pivotal finding in the additional longitudinal model ($N = 328$) was the negative effect of Time 1 self-handicapping on subsequent academic grades. The fact that the longitudinal model fit the data well and produced essentially identical results to the cross-sectional analyses indicates

that the hypothesised self-worth protection process model is stable and generalisable over time.

## *19.4.2 Longitudinal Modelling of Personal Bests (PBs)*

### 19.4.2.1 Rationale

The second sample study is that which explores the notion of academic personal bests (PBs) amongst school students (Martin, 2006; Martin & Liem, 2010). PBs refer to personalised standards of excellence that match or exceed one's previous best. Extending the concept to the educational setting, Martin (2006) proposed that PBs can be a potentially effective approach to enhancing student academic trajectories and long-term academic development. In a cross-sectional study of high school students, using self-report measures, Martin validated a hypothesised model of academic PBs. He also demonstrated the positive yield of the construct for desirable academic factors, including educational aspirations, enjoyment of school, class participation and persistence. Using a cross-lagged analytic framework (Fig. 19.4), the investigation reported on here aimed to extend Martin's (2006) prior work by examining the longitudinal profile of academic PBs on a wider set of engagement and achievement measures with a new and larger sample of students. In doing so, the investigation shed light on the relative salience of PBs in predicting engagement and achievement across time, and by implication, the possible yields of PBs for educational intervention.

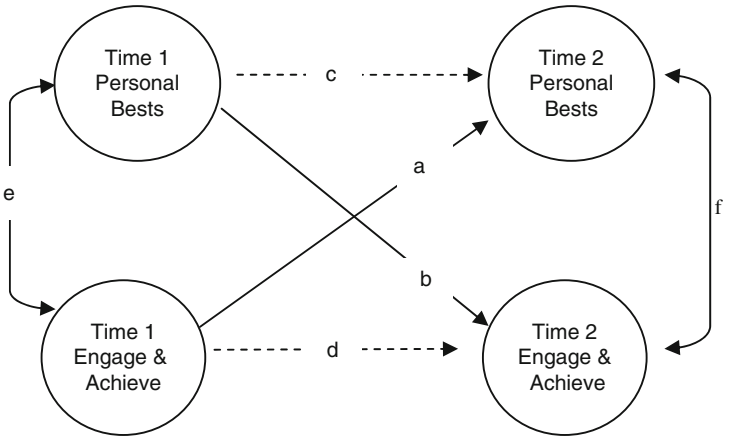


**Fig. 19.4** Hypothesised cross-lagged relationships between personal bests and engagement and achievement

### 19.4.2.2 Methods and Top-Line Findings

Under a cross-lagged analytic framework using LISREL, the study examined (1) the relative salience of prior academic PBs in predicting subsequent engagement

and achievement compared with (2) the relative salience of prior engagement and achievement in predicting subsequent PBs. Academic PBs, engagement, and achievement measures were administered to 1,866 high school students from six Australian schools at two time waves across a one-year interval. After controlling for significant auto-lagged effects, there were five instances where PBs were salient over engagement and achievement, four instances where there were reciprocal roles, and one instance where engagement and achievement were salient over PBs. It was concluded that academic PBs tend to be more salient over engagement and achievement, but that there are occasions where both are relevant to each other in mutually reinforcing ways. The findings hold substantive, applied, and methodological implications for researchers and practitioners seeking to improve students' academic development through academic PBs.

### *19.4.3 Multilevel Modelling of Motivation and Motivation Climate*

#### 19.4.3.1 Rationale

Duda (2001) identified the need to evaluate the combined effects of individual- and group-level motivation on a variety of outcome measures. She also emphasised the need to evaluate the theoretical basis for pursuing such research. Duda noted, however, that this is rarely pursued in motivation research. She also indicated that in some cases group-level effects might outweigh the effects of individual orientations, whereas individuals with particularly strong motivation orientations may be relatively unaffected by group-level motivation (*see also* Ntoumanis & Biddle, 1998). Although there has been a more consistent line of research assessing the hierarchical nature of achievement (Hill & Rowe, 1996), relatively less research has examined the hierarchical nature of motivation and the issue of class- and school-level academic motivation. A series of studies have examined this issue of individual- and group-level motivation (Marsh et al., 2008; Martin & Marsh, 2005) and did so in relation to mathematics, English, and science school subjects in high school.

#### 19.4.3.2 Methods and Top-Line Findings

This line of research focussed on Year 8 and 10 high school students in their mathematics, English and science classes. The sample comprised 964 high school students from five Australian co-educational government schools: 60% in Year 8 (junior high school, mostly 12 and 13 years of age) and 40% in Year 10 (middle high school, mostly 15 and 16 years of age). Nearly half (48%) the respondents were girls and 52% were boys. The mean age was 14.30 (SD = 1.12) years. In total, 101 classrooms taught by a total of 62 teachers (58% female; 42% male) were surveyed. Teachers administered the Motivation and Engagement Scale – High School (MES-HS; Martin, 2009). In addition, they completed single-item classroom climate scales designed to parallel the factors in the MES-HS. Importantly, students rated their subject-specific motivation in the target class (i.e., math motivation was evaluated

**Table 19.1** Multilevel educational data structure and hypothesised implications for motivation

| Multilevel educational data structure | Hypothesised motivation implications |
|---|---|
| Level 5 school | Motivation in school (differences between schools) |
| Level 4 teacher | Motivation across teachers' classrooms (differences between teachers) |
| Level 3 class | Motivation in classroom (differences between classrooms) |
| Level 2 student | Motivation for individual student (differences between students) |
| Level 1 subject | Motivation in English, maths, science (differences between subjects within students) |

in math classes, English motivation in English classes, science motivation in science classes). The data were conceptualised as a five-level cross-classified multilevel model (levels were: school, teacher, class, student, and subject – see Table 19.1). The multilevel analyses were conducted with MLwiN version 2.02. Classes were nested under teachers, teachers were nested under schools, and each combination of student and subject was nested under class.

Findings indicated that the bulk of variance in motivation resided at the student level across all three school subjects. That is, in all school subjects there was greater variation from student to student than there was from class to class, teacher to teacher, or school to school. Importantly, there were some additional findings for motivation climate: specifically, in addition to significant student-level variance, the class-level effect for motivation climate was also significant. Hence, student motivation was a function of the individual student, whereas motivational climate was a function of both the classroom and the individual students. Interestingly, the motivation climate did not appear to be a function of the teacher, only the group of other students in the classroom. Hence, the motivation climate associated with a particular class did not generalise to other classes taught by the same teacher, underscoring the benefits of a cross-classified multilevel model that could disentangle classroom and teacher effects.

## 19.5 Methodological Issues, Debates and Extensions

Based on the research and theorising presented above, it is evident that correlational data underpinned by construct validation principles can be an informative means of exploring and testing current understanding of key educational constructs. There are, however, limitations inherent in the correlational methodology that are important when interpreting data and that have a bearing on directions for future educational research.

### 19.5.1 Limitations of Data and Analyses Typical of Correlational Designs

Data under correlational designs are often of a self-report nature (though correlational methods quite comfortably accommodate 'objective' data such as achievement). A potential problem with self-report measures is the possibility that individuals do not have a direct awareness of the constructs (e.g., motivation) under investigation and are not prepared to concede to particular factors. It is also important to note that the bulk of correlational designs fail to collect longitudinal data, often reporting on cross-sectional data that are known to be limited and limiting. With cross-sectional data, the ordering of analytic models is relatively arbitrary, with many different models potentially providing a good fit to the data. Cross-sectional data are also problematic because they are unable to provide a sense of unique variance explained after controlling for auto-regression. Longitudinal data overcome these problems.

### 19.5.2 Collection of Diverse Forms of Data and Implementation of Diverse Designs

Findings of correlational research can be further illuminated through the inclusion of diverse forms of data and implementation of other research designs. For example, there is scope for detailed qualitative work. Although Martin, Marsh and colleagues (2003) conducted qualitative work focussing on diverse motivational constructs, more qualitative work is required that can effectively scope the detailed nature and extent of the processes under focus in psycho-educational research.

Another test of correlational findings is through the conduct of educational intervention research. The extent to which 'causal' claims under correlational designs can be upheld will rely (at least in part) on the extent to which change in 'causal' factors brings about change in outcome factors. Similarly, conducting educational research under the experimental paradigm offers another perspective on the validity of correlational findings. Under more targeted conditions that can manipulate or test for specific factors found to be significant in correlational work, experimental designs provide complementary and augmenting data on educational phenomena (Shavelson, 1996). Indeed, evidence derived from experimental work, the focus in the next chapter (Ginns, Chapter 20, this volume), offers such potential for educational practice.

### 19.5.3 The Need to Incorporate Context Effectively

Correlational research is often based on the individual factors that are relevant to a given educational factor. Too infrequently does it effectively incorporate the situated and socio-cultural elements of target phenomena. Given the reality that individuals operate within a social context, there is merit in exploring the specific aspects of the

educational context in which students are located and how their context facilitates or constrains academic development and outcomes (Pintrich, 2000). Recently a body of literature has shown support for the utility of studying the domain specificity of various psycho-educational constructs (e.g., Green, Martin, & Marsh, 2007).

Another relevant body of work deals with socio-cultural perspectives that recognise individuals cannot be studied in isolation from the social context in which they are situated (Hickey, 2003). Of particular relevance to educational research, recent efforts to consider the influence of contextual variables have been made in the field of motivation and learning research (e.g., Walker, Pressick-Kilborn, Arnold, & Sainsbury, 2004). Socio-cultural perspectives have prompted research which considers the classroom/learning context, teaching context, and social support structure (Perry, Turner, & Meyer, 2006).

Cultural factors also affect students' educational passage. Because many measures and theoretical models of education and psychology have been developed in Western contexts, they have at times been criticised for being culturally entrenched in the ideology of the West (e.g., Yang, 1991). Findings of research that appropriately addresses culture offer scope to better understand the relative salience of key facets of education as they pertain to students from different cultures, and also for theorising that is so often focussed on Western culture.

## 19.6 Conclusion

With special focus on confirmatory factor analysis, structural equation modelling and multilevel modelling, this chapter has presented a construct validity approach to correlational data which underpins research design, measurement and methodological approaches to analysing hypothesised models in education. An overview of construct validation as relevant to correlational research and the ideas central to this approach (i.e., multi-method approaches, within-network studies, between-network studies, and multilevel approaches) has also been detailed, with three illustrative supporting sample studies. Through the synthesis of theory, methodology and sample studies, the present chapter has sought to position the construct validation approach as a means of unifying the measurement and modelling of correlational data to effectively address educational questions of relevance to students, practitioners and researchers.

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# Chapter 20
# Quantitative Modelling of Experimental Data in Educational Research: Current Practice and Future Possibilities

**Paul Ginns**

*If you want truly to understand something, try to change it.*
(Lewin, 1951)

## 20.1 Introduction

According to the Council of the American Educational Research Association (AERA, 2008), scientifically based research involves 'rigorous, systematic, and objective methodologies to obtain reliable and valid knowledge', and key methodological aspects are:

1. development of a logical, evidence-based chain of reasoning
2. methods appropriate to the questions posed
3. observational or experimental designs and instruments that provide reliable and generalisable findings
4. data and analysis adequate to support findings (AERA, 2008, p. 1).

Thus, scientifically based educational research may be based on either observational or experimental methods. However, as noted in the preceding chapter:

> . . . under more targeted conditions that can manipulate or test for specific factors found to be significant in correlational work, experimental designs provide complementary and augmenting data on educational phenomena.
> (Martin, Green, Colmar, Liem, & Marsh, Chapter 19, this volume)

This chapter discusses the educational experiment, a methodology that is capable of assessing a wide variety of causal questions in education and social policy and that is enjoying a renaissance due to pressures from policy makers and funding bodies (Shadish & Cook, 2009). The chapter begins with a brief review of the philosophical

P. Ginns (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: paul.ginns@sydney.edu.au

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roots of experimentation, followed by key aspects of the methodological apparatus. Several more recent methodological developments are then discussed, using an example of a motivational pedagogy, Personal Bests (Martin, 2006), to discuss the potential for combining experimental and correlational methodologies in order to both understand, and effect change in, complex networks of learning constructs.

## 20.2 Problem Space, Genesis and Intellectual Roots

Under what conditions can we infer that one thing causes another thing to happen? This key question has exercised the minds of philosophers for centuries. Drawing on the works of J.S. Mill, Karl Popper, and the activity theorists of causation, Cook and Campbell (1979) describe the following key features of justified causal inference in the social sciences:

1. covariation between the presumed cause and effect can be demonstrated
2. the cause temporally precedes the effect, and
3. alternative interpretations can be ruled out.

The logic of experimentation (Fisher, 1935), Cook and Campbell note, corresponds closely with the principles of inferring cause given above:

1. Statistical analysis of experimental data provides a test of the reliability of the degree of covariation between the presumed cause and effect.
2. A properly conducted experiment manipulates the causal or independent variable/s, then observes the effect on the dependent variable/s.
3. Experimenters aim to rule out alternative explanations in three major ways. Firstly, based on a large enough sample, random assignment of experimental units (e.g. students, teachers, classrooms, schools) to experimental conditions means the different sources of 'systematic variance', over and above the independent variable/s, which might account for the results is spread evenly across experimental conditions. A second common strategy is to standardise all elements of the experiment except for the independent variable, to eliminate potential confounding variables. Thirdly, factors which might reasonably be expected to lead to differences between participants on the dependent variable are explicitly included in either the design of the study (through matching or blocking), or in the analysis (as covariates). Partialling out such factors leads to more precise estimates of causal relations between variables.

While the above features distinguish experimental and correlational methods in the social sciences, including education, there are two further features held in common by both methodologies. Firstly, drawing on Popper's doctrine of falsification, Cook and Campbell (1979) argue for repeated investigations of an hypothesised causal relationship, rather than concluding that one or two 'non-significant' experiments

signify the hypothesis has been falsified; scholars working with correlational data would similarly argue that 'one swallow does not a summer make'.

Secondly, many relations between causes and effects exist within a larger complex of interrelationships; as a result, 'causal knowledge will be problematic and probabilistic' (Cook & Campbell, 1979, p. 31). The development of analysis of variance by Fisher (1935) provided an analytic framework for estimating probabilistic causal relationships from experimental data, but more recently developed methodologies such as cross-lagged panel designs (see the preceding Chapter 19 by Martin et al., this volume) also support the estimation of probabilistic causal relations based on longitudinal correlational data. Other methodologies for framing tentative causal hypotheses from such observational rather than experimental datasets include fixed effects models, instrumental variables, propensity scores, and the regression discontinuity design (see Schneider, Carnoy, Kilpatrick, Schmidt, & Shavelson, 2007). Large, longitudinal, representative national data sets such as ECLS and LSAY include many variables which can be cast as independent variables (e.g. type of school; presence or absence of specific pedagogical practices).

## 20.3 Methodological Apparatus

As introduced above, the essence of the experiment is the random assignment of experimental units (e.g. students, parents, teachers, classrooms, schools) to different levels of at least one independent variable, with the impact of the independent variable/s being measured on at least one dependent variable. In its simplest form, an experiment can consist of a comparison between two groups on a single dependent variable, but experimental methodology is extremely versatile, such that a discussion of the full scope of experimental methodologies is beyond the scope of this chapter; for an excellent coverage, see Winer, Brown, and Michels (1991).

Historically, experimental data have typically been analysed using General Linear Model statistics (e.g. analysis of variance), unless marked non-normality of the data has indicated non-parametric methods would be more suitable. In both cases, researchers have tended to use null hypothesis significance testing. Increasingly, however, there have been calls to report effect sizes and their confidence intervals to support interpretation of experimental effects (e.g. APA, 2001; Bird, 2004). Another trend in analysis is the increasing acknowledgment of the problem of non-normality of data in the social sciences, leading to the development of robust statistics as an alternative to non-parametric statistics (e.g. Wilcox, 2003). These two trends have recently met in the development of robust methods for estimating effect sizes and their confidence intervals across a range of experimental designs (e.g. Keselman, Algina, Lix, Wilcox, & Deering, 2008).

Experiments can be used to answer a wide range of questions, but, within education, a key distinction can be made between basic research aimed at the discovery of general principles of learning, and applied research geared towards solving practical problems (Frishkoff, White, & Perfetti, 2009). The foci of claims made by

researchers working across these two categories of research differ in important ways. Basic research has a strong focus on the *internal validity* of causal arguments about learning: that is, ruling out alternative explanations for observed results, such as history, maturation, testing, instrumentation, regression, selection, participant mortality, or interactions between these factors, through the careful design and conduct of the study (Cook & Campbell, 1979). In contrast, applied experimental educational research has a strong focus on *external validity*: the extent to which the results generalise over a variety of real-world settings. Such research will often build on principles of learning validated by basic research, but its focus tends more towards questions of 'what works': thus, 'the goal is to study practical outcomes – that is, student learning – that can be causally linked to an instructional intervention' (Frishkoff et al., 2009, p. 157).

Designing experiments that have both high internal and external validity is challenging, as the level of control over extraneous factors possible in lab studies is often very difficult to achieve in real-world settings. Several variants on the basic experimental methodology have evolved to meet this challenge. The first is the in-vivo *experiment* (Frishkoff et al., 2009), which represents a blend between pure and applied research. Such studies aim to test specific hypotheses which were initially tested using lab-based experiments; restricting investigation to one variable per study strengthens the internal validity of conclusions. At the same time, as they are conducted in realistic classroom settings, such experiments afford a degree of external validity considerably greater than lab experiments.

A second alternative to the true experiment is the *quasi-experiment* (Grant & Wall, 2009), similar to the experiment in most respects except for the lack of random assignment to conditions. This methodology is useful when true random assignment to conditions is not possible; for instance, it may not be feasible to assign individual students to experimental conditions, so intact classes are used instead. However, the burden on the researcher to rule out alternative explanations for the results is high. Careful matching of the intervention and control groups on relevant variables (e.g. student background, teacher experience) may provide some basis for confidence in a quasi-experiment's results, but the risk remains that unmeasured variables might account for the results.

## 20.4 Perspectives and Extensions

As noted above, experimental methodology is capable of being applied across a broad range of educational questions. However, its utility has often been criticised (e.g. Kember, 2003), particularly when applied to complex educational settings, or as Schon (1987, p. 3) described it, the 'soft, slimy swamp of real-life problems'. A particular criticism is the tendency for educational experiments to investigate only a modest number of relationships between variables, compared to the complex multivariate models of the kind described in the preceding Chapter 19 (Martin et al.,

this volume). In this section, I discuss several emerging directions for multivariate educational experiments, illustrating these ideas through a pedagogy which to date has only been explored through structural models of the kind discussed by Martin et al. (Chapter 19, this volume).

Martin (2006) recently considered how a goal-setting technique widely used by elite athletes –*Personal Bests (PBs)* – might be relevant in educational contexts. Martin (2006, p. 804) defined a PB as '. . .a level of performance that matches or exceeds a previous best', but argued the potential benefits of the construct could be understood within the broader context of educational goals (e.g. Elliot & McGregor, 2001) and goal setting (e.g. Locke & Latham, 2002). Specifically, a PB 'orientation' was argued to consist of tendencies to adopt specific, challenging, competitively self-referenced, and self-improving goals. A structural model based on these four facets of a latent PB construct was tested, including relations of the PB construct to educational aspirations, school enjoyment, class participation, and persistence in the face of difficulty. The model had good fit to the data, indicating an orientation towards adopting PBs was associated with a range of positive self-reported educational outcomes. On the basis of these results, Martin suggested a variety of applications of the PB construct, such as calculating a student's PB index, and tracking this index in addition to standard assessments.

The effectiveness of such interventions could be tested using experimental research designs. In the simplest case, students could be assigned to either an experimental condition, in which students work over a period of time to better their PB for a particular subject, or a control condition. A pre/post-test control group design could explore the impact on students' orientation towards adopting PBs (i.e. gather self-report data on PB orientation before and after the intervention), as well as the impact on academic achievement.

Typically, data from experimental and quasi-experimental studies are analysed using General Linear Model statistics. A core assumption of such statistics is that measures are error-free (Hair, Anderson, Tatham, & Black, 1998). In a typical experiment, however, the variability in relations between independent and dependent variables consists of both a 'true' component and an 'error' component, of which measurement error is a part. Unreliable measures thus lead to understatement of the true relationship between independent and dependent variables. As a result, researchers using both experimental and non-experimental methods have generally been advised to use the most reliable measures available when testing hypotheses (Anderson, 2001).

The fact that the General Linear Model is a special case of the general structural model (Graham, 2008) opens up the possibility of designing experimental and quasi-experimental studies which capitalise on the strengths of structural modelling techniques. Specifically, by building and testing a measurement model of the dependent variable measure/s as well as a structural model of the causal relation/s between the independent and dependent variable/s, the estimate/s of the structural component

of the model will be purged of measurement error; i.e. more accurate estimates of population parameters will be possible (for a recent review see Schweizer, 2008). In the case of PBs, then, in addition to measuring impact on (for instance) a standardised test of achievement in the subject, impacts on a PB orientation latent construct could be evaluated, as well as impacts on other latent constructs such as subject-specific self-concept (e.g. Marsh, 1992) and subject-specific motivation and engagement (Green, Martin, & Marsh, 2007).

Many educational interventions may be operationalised in ways that address a single learner. For example, an experiment using an online mathematics tutoring programme like Mathletics (3P Learning, 2009) might investigate whether reporting a student's PB for the number of maths problems solved across multiple online study sessions leads to higher performance than for students in a no-PB control group. When educational interventions address clusters of individuals, however, such as interventions targeted at the classroom or whole school level, it is now widely recognised that traditional analytic methods are inappropriate due to the dependency among nested units (Shadish & Cook, 2009). Under such conditions, multilevel modelling techniques are required for accurate estimates of treatment effects (Spybrook, 2008). If, as Martin (2006) argues, schools report and reward a 'PB index' in addition to scholastic achievement, this is properly conceptualised as a school-level intervention. Such an intervention would best be evaluated using a 'field experiment', with whole schools randomly assigned to a PB or no-PB condition. While undoubtedly resource-intensive, there is an increasing appreciation of the benefits of this form of evaluation, as well as design elements for maximising their power (e.g. using pre-tests highly correlated with achievement measures as covariates). For a recent review of developments in field experimentation, see Shadish and Cook (2009).

## 20.5 Conclusion

Statistical modelling techniques based on observational data, which allow simultaneous estimation of both the measurement and structural component of a theoretical model, have supported the development of increasingly sophisticated theories of educational phenomena, and how these unfold over time. Likewise, tests of theoretical models based on experimental data typically have a temporal component, as a well-designed experiment by definition has the independent variable/s preceding the dependent variable/s. A synergy of experimental and observational methods holds considerable promise for understanding educational phenomena. These methodologies have been used in combination for many decades, such as in aptitude-treatment interaction studies (Cronbach & Snow, 1977), but more recent developments in structural and hierarchical modelling hold the promise of more rigorous multivariate theory-testing, combined with better estimation of both correlational and causal effects. Such hybrid methodologies hold considerable promise for informing debates about 'what works' in policy and practice, but will require substantial resources and expertise to implement effectively.

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# Part IV
# Methodological Frontiers, Challenges and Future Directions

# Chapter 21
# Digital Knowledge and Digital Research: What does eResearch Offer Education and Social Policy?

**Lina Markauskaite**

## 21.1 Introduction

Over the last decade the practices by which scholarly knowledge is produced, both within and across disciplines, have been substantially influenced by the appearance of digital information resources, communication networks and technology-enhanced research tools. For example, the use of bibliographic databases, internet search engines and email has become a standard part of research routines. Further, substantial international focus and investments have been made into the development of advanced technology-enhanced research infrastructures and services that fall under the general headings 'eResearch', 'eScience', 'Cyberinfrastructure', 'eInfrastrucure' or 'the Grid'. These infrastructures and services, as Atkins et al.'s (2003) report famously stated, could enable

> specific communities of researchers to innovate and eventually revolutionize what they do, how they do it, and who participates. (p. 5)

An integral part of this move has been the development of new research methods, tools and resources for solving salient global issues in life sciences – such as modelling global climate change, exploring the human genome structure or discovering new galaxies (e.g., see Hey, Tansley, & Tolle, 2009). Similarly, remarkable research advances have been made in some fields of the arts and humanities, such as the digitisation of cultural heritage and computer linguistics (e.g., see Blanke, Hedges, & Dunn, 2009).

There has also been an increasing uptake of digital networks and technologies and an explosion of digital data in various spheres of social life – including education, health, government and community services (Borgman et al., 2008; NRC, 2002; Rahman, 2009). These developments have also been accompanied by some innovative eResearch projects aiming to demonstrate that networks and technologies have a potential to enhance social inquiry and to contribute new 'digital knowledge'

L. Markauskaite (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: lina.markauskaite@sydney.edu.au

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to educational and social policy and practice (e.g., see Halfpenny & Procter, 2009; Rahman, 2009; Zhao & Luan, 2006). Nevertheless, the methodological implications of digital data and technologies, and the potential of eResearch to enhance inquiry practices, have been the subject of few scholarly discussions in these fields (Carmichael, 2007; Eisner, 1997; Greenhow, Robelia, & Hughes, 2009; Smeyers & Depaepe, 2007; Voithofer, 2005).

The primary topic of this chapter is the methodological implications of digital data and eResearch in education and social policy. It argues that significant progress in solving conceptual and practical questions in these fields could be made by harnessing the increasing volume, density and complexity of social data, embracing data-rich research methods and exploiting opportunities for research collaboration. By moving from the ontological roots of digital data and technical eResearch potential to culturally-shaped knowledge-production practices, the chapter aims to show some promising synergies and challenging tensions between eResearch and research for education and social policy.

This chapter starts by introducing the key notions of digital knowledge and digital research and then provides a brief exploration of the intellectual spaces in which eResearch methods have been created and advanced. It goes on to argue that eResearch is not a single method, but rather a broad family of research techniques and applications that enhance the entire cycle of knowledge production, from data collection to dissemination. To illustrate some possibilities, the chapter then looks at some examples of educational data mining and video analysis and proceeds to outline three broad challenges for eResearch adoption in educational and social policy research: technological, cognitive-epistemological and social-cultural. Finally, it discusses some future digital extensions of social inquiry and proposes that, as the first step, educational and social policy research should move away from the prevailing hypothesis and theory-driven research towards more open data-rich exploration, and from traditional scientific publishing towards new models of research dissemination and knowledge co-construction.

## 21.2 Digital Knowledge and eResearch: Concepts, Roots and Visions

### *21.2.1 Historical eResearch Roots and Technological Promises*

eResearch practices are based on several major technological developments that enable: (a) sharing of computer power and physical technological resources; (b) distributed access to large federated digital datasets; and (c) the use of virtual research platforms for collaborative research and communication (Wouters, 2005). At a more conceptual level, these technological advances entail new possibilities for research across distributed physical settings, enabling the adoption of inter- and transdisciplinary research practices, and the tackling of research questions in ways that

would not be possible without sharing and integrating data, technological resources or human expertise.

The origins of eResearch can be traced back to the early 1990s when the so called 'Grid computer network' was created with the aim of integrating the technological resources needed for computation-intensive research in life sciences (De Roure, Baker, Jennings, & Shadbolt, 2003). Since then, eResearch developments have passed through several stages, moving from the development of technical interfaces that integrate physical and software resources to the development of semantic applications, services and human interfaces that are aligned with research questions and ways of inquiry in specific research fields (De Roure, Jennings, & Shadbolt, 2005). While the initial eResearch innovations were mainly driven by technology experts, later developments have resulted in much greater engagement of disciplinary experts and communities in the co-development of eResearch tools and services and, subsequently, the emergence of new eResearch directions – such as 'eSocial sciences' (Halfpenny & Procter, 2009) and 'eHumanities' (Blanke et al., 2009). These directions differentiate eResearch applications in social sciences and humanities from more traditional eScience applications in natural sciences.

### *21.2.2 Epistemological and Ontological Roots of Digital Data and Knowledge*

There are two contrasting views about the epistemological foundation of eResearch. Often eResearch is not regarded as a coherent methodological tradition developed within a particular theoretical, political or philosophical paradigm, but rather as a set of powerful tools and techniques that could improve the productivity and quality of various research practices and enhance existing methodological traditions (Anderson & Kanuka, 2003). In contrast, there is a strong argument that these technological advancements have produced a new epistemologically coherent research tradition, famously labelled 'the fourth paradigm' (Hey et al., 2009). Fundamentally, these claims concern two aspects of digital knowledge production – data manipulation and knowledge integration – that have been made possible by digital data and tools.

Firstly, technical eResearch affordances allow us to use data-rich and computation-intensive research techniques, such as video analysis, knowledge discovery, modelling and visualisation. These knowledge-production techniques rely on simultaneous human–machine manipulation of large amounts of data. The discovery process often emerges 'on the fly' from human interaction with machine-based transformations of data; thus it is less predictable and intuitive than traditional more human-controlled methods of social inquiry, be they hypothesis-driven statistical analyses or more inductive interpretative qualitative analysis.

Secondly, eResearch provides opportunities to integrate data resources and human 'know how' and use inter-disciplinary and trans-disciplinary models of inquiry that cannot be reduced to the knowledge-creation models and practices of contributing fields and perspectives. This allows us to work collaboratively on

shared problems that cannot be solved from a single disciplinary, methodological or stakeholder perspective. Nevertheless, this integration requires the creation of inquiry practices that allow for work on the epistemological borders and that integrate the data, theories and knowledge-production practices of contributing fields.

On a deeper ontological level, eResearch's potential for methodological enhancement and transformation in essence comes from the digital nature of new media. The digital format allows numerous re-combinations, transformations, presentations and customisations of data and knowledge (Voithofer, 2005)[1]. New methodological opportunities spring from the synergy of technological and human capacities and the possibility of manipulating and recombining data, processes and products of inquiry in various ways. This allows us to investigate the same issues and objects of inquiry more efficiently and from different perspectives, providing opportunities to cross established intellectual boundaries and to blend multiple perspectives.

### *21.2.3 eResearch Potential in Educational and Social Inquiry*

While the digitisation of data and other technological developments create new methodological opportunities, a major incentive for the adoption of eResearch in education and social policy also arises from social developments. First, well informed social decisions and interventions require us to take into account increas-

[1] Voithofer (2005), referring back to the theories of digital materialism, describes five primary ways in which new media are sites for the computerisation of culture: numerical representation, modularity, automation, variability and transcoding. Numerical representation (e.g. digitisation) of new media (including raw data and created products) allows manipulation and programming, thus allows numerous re-combinations and customisations of data and knowledge at a very fine-grained level. Modularity allows media objects to be combined without losing their individual characteristics, perpetually recombined in various configurations and presented through diverse interfaces. Automation provides opportunities to generate user-defined queries and pre-programmed interactions, thus allowing the simplification of the complex processes of storing, searching and retrieving information from large amounts of data. Variability creates opportunities to present information in a user-sensitive way, which is derived from human or machine manipulation of data and is achieved through the separation of the content from the presentation. Transcoding enables the blending of computer languages (e.g. algorithms and data structures), media languages (e.g. visual composition and genre) and other human discourses (e.g., research, educational, political, discourses) in different ways, thus allows the blending of pre-programmed technology-enhanced manipulation of data with social theories and public discourses. Voithofer (2005) asserts that these five features affect all phases of inquiry – from selection of study sites to research dissemination. Extending his proposition one could argue that these media features affect not only cultures and inquiry processes, but also create possibilities for the emergence of conceptually new inquiry approaches that are more fluid and cross traditional epistemic divisions between methodological traditions, social and political views.

ingly larger volumes of data and to consider, simultaneously, heterogeneous information about individuals, communities and their environments (NRC, 2002; Rahman, 2009; Sawyer, 2005). This convergence of information, decisions and actions demands better tools that help us to work with integrated datasets and a variety of media that often exceed direct human interpretive capacities (Voithofer, 2005; Zhao & Luan, 2006). Secondly, an increasingly large part of social activities and learning is mediated by technologies, and an extensive 'digital trace' of social and behavioural data is being created and captured in digital media (Borgman et al., 2008). This 'deluge' of digital traces, besides posing many challenges, provides a rich source of data that could be used for understanding and modelling human behaviour and, subsequently, adjusting practical responses to one's specific needs. Thirdly, individual research approaches typically fall short of providing reasonable answers to manifold social questions, and complex policy decisions increasingly require multiple views and stakeholder perspectives to be taken into account. Computer networks provide opportunities to collaborate and use more open and democratic approaches to knowledge production that integrate diverse epistemic, cultural and political perspectives. In short, the main driving forces for technology-enhanced methodological innovation in education and social policy arise from the possibility of using data-rich and computation-intensive analytical techniques together with the need to handle and integrate heterogeneous data sources and multiple analytical and social perspectives.

## 21.3 eResearch Methodological Apparatus

The term 'eResearch' is used to refer to a broad range of research approaches and practices (e.g., see Anderson & Kanuka, 2003; Hey et al., 2009). While there are many shades along the spectrum, the main eResearch notions could be arranged along two broad dimensions: (a) the scope of the 'method' and (b) the centrality of digital technologies to research activity. Along the first dimension, the notions of eResearch vary from the more confined canonical idea of a research method as a 'know how' practice that includes specific procedures to gather and analyse data, to the much broader concept of it as a scholarly practice that includes all stages of the knowledge-production cycle, including research planning, collaborative writing, dissemination and further use of results to plan follow up research. Along the second dimension, the role of digital data and technologies in research activities varies from a more complementary 'add on' function to a fundamentally 'intrinsic' role; these give rise to a corresponding 'weaker' or 'stronger' influence of digital technologies on the nature of the produced knowledge. Table 21.1 provides some examples of the different methods and practices belonging to each category. While in practice it is more realistic to think about eResearch as a continuum along these two dimensions, this binary classification allows us to distil some fundamental features in and differences between eResearch methodological apparata.

**Table 21.1** The scope and role of digital data and technologies in knowledge production

| *Scope of 'research method'* | *Role of digital data and technologies* | |
|---|---|---|
| | *'Add ons'* | *'Intrinsic'* |
| *Data gathering and analysis* | Tools for data gathering and analysis: online surveys, software for qualitative and quantitative data analysis, etc.<br>Approaches adapted for the analysis of social phenomena in digital media: virtual ethnography, online discourse analysis, etc. | Data-intensive scientific discovery: data and text mining, digital video analysis, etc.<br>Virtual research environments: distributed data collection and analysis, etc.<br>Data and computation-intensive approaches for the analysis of social phenomena in digital media: social network analysis, web mining, etc. |
| *Knowledge-production cycle* | Supplementary research tools, resources and practices: digital content repositories, search engines, content management systems, tools for research collaboration, online publishing, etc. | Digital scholarship: data curation, provision of digital research tools and services, etc. (e.g., Borgman, 2007)<br>Web 2.0 and social scholarship: new forms of dissemination, stakeholder involvement in knowledge production, etc. (e.g., Greenhow *et al.*, 2009).<br>Publication at source: continuous digital knowledge-production cycle (e.g., De Roure & Frey, 2007). |

### *21.3.1 'Research method' as Data Gathering and Analysis*

From the conventional 'research method' perspective, technology-enhanced approaches have been used to complement various aspects of data gathering and analysis. On the weaker 'add on' end, such tools as online survey sites (e.g., Zoomerang, Survey Monkey), statistical packages (e.g., SPSS, SAS), qualitative data analysis software (e.g., NVivo, Atlas) and other research software packages have been used to complement various aspects of traditional social research. However, these tools have, to date, made minimal impact on the overall form of foundational methods, be they quantitative (such as experimental comparison or correlational analysis) or qualitative (such as grounded theory or ethnography).

It is important to note that some established methodological traditions have been adapted and applied to investigate eLearning (Randolph, 2007), digital health (Liamputtong, 2006) and other technology-mediated social activities (Markham & Baym, 2009). In such cases, technologies are intrinsic to the human activity, but not necessarily to the method. For example, virtual ethnographers have adapted traditional ethnographic approaches for the investigation of digital phenomena distributed between and across virtual and physical locations (Hine, 2000). While some aspects of ethnographic observation have been significantly reconceptualised and adapted to the nature of virtual communities and cultures – inherently more

fragmented and hard to observe – on a deeper epistemological level the nature of the ethnographic work has been preserved.

On the stronger 'intrinsic' end, some new research methods have been created that fundamentally rely on data management and computational data-driven techniques to investigate new types and larger volumes of digital data, including administrative records, traces of human activities captured *in silica* and specially collected digital data. For example, such methods as social network analysis, system modelling, data mining and visualisation have been used in a number of large-scale educational research projects to investigate students' profiles, learning processes and outcomes and to inform teacher and institutional decision-making (Romero & Ventura, 2006, 2007; Zhao & Luan, 2006). Similar approaches have been used to conduct systematic reviews in mental health, assist spatial decision-making and evidence-based policy assessment (e.g., see Halfpenny & Procter, 2009; Rahman, 2009).

Many of these methods combine interpretative exploration with scientific data-based reasoning, and the logic that guides such inquiry sharply contrasts with both positivistic and interpretative research traditions. For example, data mining or knowledge discovery in databases involves an iterative process of sifting through large amounts of data and discovering patterns and relationships without *a priori* assumption about the existence or nature of these relationships (Zhao & Luan, 2006). While it is based on numerical data, the overall methodological apparatus contrasts considerably with traditional statistical analysis. For example, if statisticians focus on establishing commonalities and achieving generalisations across samples, data miners focus on prediction accuracy and precision at the individual level. Table 21.2 summarises some of the other relevant differences.

**Table 21.2** Characteristics of statistical analysis and data mining approaches

| Characteristics | Statistics | Data mining |
|---|---|---|
| Approach | Confirmatory, inductive | Exploratory, deductive |
| Role of theory | Informs hypothesis | Informs process of mining |
| Assumptions about population | Homogeneity | Variation |
| Sample and data | Purposeful, ideally experimental, structured | Realistic, opportunity or convenience, messy |
| Inquiry process | Starts from hypothesis, ends with theory | Starts from data, ends with patterns, rules, hypothesis |
| Generalisability | Commonalities, explanatory power | Idiosyncratic behaviours, prediction accuracy at an individual level |
| Target | Affirm or reject theory | Inform action, propose new theory |
| Analytical emphasis | Statistical rigour | Advantageous information |
| Judgement of significance | Statistical significance | Practical usefulness |

### *21.3.2 'Research Method' as a Knowledge-Production Cycle*

From the broader 'knowledge cycle' perspective, the scope of eResearch is not limited to specific procedures for data gathering and analysis; it includes all stages of knowledge production, from initial planning through production of data and discovery of knowledge, to publication of scholarly outputs (De Roure & Frey, 2007). This cycle includes not only the cognitive 'mechanics' of knowledge production, but also the social and organisational 'fabric' of scholarship, such as the involvement of users in knowledge production, sharing interim products, collaborative planning and analysis, writing and dissemination.

On the weaker 'add on' end, various digital tools and services, such as e-journal databases, search engines and email, have complemented various stages and aspects of conventional inquiry, such as literature reviews and research communication. On the stronger 'intrinsic' end, the effect of some technological advances on the knowledge cycle has been somewhat transformative, changing traditional ways of doing research and challenging traditional notions of scholarship (Borgman, 2007; De Roure & Frey, 2007; Greenhow et al., 2009). For example, shared data analysis tools, such as collaborative video analysis, provide possibilities for collaboration with others and for the involvement of participants in data analysis and interpretation (Pea, Lindgren, & Rosen, 2008). These inquiry stages have been relatively exclusive areas of scientific study, often solitary academic work. Further, not just the final results, but also other research products, such as instruments, workflows, raw and annotated data and interim reports, gradually become valued research outputs (De Roure & Frey, 2007; *see also* Hey et al., 2009). Finally, traditional text-based scientific publishing increasingly competes with less linear, more interactive and immediate forms of dissemination, such as video, hypermedia, open publishing sites, blogs and wikis (Poschl, 2004).

The next section illustrates the potential of eResearch to address practical and methodological challenges in social inquiry from the conventional research method perspective. Subsequent sections extend this discussion to the broader knowledge-production cycle.

## 21.4 eResearch in Practice

### *21.4.1 Educational Data Management and Mining: Student Retention in Higher Education*

Student retention and the timely completion of degrees and individual courses have been important concerns of educational policy for several decades (e.g., see Tinto, 1994). Studies report that, in some countries, students who discontinue or change their degrees account for more than half of freshmen, and drop-out rates continue to increase (Araque, Roldán, & Salguero, 2009). Attrition and prolonged completion time not only incur large direct and opportunity costs, but also give rise to negative social consequences (Sujitparapitaya, 2006). As Herzog (2006) notices,

hypothesised factors that might affect students' decisions to stay or discontinue have often been investigated using multivariate correlational methods, such as regression and path analysis. However, student graduation paths and patterns tend to be more idiosyncratic; the usual statistical techniques that focus on commonalities and generalisability find it hard to take into account and show how large numbers of contextual variables interact with specific student characteristics. Some qualitative studies have produced more comprehensive and contextualised answers, but this methodology could hardly be extended to the scale of the issue (Wells, 2006). Further, delays between the time when students experience difficulties and discontinue and when data are collected and analysed make retrospective results of limited value as the bases for direct intervention.

Technological possibilities for integrating various data sources and using knowledge-discovery techniques have made promising initial contributions to knowledge and practical decision-making in this area. For example, Araque et al. (2009), using advanced data management techniques, consolidated various institutional records accumulated by a university over more than 15 years into one warehouse. This dataset included a range of individual and contextual factors, such as general information about students, their living conditions and performance, and information about degrees, individual courses and their contexts. The analysis using logistic regression has shown that this dataset could explain more than 80% of drop outs in different faculties. Some factors – such as student age, parents' education, admission mode and academic performance – appear in the explanations of the drop out in almost all faculties. Nevertheless, this phenomenon is subject-dependent; specific profiles of the students who tend to drop out vary largely across faculties. Thus, information routinely collected by universities could assist in identifying students who are likely to experience difficulties, but analytical techniques should be tuned to detect specific combinations and variations between faculties and individuals.

Other researchers explored similar integrated datasets of university operational data using data mining techniques (Herzog, 2006; Sujitparapitaya, 2006). Overall, these and other studies have shown that some data mining techniques can quite accurately identify specific combinations of influential variables that contribute to student drop out or transfer in specific contexts. Some of these factors are related to students, such as age, English proficiency, credit load per term, or campus residence (Herzog, 2006; Sujitparapitaya, 2006); some others are related to teaching quality and learning environment, such as physical classroom size and timing (Herzog, 2007).

While this information is incomplete and cannot answer deeper questions about why students behave in one way or another, it has a potential to provide useful knowledge for administrators, teachers and students or even to reveal new substantial knowledge about underlying phenomena. Data collected *in vivo* with a relatively short time lag between when students experience difficulties and when results could be available make data mining results useful for immediate decision-making and intervention. This is particularly important in virtual learning settings, where teachers have fewer opportunities to observe students' behaviour, detect difficulties and provide timely guidance. Nevertheless, the digital medium allows us to collect quite

detailed information about students' online behaviour; and almost instantaneously generated results could inform teacher decisions or provide guidance directly to students (Romero & Ventura, 2006, 2007).

### *21.4.2 Digital Video Analysis: Studying Social Interaction*

Over the past decades researchers from many social and behavioural disciplines have increasingly acknowledged the situated nature of human thinking, learning and action, paying increasing attention to the complexity of physical and symbolic interactions between multiple agents, tools and their environments (Freebody, 2003). These interactions happen and disappear 'on the fly' and, unless recorded, they are essentially inaccessible for detailed re-examination after the event. While many studies have focussed on analysing talk that could be inscribed in written symbols, researchers explicitly acknowledge that moving from observed interactions to text does not generally preserve the interdependence and richness of the situated phenomena:

> . . . tapes leave certain things out and give primacy to other features of the event. Similarly production of written transcript involves re-representing what is heard of the audiotape itself, thereby again giving certain features salience and rendering others either unavailable or less important. (Freebody, 2003, p. 92)

Further, studies of professional learning have explicitly acknowledged that working knowledge, embedded in real world professional practices, are distributed between multiple representations and are, at least in part, tacit, not always easy to articulate and share through language (Goodyear & Steeples, 1998). Even if researchers sometimes capture and analyse observational data in a video format, they ultimately often present their findings in a textual format. Thus, connections between the results and evidence become unavailable for public inspection, scrutiny and reinterpretation. While researchers acknowledge the potential benefits of video in scholarly research (Eisner, 1997; Voithofer, 2005), socio-technical complexities and a lack of tools for working with dynamic data have limited its practical use (Pea et al., 2008).

Digital video and multimedia make it possible to capture and share much richer records of human action and context, enabling a more flexible analysis of not only static artefacts and talk, but a spectrum of symbolic and physical interactions, including gestures, movements in space and changes over time. For example, a computer-supported collaborative platform DIVER, developed for the analysis of panoramic 360-degree video in learning sciences research, allows researchers to search and navigate through video data, create lasting co-reference points, manage digital access rights, annotate and code data collaboratively (Pea et al., 2008). This tool has been used for studying a range of interactions, such as nuanced analysis of family-based mathematic practices and piloting of educational software for preschool children.

Further, research communities have begun experimenting with collaborative methods of video analysis involving groups of researchers, teachers and students (Armstrong & Curran, 2006; Pea et al., 2008). For example, in a study of how teachers use interactive whiteboards, researchers and teachers jointly chose and analysed recorded lessons (Armstrong & Curran, 2006). They discussed and, using StudioCode software, coded talk and interactions and compared different lesson flows. This and other studies have shown that interactions captured in digital video allow collaborative analyses of data, comparison and discussion of interpretations and the construction of more comprehensive understandings of classroom practices.

Further, digital video research tools have made it possible to conduct such painstaking interaction analyses, typically the terrain of small ethnomethodological studies, on much larger scales. For example, an extensive comparative video study of more than 600 maths lessons has been conducted in the international TIMSS study (Givvin, Hiebert, Jacobs, Hollingsworth, & Gallimore, 2005; Knoll & Stigler, 1999). Using vPrism multimedia database software, digital video recordings were brought together, linked to transcripts, coded and compared. Further, multidimensional visualisation of coded data has allowed researchers to make cross-national comparisons and construct 'signature lessons' of classroom practices in different countries. Overall, while it is premature to say how broadly these research practices will be taken up, tools that support remote collaborative video analysis hold the promise of enhancing traditional observational methods qualitatively and quantitatively.

## 21.5 Issues and Debates

eResearch in education and social policy, as in many other social domains, is a vision rather than commonplace practice; and many fields have been slow at embracing new research opportunities (Schroeder & Fry, 2007). Much of the general eResearch literature has focussed on technical promises and challenges for 'big science' (e.g., see Atkins et al., 2003; Hey et al., 2009). However, a number of science and technology studies have also indicated that these challenges are not only technical. Rather, eResearch contrasts with established inquiry practices, and the complexities for eResearch adoption span across technological, epistemological, social and cultural boundaries (e.g., see Hine, 2006; Jankowski, 2009). Some characteristic challenges that also pertain to research in education and social policy are discussed below.

### *21.5.1 Technological Challenges*

The potential of eResearch fundamentally rests on the possibility of sharing, integrating and accessing data resources. For example, the need for integrated data to inform policy and practice in teacher education is well illustrated in the Australian Council of Deans of Education scoping study that explores the possibilities for creating a repository for longitudinal research in this field (ACDE, 2009). Infrastructures

for sharing and working with social data on larger scales are not readily available and technological questions are complex.

One of the biggest challenges is the heterogeneity of social research practices that generate data in different, often inconsistent, formats. These datasets are often small, sensitive to the context and typically produced without explicit consideration that they could be used by someone beyond the immediate research team, thus little documented. How to document data 'pedigree' and achieve a sufficient level of integrity among social datasets poses complex technological questions. 'Provenance architecture' is one approach to documenting the context and origin of data in the life sciences and has been adapted for social policy (Edwards et al., 2009). Early experiments have shown that provenance could enhance the integrity of social datasets, but the process of creating detailed data records is time consuming and it is difficult to extend this to the necessary scale.

Further, there is a fundamental tension between a commitment to open access to data and human ethics. For example, significant technological advances have been made in creating secure research infrastructures and the possibility to manage access rights (Sinnott, 2009). However, traditional security measures fall short when one needs to make data available for access to broader research audiences and at the same time to assure the anonymity, confidentiality and privacy of human records. For example, how do we make student contributions to discussion boards and other data captured in an online learning management system openly available for research? While such digital records typically contain very little confidential data, some ethically sensitive information might appear. Technologies that could help anonymise such complex and voluminous qualitative data are still in rudimentary form. Ultimately, the use of social data beyond the purpose for which they were originally created and collected raises more existential ethical and legal questions. The complexity of this issue cannot be reduced to technical answers.

### *21.5.2 Cognitive-epistemological Challenges*

eResearch is a trans-disciplinary research field in a deep ontological and epistemological sense. In order to harness the potential of eResearch, one needs to understand how 'e' works, how it could be combined with disciplinary ways of knowing and what kind of knowledge these combinations could produce. Data-rich computation-intensive ways of knowing include one's work with transformed, mediated-by-technology data representations. Such data transformations are typically beyond direct perception and much less intuitive than purposefully collected and manually processed data used in conventional qualitative or quantitative research. For example, large amounts of rather surface data about students' online learning, citizens' use of government services or other social interactions could be recombined, interrogated and visualised, providing new information about family welfare, interaction patterns within a learning community or other social phenomena (de Laat, Lally, Lipponen, & Simons, 2007; Rahman, 2009). It is, however, an epistemic challenge to see these complex, sometimes nonlinear, relationships between

numerous micro-level interactions and macro-level phenomena and to understand how these higher level patterns might emerge.

Similar epistemic challenges are embedded in work with rich forms of qualitative data. As Eisner (1997) argues, there is a close relationship between the form of data representation and how one knows, what could be known and, ultimately, how results could be presented. For example, how could one reduce the particularities of digital video representations to theoretical abstractions without diminishing productive complexity? While relatively cheap storage provides the potential to publish essentially unlimited amounts of data, what is the right balance between the completeness embedded in original data representations and the understandings embedded in abstracted theoretical insights?

Finally, blending data-rich ways of inquiry with conventional methodological traditions provides additional epistemic challenges for those who work on the edges of several methodological traditions. For example, how could a virtual ethnographer combine knowledge emerging from visual representations of large social networks with understanding emerging from authentic observations and experiences into one epistemically coherent output (Markham & Baym, 2009)?

### *21.5.3 Socio-cultural Challenges*

eResearch has fundamental implications on how research communities work, how they communicate and what they value. For example, successful eResearch practices build on a broad range of intellectual contributions, such as digital collections and the tools created for building and analysing them, as well as research outputs produced using these new collections and tools (ACLS, 2006; Borgman, 2007). New forms of scholarship build on 'collective intelligence' and embody such values as openness, public usefulness, collaboration, sharing and transparent revision (Greenhow et al., 2009). The possibilities for using new forms of data and creating multimedia, podcasts, video and other media products make the printed form of scientific journals ineffective for the scholarly communication of a much broader range of knowledge inscriptions (Eisner, 1997). As Greenhow et al. (2009) point out, blogs, wikis and other participatory technologies force us to extend research, scholarship and advocacy beyond traditional academia settings.

These eResearch practices and values contrast with mono-disciplinarity – often solitary and focussed on the final publication research culture in social sciences. For example, research papers published in typical educational journals are rarely co-authored by more than three authors. In comparison, many papers resulting from eSocial science projects, such as published in the special issue of *Social science computer review* (Halfpenny & Procter, 2009), are co-authored by groups of 4–13 people representing different social and technological perspectives.

Further, the boundaries between knowledge users and knowledge producers are becoming increasingly blurred. Many improvements in education and social services come through small-scale practical innovations rather than ground breaking scientific discoveries (Bentley & Gillinson, 2007; Bereiter, 2002). Teachers, and

other practitioners who build on existing knowledge to design, implement, research and gradually improve their practical innovations, play an increasingly more central role in knowledge production. While many eResearch affordances, such as collaborative video analysis platforms and other virtual research environments, could enable user involvement in collaborative research, social models for doing this are only just emerging (Markauskaite & Reimann, 2008a).

Finally, building shared data and research infrastructures requires coordinated efforts between and among researchers, stakeholders and participants. Relatively small-scale academic studies and present structures designed to support the institutional autonomy of the academy, decision-making and practice make the integration of resources and infrastructures organisationally challenging.

## 21.6 Perspectives and Extensions: From Scholarly Publishing to Knowledge Co-production

Previous sections have noted that eResearch's potential is not limited to enhancing conventional aspects of the methodological apparatus to include a continuous cycle of knowledge production in which access to data and knowledge plays a vital role. The need for better ways of disseminating knowledge to make research processes and findings more transparent and accessible for diverse audiences is well acknowledged in education and social work (e.g., see Eisner, 1997; Markauskaite & Reimann, 2008b; Onwuegbuzie, Leech, & Whitcome, 2008). Some digital information services, such as e-journal databases and integrated search engines, have already significantly improved access to scholarly content, yet more integrated, flexible and democratic forms of scholarly publishing and communication have been little embraced. Some pioneering technology-enhanced dissemination models emerging in other research fields seem relevant to the issues in education and social policy (e.g., Bourne, Fink, & Gerstein, 2008; Poschl, 2004).

For example, in some scientific domains, such as computational biology, it is established practice to publish not just final papers, but also data, reviewers' and public comments and other supporting information (Bourne et al., 2008). Similarly, alternative forms of representation and dissemination – such as video, podcasts and discussion forums targeted to professional and nonprofessional audiences – increasingly complement traditional scientific publishing. For example, in some scientific sites authors and other users can upload various materials associated with the published content, synchronise documents with videos, add commentaries and communicate with each other around publications using social networking tools (e.g., SciVee, 2009). While these models of scholarly publishing do not solve all dissemination issues, they make knowledge production and outputs more transparent, interconnected and open to the views of different audiences. Similar dissemination models could have the potential to reduce gaps between traditional knowledge producers and users in educational and social policy (Markauskaite & Reimann, 2008a, 2008b).

## 21.7 Conclusions

Present debates in educational and social policy research have been frozen in unproductive epistemological oppositions between academic knowledge, policy and practice and between interpretative and positivistic views (e.g., Ercikan & Roth, 2006; Whitty, 2006). Scholars in these debates, with a few exemptions (e.g., Eisner, 1997; Greenhow et al., 2009; Smeyers & Depaepe, 2007; Voithofer, 2005), have paid limited attention to the technological advances and methodological innovations that come from outside their discipline, including both new technology-enhanced research methods and broader aspects of digital scholarship. This chapter has outlined some ideas exemplifying how digital data and technologies could be embraced to support different kinds of social research, ranging from knowledge discovery in cumulative, large-scale databases to painstaking micro-analyses of classroom interactions. Some eResearch affordances are digital enhancements of traditional research approaches and processes, but others bring with them a new epistemology and new research culture. The complete digital cycle of knowledge production or extreme forms of digital scholarship might be an unrealistic technology-driven vision. Nevertheless, some aspects of eResearch – such as data-rich quantitative and qualitative research methods and new forms of research dissemination – have relevance to current challenges in educational and social policy research.

The importance of appropriate data infrastructure and other technological affordances for research in these fields cannot be understated. Nevertheless, the challenges for eResearch adoption are likely not only to be technological, but also epistemic, social and cultural. As Woolgar (2004) points out, the 'social' and the 'technical' are mutually elaborated' (p. 6). Substantial technological progress has already been made; now the eResearch field needs considerable intellectual input from the educational and social policy communities, which could adapt digital techniques for solving substantial and practical questions in their fields. As the first step, educational and social policy research should move away from the prevailing hypothesis and theory-driven research towards more open data-rich exploration, and from traditional scientific publishing towards more open models of research dissemination and knowledge co-construction. The biggest challenges for social research communities are to understand how 'e' works, to be able to co-develop eResearch affordances, and to change their research practices – simultaneously.

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# Chapter 22
# Emerging Methodological Challenges for Educational Research

**Peter Goodyear**

> *Regarding pedagogy as experimentation in thought, rather than representation of knowledge as a thing already made, creates a profound shift in how we think of pedagogical intent or volition – the will to teach. . . . we might begin to think of pedagogical volition as a simultaneity of interfering and resonating desires distributed* across the social body – *across different people, practices, and disciplines such as art, performance, architecture, museum exhibition, and public events. The will to teach then becomes thinkable in terms of a distributed, emergent desire to innovate, design and stage materials of expression and conditions of learning in which something new may arise. . . . teaching becomes the activity of participating in the 'becoming pedagogical' of 'expressive materials' distributed across many teachers, sites, events and interactions*
>
> (Ellsworth, 2005, pp. 27–28)

## 22.1 Introduction

This chapter looks to the future of educational research by tracing the implications of two perceptible changes. The first is a shift in our sense of the sites of education, acknowledging ways in which learning activity is becoming more extensively distributed across different *contexts.* The second is a broadening of our conception of educational praxis, acknowledging the growing importance of *design* (Davidson & Goldberg, 2010; Edwards, Biesta, & Thorpe, 2009; Ellsworth, 2005; Goodyear & Retalis, 2010; Luckin, 2010). The combination of these shifts is creating new demands for research-based knowledge of a kind that can inform educational design, at a variety of levels – from policy design to the design of learning environments.

P. Goodyear (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: peter.goodyear@sydney.edu.au

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I will argue that the work of design routinely combines different forms of knowledge and ways of knowing, and that this challenges some purist assumptions about epistemology and methodology. I will also sketch some ideas about the shifting distribution of both the production and consumption of educational research, within heterogeneous networks of institutions, people and devices. This also provides an opportunity for examining some asymmetries between research for design and design-based research.

Design has a long history in education and educational research. We are most familiar with it in relation to course and curriculum design, but also through the specialist discipline of instructional design (Briggs, 1977; Reigeluth & Carr-Chellman, 2009). More recently, researchers in the 'learning sciences' have adopted an approach to inquiry and educational improvement under the banner of 'design-based research' as described by Reimann in Chapter 3 of this book (Reimann Chapter 3, this volume). In this chapter, I want to sketch some implications for the future of educational research, and its methods, that flow from a more holistic and foundational commitment to designerly ways of working.

## 22.2 The Gap between Educational Research, Policy and Practice

There is a view of educational research which positions the teacher in her classroom as its primary audience, recipient or 'user'. The failure of educational research may be measured by its lack of influence on the teacher's work. Similarly, our research is often judged an irrelevance if it makes no connection with the decisions of policy-makers. A third sign of failure is the resilience of the ideas and language of folk pedagogy in the media and public discourse about education, learning and teaching (Bereiter, 2002).

Diagnoses of the roots of our failures are many and varied: we research invented problems; we write in tortured language; we produce evidence years after the point at which it is needed; we gather data from small, unrepresentative samples, using dubious techniques; our results are inconclusive, impractical or both; we publish for each other, rather than for teachers, schools and students (Broekkamp & van Hout-Wolters, 2007; Burkhardt & Schoenfeld, 2003; Gore & Gitlin, 2004; Hargreaves, 1996; Nelson, Leffler, & Hansen, 2009; Shavelson & Towne, 2002; Tooley, 1998; Vanderlinde & van Braak, 2010).

Broekkamp and van Hout-Wolters (2007) point out that many of the published critiques of educational research offer a *mono*-causal analysis and therefore prescribe a simple, single solution (teacher-led research, randomised experimentation, etc). Their own research is encouraging, insofar as they were able to demonstrate that it is actually not that difficult to get a group of practitioners, researchers and policy-makers to arrive at a consensus on both a *multi*-causal explanation of the gap between research and its application and correspondingly sophisticated proposals for closing that gap. Table 22.1 summarises four models for bridging research,

**Table 22.1** Four complementary models for connecting research, policy and practice (summarising Broekkamp & van Hout-Wolters, 2007, pp. 208–210)

| | |
|---|---|
| Research Development Diffusion model (RDD model) | Outcomes from 'fundamental' research are fed through into 'practice-oriented' research, with the aim of testing applicability in real-world contexts. Since few teachers read research, a cadre of 'mediators' is needed to translate and disseminate the outcomes of research. |
| Evidence-Based Practice model (EBP model) | Whereas RDD is open to a wide variety of research outputs, EBP insists on research that shows 'what works'. Such research may be done by practitioners in their own contexts, or may take the form of large-scale trialling, with the presumption that 'what works' will work anywhere. |
| The model of Boundary-Crossing Practices (BCP model) | Researchers and practitioners work across their normal professional boundaries, collaborating on inquiry and educational improvement in a shared context. |
| The model of Knowledge Communities (KC model) | Whereas BCP may be small-scale/local (at the limit, a single teacher may be both researcher and teacher), the KC model works with an extensive network of practitioners and researchers, who share a passion for creating new understandings and improving practice within a domain. |

policy and practice identified by Broekkamp and van Hout-Wolters in their review of the literature. It is the *combination* of these four models that achieved a consensus in Broekkamp and van Hout-Wolters' study.

At first glance, the four models seem uncomfortable companions. Their combination appears to demand an erasure of fundamental epistemological differences. This prompts closer scrutiny of the relations between research, practice and what might be called 'epistemic fluency' (Goodyear & Markauskaite, 2009; Goodyear & Zenios, 2007; Morrison & Collins, 1996)[1].

## 22.3 Educational Research, Educational Design and Epistemic Fluency

It is rare in the chapters of this book – and in other books on social and educational research methodology, for that matter – to find treatments of fundamental epistemological positions cast *other than* in an exclusive or oppositional manner. The orthodoxy appears to be that one is a positivist *or* an interpretivist *or* a structuralist, but one dare not be all three.

[1]Epistemic fluency is the ability to recognise and combine different epistemic practices – working with different forms of knowledge and ways of knowing.

To insist on exclusive epistemologies is to deny the facts of human knowing. This ought to be obvious in education. For instance, we have long accommodated Shulman's account of the various kinds of knowledge that are implicated in teaching – content knowledge, pedagogical knowledge, pedagogical content knowledge, knowledge of students, etc. (*see* e.g. Shulman, 1986). A physics teacher is quite capable of combining different, perhaps even contradictory, epistemological positions when they construct pedagogical content knowledge, for example.

I want to develop this point by looking at the case of architecture. Much of the work done by large architectural firms involves collaborations between specialists from different areas. In small practices one architect may have to cover everything. Architects routinely combine knowledge from physics, mechanics and materials (to make sure their buildings stay up); accounting and finance (to make sure they can be built within budget); social psychology, behavioural science and ergonomics (to align form and function); aesthetics and architectural history (to create buildings that please and provoke and make good neighbours). They understand colour, light, texture, sound, volume, scale, movement, resonance. They can shift smoothly between the macro and micro. Changing almost from moment to moment, their design focus may be on the whole of a building and its neighborhood, or on the details of a lamp or door handle. They have to resolve design tensions; parts have to fit together.

By and large, those who design educational policy acknowledge that it is the quality and quantity of children's learning activity that shapes their educational outcomes. Such policy designers also know that their influence on these activities is limited, and very indirect. Any educational policy change depends for its effects on the mediating work of others, usually including school principals and teachers, but sometimes involving many other actors (Emad & Roth, 2009; Saunders, 2006). Policy design, if well-executed, takes account of its own limitations and also works with the grain of mediating processes. Policy designers need to understand the substantive issues addressed by the policy change *and* have some inkling of the transformations that will take place as policy moves up and down what Saunders calls the 'implementation staircase'. Drawing on other metaphors, Emad and Roth (2009) show how educational policy documents of various kinds act as 'boundary objects'[2] enabling co-ordination of activity between different communities (e.g. between people defining new curriculum objectives and the teachers who have to modify and teach courses). Understanding the design of effective policy involves knowing how boundary objects function; it depends upon a combination of ways

[2]Boundary objects are objects that "serve as an interface between different social worlds". They "cross the boundaries of different communities. In the process, and despite frequently different practices . . . [relating to] . . . the object, the different communities come to be articulated and coordinated. Boundary objects. . .inhabit intersecting social worlds while at the same time satisfying the specific informational requirements and practices of each group." (Emad & Roth, 2009, p. 20.) In educational policy implementation, boundary objects often take the form of documents – key texts such as syllabus statements, regulations, assessment requirements, templates, model lesson plans, etc. Current interest in boundary objects originates in the work of Leigh Star (*see* e.g. Star & Griesemer, 1989).

of knowing, and forms of knowledge, that extends way beyond recognising which interventions have the largest effect sizes.

Now let us take a broader look at learning. Learning does not only happen in classrooms. Even for schoolchildren, learning also happens at home, between home and school, in playgrounds, on visits, anywhere, anytime. The rest of us find that we are lifelong, lifewide learners. We all learn from experience, from and with other people, from books, films, the Internet, from reflection, from being taught and from teaching. Within the broad landscape of intentional and accidental learning, some activities and objects turn out to be specially important. They have pedagogical significance. Some of these activities and objects are designed, with learning in mind.

What is involved in designing such things? What practices are implicated in the architecture of productive learning environments? What knowledge informs, and is created by, these design practices? What gaps or weaknesses exist in this knowledge base, and what kinds of research might find itself in demand?

It turns out that there is considerable overlap with the architectural work and ways of knowing sketched above. Imagine, for example, a learning environment that nurtures collaborative inquiry (e.g. Scardamalia & Bereiter, 2006). Children working in this environment need some easy-to-use computer-based tools for sharing and building on what they each discover. The design of such tools is informed by knowledge from the field of human-computer interaction and interface design (drawing, as it must, on sources as diverse as the psychology of visual perception and an understanding of activity systems). The design of the learning environment also needs to be informed by deep knowledge of the curriculum, of worthwhile learning goals, of the likely connections between activities and outcomes. It needs to be imbued with an educational philosophy that has things to say about how people may and may not treat each other. Those who craft the affordances of learning environments need to be able to connect the macro to the micro (philosophy, curriculum theory, cognitive science, ergonomics), resolve emergent design tensions, and understand how to get the devil out of the detail.

Even if we restrict our consideration to learning within school, we have to readjust to the knowledge that classroom walls are crumbling. I have been working with computers in schools since the early 1980s and have seen many rash predictions (cf. Cuban, 2001). But the changes we are witnessing just now are, I believe, causing a qualitative shift in schoolchildren's experience. I am thinking particularly of the combination of one-to-one computer policies, increased bandwidth and accelerating enrichment of the pedagogical affordances of the Internet. It will not be long before most children in most schools in the richer countries have their own computer. The availability of *personal* technology makes feasible many of the ideas about the computer as 'learning companion' that were pioneered on high-end systems in the 1980s and 1990s. Constantly connected portable personal devices can be location-aware, and aware of each other. Software agents, informed about their owner's needs and interests, can proactively seek out useful resources and opportunities. Activities can be registered and learning trails recorded (Bull, Brna, Critchley, Davie, & Holzherr, 1999; Chan & Baskin, 1988; Corlett, Sharples, Bull, & Chan, 2005;

Dillenbourg & Self, 1992; Kay, 2006; Peterson & Levene, 2003; Sharples, 2000; Spikol, Mildrad, Maldonado, & Pea, 2009).

Without Internet connectivity, a school has a finite stock of educational artefacts. For some schools in the bush, this remains the case, and the stock can be pitifully small. We do not have to go far back to find a time in which most schools had fewer than a dozen books. When all that school could offer was the knowledge and experience of a teacher, and a dozen books, the world it created was narrow indeed.[3] That state of unbreakable restriction is dissolving fast. The talk now is of information overload rather than scarcity. But the Internet is not only bringing access to raw information; it offers a wealth of digital artefacts that provide explanations, demonstrate skills, share ideas and document experiences. The tools and practices of social navigation then offer an overlay on these rich resources – showing who liked what, what has been found useful or fun, what is *recommended* (Crumlish & Malone, 2009; Munro, Hook, & Benyon, 1999).

Computer technology in schools is making an irreversible transition. What has until now been an aid for the teacher is becoming a tool for the learner. While computers were scarce and teachers were either unconvinced of their pedagogical value or lacked confidence in their use, or both, technology could not be expected to make much of a difference to how and what children learned in schools. At least in this respect, the teacher's gate-keeping role is eroding quickly.

## 22.4 From Research for Teaching to Research for 'Teaching-as-Design'

We are moving into a period in which children – like other people who need to learn – will have access to a virtually infinite array of sources of explanation, demonstration, inspiration and challenge. They will benefit from guidance, which may come from a mix of direct human and technologically-mediated sources. Their learning will need to be understood as situated within complex ecologies of interweaving physical, digital and human resources. In this world, the quotidian actions of a classroom teacher *should* have less import than they do today.

It is not clear to me how people will engage with the challenges of designing future learning environments. It may turn out that the only design work will be done on small components, and that learners will draw what they need from vast libraries of tools and resources, configuring and reconfiguring their learning environment as they proceed. Conversely, it may be that this creates inefficiencies that learners are not prepared to tolerate, and that clusters of tools and resources that have been found fit for a particular educational activity will be used and reused. In any event, I predict a growth in work for those who can design productive learning environments

[3]When trying to gauge the extent to which Internet connectivity at home can increase a child's access to information, it is worth remembering that many schools do not allow children to take textbooks home, for fear they will be lost. In reality, many books are still chained down.

and/or the elements of which they are partly composed. There will also be a need for policy designers and others who understand the interdependence of decisions and outcomes at macro and micro levels. What kinds of knowledge will such designers need? How will this re-orient demand for educational research? What will it mean for the relative significance of different methods? I offer five speculations.

First, we will see a further erosion of claims that large-scale, randomised testing of interventions is a gold standard for educational research. The very idea of a standardised intervention looks unconvincing as soon as one takes into account the variety of work that participants undertake in order to *perform* the intervention. (This case is made most persuasively, in the context of medical 'treatments', by Annemarie Mol. See especially Mol, 2002.) Moreover, the lifecycle of intervention studies is ill-suited to times of rapid change; intervention studies are plagued by built-in obsolescence. In comparison with the possibilities of gathering timely, targeted, actionable data that are emerging with learners' increasing use of digital technology, large-scale intervention testing looks clunky and quaint (cf. Reimann, Chapter 3 (this volume); Markauskaite, Chapter 21 (this volume); Kumar, Gress, Hadwin, & Winne, 2010).

Second, we will see an increase in demand for research results whose domain of application maps neatly onto a class of design problems. Designers make progress by breaking what they have to design into manageable pieces, while maintaining a strong sense of the interactions between these multifarious design components. The designer's attention to part-whole relationships avoids the worst problems of reductionism, while being able to work on individual components avoids mental overload (diSessa, 1991; Hoadley, 2010). One method for handling such complexities is to have a strong sense of how smaller design components fit into larger contexts. For example, a user/learner-interface needs to be designed in the context of a specific computer-based tool, which is designed in the context of a set of activities, which take place in such-and-such areas of curriculum. Voigt (2010) has shown how nested sets of design patterns[4] allow educational designers and educational researchers to focus their attention on educational principles, theories, guidelines, etc. that are relevant to a specific design problem.

> Where an abundance of paradigmatic and theoretical perspectives can be confusing, patterns aim to reduce the abstractness of theories, and support practitioners, by explicitly referencing the context under which an educational design works. (Voigt, 2010, p. 107)

[4]Design patterns offer ways of sharing research-based knowledge and design experience. A design pattern usually takes the form of a structured text, and consists of a problem statement, a solution statement and a rationale that explains why the solution solves the design problem. Patterns are often grouped together as pattern languages, with higher level patterns providing the context for lower level patterns, which in turn complete or embellish the higher level patterns. So an 'Inquiry based learning (IBL) course' may provide the context for an 'IBL scenario', which provides the context for patterns about student roles in IBL groups, resources needed for researching, sharing results, etc. For an overview of the use of design patterns in education, see Goodyear & Retalis (2010) or Goodyear, de Laat & Lally (2006).

In the absence of a shared sense of the problem space of educational design, it should not be surprising to find that research is being published that could be meant to apply to almost any design component. By analogy, it is as if research is undertaken without anyone being clear whether its intended user is a town planner, an architect, an interior designer, a painter or a home-owner.

Third, educational research that is mindful of a need to inform *design* work will recognise that a rich understanding of how people experience and interpret learning environments is important, but is far from providing a sufficient basis for design decisions. Designers need robust knowledge about many other issues, including affordability, sustainability, adaptability, equity and access.

Fourth, and connected to this notion of sustainability, educational research will need to play into complex ecologies of learning in which learners, teachers and others will want to adapt their environments to meet changing needs (Kirschner, Strijbos, Kreijns, & Beers, 2004). We have only a hazy understanding of what it means to research for the design of self-improving systems.[5] Some indications may be found in work on self-managing learning ecologies (e.g. Ellis & Goodyear, 2010), in examples of locally-managed design-based research (Collins, 1990; Reimann, Chapter 3, this volume) and in the substantial body of experience that has been accumulated in areas such as participatory action research (e.g. Aubusson, Ewing, & Hoban, 2009; Groundwater-Smith & Irwin, Chapter 5, this volume).

Fifth, but by no means finally, we need to envisage a future for design-based research (DBR). DBR can be defined as

> a systematic but flexible methodology aimed to improve educational practices through iterative analysis, design, development, and implementation, based on collaboration among researchers and practitioners in real-world settings, and leading to contextually-sensitive design principles and theories. (Wang & Hannafin, 2005, p. 6; *see also* Reimann, Chapter 3, this volume)

Design-based research is surprisingly quiet about *design* (Ruthven, Laborde, Leach, & Tiberghien, 2009). Tracing its roots back to Collins' and Brown's first writings about design experiments (Brown 1992; Collins, 1990), we find two peculiarities. (i) Far from positioning himself as an inventor of 'design experiments', Collins (1990, p. 1) speaks of them as an established part of the landscape of educational innovation. His goal was not to create a place for design experiments, but to discipline their use: to provide desiderata for design experiments such that they could inform a 'design science of education'. (ii) His conception of researching complex innovations in situ was nevertheless cast in terms of accounting for all the independent *variables* that were implicated in a successful learning outcome, rather than in terms of complex, organic, partially-designable structures. DBR has evolved some way since then and has been providing a number of higher order design constructs

[5] Self-improving systems are those which have an in-built capacity to monitor, manage and enhance their own performance, rather than relying on external scrutiny, external control and/or injections of exogenous resources. Theoretical work on self-improving systems is wide-ranging in scope and approach (see e.g. Pedler, Boydell, & Burgoyne, 1989; Dillenbourg & Goodyear, 1989; Brown & Duguid, 1996; Nonaka & Takeuchi, 1995; Engestrom, 2007).

(*see* e.g. Confrey, 2006). Nevertheless, it would be fair to argue that DBR is still much more concerned about its standing as an approach to researching learning than it is about improving our ability to design for learning. It has little to say about what a design *is*, or about what would enable us to become more efficient and effective as designers. (Stretching the analogy a little, DBR acts as if the primary work of architects is to research the effects of buildings on people.)

## 22.5 Educational Research, 'Technical' Knowledge and Design

I now want to return to the issue of epistemic fluency in educational design and trace a further implication for methodology in educational research. The argument centres on claims that can or can't be made for causal explanations of phenomena that are central to education. A point of departure for this is Gert Biesta's view of the proper scope of educational research and especially of the impossibility of what he calls 'technical' knowledge (Biesta, 2007). In reacting to Broekkamp and van Hout-Wolters (2007) attempts to find complementary methods of 'bridging the gap' between research and practice, Biesta rightly reminds us that educational research is not just for the improvement of educational methods. It also contributes by helping us to understand education. We do not want to bind research and practice so tightly that research loses the ability to take a critical distance, for example (Biesta, 2007).

Biesta distinguishes between educational research that aims to produce 'instrumental' or 'technical knowledge' – which he defines as 'knowledge that indicates what one should do in order to achieve a particular result or outcome' (2007, p. 296) – and educational research that aims to offer different interpretations or ways of understanding educational practice (cf. Goodwin, Chapter 15, this volume, on the distinction between 'what works' and 'how things work'). Biesta claims that educational research has been quite successful at the latter, often without due professional or public acknowledgement. (His example is the way in which ideas from constructivist research have spread quietly and widely through educational practice in the last few decades. See Figgis, Zubrick, Butorac, & Alderson, 2000 for further instances.) However, I take issue with Biesta's rejection of technical knowledge. He offers the familiar argument that educational research, like other social sciences, deals with phenomena that are qualitatively different from those studied by the natural sciences. Many educational processes necessarily involve teachers and students interpreting each other. Symbolically-mediated interaction, unlike the interaction between physical objects or forces, cannot be seen as deterministic. Therefore, educational research cannot produce technical knowledge and should stop trying (Figgis et al., 2000, pp. 296–298).

My objections are two-fold. First, design does not depend upon control. An architect creates a space that she hopes will be used and enjoyed in some predictable ways, but users of the space are relatively free to adapt and respond as they wish.

> Architecture may well possess moral messages; it simply has no power to enforce them. It offers suggestions instead of making laws. It invites, rather than orders, us to emulate its spirit and cannot prevent its own abuse. (deBotton, 2006, p. 20)

Architectural design involves the crafting of affordances. Architecture does not determine activity. Bad architecture can endanger some kinds of valued activity. Good architecture can nurture it. But the users of built space have proper scope for autonomy (Goodyear, 1999). In short, designerly work – in architecture or in education – is more attuned to the logic of affordance than the logic of control. Designers rarely *depend* upon causal logics (Hall, 2002).

Second, there *are* design problems where knowledge expressed in cause-effect terms can be useful. For example, there are heuristics for light levels in office spaces that are derived from empirical data and physiological models of the human eye. Other design considerations may over-rule such heuristics, but the underlying technical knowledge is still of value. In exactly the same way, I argue that the design of learning environments fluently combines the tight logic of causation and the loose logic of affordance. For example, it is useful to know what cognitive load theory recommends about the design of expository texts. If there are no good reasons to over-rule precepts about the minimisation of extraneous cognitive load, then a designer should not do so (Clark & Mayer, 2008; Paas, Renkl, & Sweller, 2004). *But*, well-informed designers know that children often engage with expository texts in environments that swamp their attention with extraneous sound and light. Explanatory artefacts compete for attention. Minimalist designs may be more efficient, but may be lost in the maelstrom of competing artefacts. Good design has to resolve such contradictions and must draw on disparate knowledge sources to do so. What Biesta refers to as 'technical' knowledge has a legitimate part to play, but it is not sufficient.

## 22.6 Research for and by Heterogeneous Networks

Both Peter Reimann and Lina Markauskaite have sketched educational futures characterised by densely connected networks of digital devices generating a 'data deluge', under which technical developments in educational data mining and time-based modelling techniques may create opportunities for detailed tracking of learning processes, providing insights into the micro-genesis of learning achievements (*see* e.g. their chapters in this volume (Reimann Chapter 3, and Markauskaite, Chapter 21) and also Kumar et al., 2010; Markauskaite & Reimann, 2008; Reimann, 2009).

I don't want to delve deeply into Latour's Actor Network Theory (ANT, Latour, 1995; 2005), but would like to use his image of heterogeneous networks of human, digital and physical 'actants' to provoke some further thought about educational research futures[6]. As with ideas about distributed cognition (Barab & Plucker, 2002;

[6]ANT's creators have covered a lot of conceptual ground since the early 80s. I am attracted to the insights that flow from thinking about educational systems (a) in terms of relationships that are simultaneously material and semiotic and (b) as depending upon the ongoing 'performance' of their constituent elements. Students, teachers, texts, classrooms and computers have to keep going.

Button, 2008; Hutchins, 1995; Salomon, 1993; Thrift, 2005), ANT encourages us to open our minds to possible redistributions of work amongst human, digital and physical actants. Educational researchers will need methods and perspectives that allow them to deal with the complexities of understanding learning in such networks. They will increasingly depend on digital tools and artefacts in so doing. More interesting still, is the idea of digital actants researching on behalf of 'their' learners, or even on behalf of other digital actants. Technical work relevant to this idea has been going on for some time, although most of it hasn't been conceived or positioned in quite this way. (I am thinking about research on learner modelling (beginning with Self, 1974), intelligently adaptive systems (e.g. Kay, 2006), self-improving systems (e.g. Dillenbourg & Goodyear, 1989) and data-driven recommender systems (e.g. Drachsler, Hummel, & Koper, 2008).)

As Reimann and Markauskaite point out, a great deal of educational research produces results well after the time at which they might have been most useful (particularly to the research participants). The more we are able to catch and interpret process data in real time, the better placed we are to provide useful guidance to learners. Alternatively, educational researchers might be seen as people who get in the way and slow down the process. And as we know from the recent history of the Internet, in processes where intermediaries add no value the inexorable logic of 'disintermediation' will squeeze them out. Research that *directly* improves the processes or outcomes for the learner(s) themselves is more likely to have an effect on education than research aimed at improving the lot of *subsequent* cohorts of learners. To stretch the point, at some stage (human) educational researchers may find themselves positioned as theorists who are parasitic on the rightful inhabitants of the learning environment.

The best answering move may turn out to be Kurt Lewin's: there is nothing so practical as a good theory. If we conjure up a vision of self-improving systems, within which digital tools and artefacts exchange data that inform the next developmental steps, there remains a need for ways in which the system can interpret itself – there needs to be a meta-level description of the system that can be used for self-reflection and self-improvement. Here is a place for what we call theory.

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# Chapter 23
# Challenges and Futures for Social Work and Social Policy Research Methods

**Barbara Fawcett, Susan Goodwin, and Ruth Phillips**

## 23.1 Introduction

This book has introduced a range of important methodological approaches and analytic strategies that are, and will continue to be, employed by researchers who are working towards positive social change in the fields of social policy and social work. These approaches include, but are not limited to, action research, policy analysis, comparative analysis and postcolonial social justice research. Indeed, the full range of quantitative and qualitative approaches covered in the book are features of the social work and social policy research landscape. Some methods, such as digital research and arts-based inquiry, are more emergent forms gradually being taken up and tailored to suit the specificities of social work and social policy research contexts. Others have a longer history and are more accepted modes of research, but, as in most fields, struggles and contestations over the legitimacy of different research methods abound.

In this chapter we explore a key contemporary issue for social work and social policy research which relates to methodological choice and, at the same time, contributes to positive social change. Since the 1990s the dominant epistemological orientations in the field have undergone revision, with understandings of knowledge being seen as far more contextually specific and contingent. However, at the same time, governments have continued to revere the 'gold standard' of objectivist, generalisable research, with an increasing emphasis on 'evidence-based' policy making and 'evidenced-based practice, which often relies on quantitative, 'scientific' data. We acknowledge the challenges presented by this tension and discuss these first in the broad sense of the relationship between research and social change and the production of 'evidence' before moving on to explore methodological choice for social change in greater detail. In doing this we examine what are often regarded as the opposing ends of the methodological spectrum and consider 'deconstructive discourse analysis' for social change as well as re-visiting 'quantification' for social

B. Fawcett (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: barbara.fawcett@sydney.edu.au

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change. It is envisaged that this discussion will help chart some of the ways in which social work and social policy researchers who regard evidence as 'contingent' can produce knowledge that can influence social processes for social change.

## 23.2 The Relationship between Research and Social Change: Increasing Complexity

Within the broad arenas of social policy, social work and social justice research, the relationship between research and social change has been a key area of theorisation and debate (Fawcett, Goodwin, Meagher, & Phillips, 2010; Weiss, 1991; Weiss & Bucuvalas, 1980). However, although social policy and social work scholars recognise social science research as a key part of policy and practice development, given the diversity of thinking and the plethora of models about how social policy and social work decisions are made, there are many perspectives about how research may influence these decision-making processes. Jamrozik (2005), for example, asserts that influential social research has moved away from the province of social scientists in universities and research institutes and instead is being produced by practicing professionals in human services and private researchers in business. He further maintains that the resulting ownership confers an authority to 'define social reality through the identification of relevant issues and interpretations of their findings' (Jamrozik, 2005, p. 48). In doing so he attributes a powerful influence to knowledge production on both perceptions of social change and policy formulation. Auriat (1998) takes a different stance and regards the idea of social policy making as a complex process. She does this by presenting a series of models. These include: the use of research for problem solving; a knowledge-driven model of research; research as interactive; a political model of research; a tactical model of research and research used as enlightenment (Auriat, 1998, pp. 277–278). These models illustrate not only diversity in approach, but also highlight how policy and practice formation draws from different models in a variety of ways.

Other researchers have not only acknowledged complexity, but have also drawn attention to 'messy', political and unpredictable elements (Fawcett et al., 2010). These considerations relate not only to a discussion about the relationship between research and social change, but also to a consideration about the place of 'evidence' in the process. In this, it is clear that many authors question both the existence, as well as the viability, of a rational, logical connection between research, policy and practice.

The evidence-based policy and practice movements have been primarily driven by researchers and policy makers in the United Kingdom, with the key aim of systematising the use of social science research for policy and practice (Gardner & Barraclough, 2007). These developments have been followed by the adoption of evidence-based policy and practice discourses by governments in the USA, Canada, Australia and New Zealand (David, 2002; Marston & Watts, 2003). An important dimension in the push to systematise the use of research for policy and practice, as highlighted earlier, has been the official privileging of certain kinds of 'evidence'

and certain types of research methods. In particular, the idea that authoritative knowledge can only be produced using methods modelled on the natural sciences, such as quantitatively oriented, randomised, controlled trials and systematic reviews retains dominance (Fawcett et al., 2010). As Blackmore and Lauder argue:

> Government has historically favoured 'rationalist or technocratic models' based in quantitative research because it claims to be generalizable, objective and offers simple ways of understanding a problem. (Blackmore & Lauder, 2005, p. 97)

Janet Newman (2001) describes the evidence-based policy movement in the following way:

> It offers a post-ideological conception of the government as embodying a modern, rational and managerial form of politics, a form of politics in which knowledge is translated into policy under the rubric of 'what works' and 'evidence- based' policy. (p. 69)

Here Newman unpacks the split between knowledge and politics, suggesting that the movement for evidence-based policy and evidence-based practice is a *form of politics* in itself, reminding us that what constitutes evidence is contested. As a result, debates about the nature of evidence, and the proper conduct of policy research is itself political.

Fawcett et al. (2010) claim, however, that regardless of whether it is considered that evidence-based or politically informed research is more influential on policy and practice, it is unlikely that research, in and of itself, will act as a sole determinant of social policy change or changes in social work practice.

## 23.3 The Relationship between Research and Social Change: Range, Interpretation and Challenge

When focussing on any aspect of social policy or social work, a key feature is the wide choice of research questions that arise from the range of areas that can be explored or social problems that remain vexatiously unresolved. A further choice, however, lies with the positioning of the researcher and the methodological or theoretical framework adopted for the research. This is strongly emphasised in social policy and social work research, as it is often indistinguishable from the project of social change to which the research is contributing. Postcolonial feminism and its concerns with gender, race and nation is a case in point. If adopting a postcolonial feminist approach to research, then the key objective of facilitating the legitimisation of a place from which to speak for those whom are excluded (*subaltern*) represents both a theoretical position and the objective of the research. More broadly, a wide range of other feminisms have informed social policy and social work research in that the recognition of the role of gender, or the position of women more specifically, often also reflects the target of social change research that sets out to gain equality or basic human rights for women. Further, the theoretically informed tendency for self-reflexive research, which is found in action research, discourse analysis or postcolonial research, for example, is closely linked to the influence of many strands of

feminist theory. The positioning of the researcher is also reflected in how research is done and how findings are interpreted and applied (Anderson, 2000; Harding, & Norberg, 2005; Nowotny, 1990, pp. 123–165).

In terms of interpretation, it is useful to give an example of how findings can be subject to different interpretations or readings. This is an important consideration and one that links into the earlier discussion about research and the production of 'evidence' in fields such as social policy and social work. A research project carried out by Sutton (2008) provides a useful example. In this study she adopted a qualitative orientation involving 42 children, from two locations in England. The first group were recruited from a youth centre based on a Housing Association estate that comprised high numbers of lone parents with dependent children, and the second group were recruited from a fee-paying independent school, which took day pupils as well as boarders. The research project's aim was to explore children's perceptions of poverty and affluence and to understand children's experiences of their own lives. A participatory research approach was used with data collection methods including role-play, mapping, and photography, drawing and writing techniques, as well as walkabouts with the researchers.

Sutton (2008) presented her findings by comparing and contrasting 'play' activities from the two groups, which were stark as she found that the 'estate' children had considerably more freedom than their private school counterparts and valued available open spaces that were undergoing gradual erosion due to the activities of local developers. Alternative activities tended to be constrained as a result of perceived cost and lack of available transport. In contrast, the lives of the children from the private school revolved around 'chaperoned' organised activities such as sports, music or school-oriented subject clubs, leaving them with very little unstructured time. The purpose of this research was to draw the government's attention to key aspects of children's well being and, by so doing, to influence and inform the social inclusion agenda prioritised by the Labour government in the United Kingdom at the time.

Sutton (2008) used her research to illustrate the tension between what adults perceived to be in 'the best interests' of children and the actual experiences of children within communities, and to highlight contradictions in government policy, challenging government policy directives. She questioned the utility of the government concentrating on building 'designated play areas' when most play takes place in different spaces and expressing their concern about the 'epidemic' of childhood obesity whilst condoning a negative attitude to street play.

The use of research findings to question government directives invests research with a clear goal. However, there are clear challenges, not least that of similar research with different participants presenting different findings. Research with older people into the use of open spaces by children and young people, could, for example, illuminate concerns relating to feelings of intimidation or exclusion, resulting in different research recommendations. There is also the challenge of research findings being interpreted differently. In policy terms, Sutton (2008) decided to focus specifically on children's use of open spaces and the differences between her findings and government policy. A researcher adopting a different

ontological position could have highlighted the importance of containment and of resources being allocated to fund organised alternative activities and transport to non-homebased venues.

Associated with the continuing discussion about the production of 'evidence', clearly the different ways in which research findings can be presented, interpreted and translated (or not) into policy documents and used to inform practice represents an enduring challenge to researchers and policy makers alike. As we have seen elsewhere in this book, the subjective position of the researcher or policy maker in terms of their values, their epistemological stance, the material they choose to research and, by implication, ignore, leads to interpretative and representational elements playing an increasingly significant part in the research process and in the use made of research. As part of this discussion, and picking up on the methodological approaches as well as the tensions between these, highlighted in other chapters, we will now explore two forms of methodological choice for social change – deconstructive discourse analysis and quantification – in greater detail.

## 23.4 Deconstructive Discourse Analysis and Social Change

As highlighted elsewhere in this book, the notion of 'discourse' clearly carries with it a number of different understandings. It can simply refer to everyday interaction or it can be understood by reference to ethnomethodology or to forms of Foucauldian analysis. An ethnomethodological approach is primarily concerned with how conversation or interaction is structured, the influence of the underpinning rules and how, as a result, meanings are produced. In contrast, a Foucauldian orientation has a strong deconstructive element and focusses on how at a particular point in time, ideological, cultural and social practices come together to define what is seen as 'normal' and what then becomes taken for granted. This approach forges an inherent connection between power, knowledge and language and facilitates a detailed examination of what is acknowledged and rendered legitimate and what is not given credence and thus considered unacceptable. The form of deconstructive discourse analysis used in this chapter draws from Foucault, and it is useful to look in a little more detail at the underlying emphasis placed by Foucault on the interrelationship between power and knowledge.

With regard to social policy and social work and the implications of Foucauldian deconstructive discourse analysis for social change, it has to be emphasised that the deconstructive element does not refer, as it does within Critical Theory, to a means of peeling away the obfuscatory layers to reveal the 'truth', but to interrogating power plays, particular power knowledge frameworks, the policies and practices which have emerged and the reverberating consequences. As Fawcett (2000) points out, this is facilitated by posing 'how' questions that are concerned with exploring how power and knowledge interplays manifested in social practices operate, rather than focussing on 'why' they work as they do. This process also draws attention to the importance of language and to how the form of language used structures meaning and influences the various power/knowledge frameworks or discourses operating.

This emphasis on language is not directed towards undertaking a conversation or linguistic analysis, but rather focusses on analysing language in order to reflect the various social relationships and practices operating. An example can be taken from the use of language in policy and related practices in the arena of disability.

In the UK, for example, the term 'disabled people' has been used to challenge dominant individual and medicalising discourses of disability which focus on the negative effects of impairment and to direct attention instead to disabling social economic and political barriers. The term 'disabled people' refers to the way in which society acts on people: that is, it disables them, As a result, disabled people campaign for autonomy and citizenship rights and for the dismantling of disabling barriers so they can live the lives they choose with appropriate and resourced self-directed support systems.

In Australia, there is a different emphasis and the term 'disabled person' is regarded as constituting individuals in a negative and deficit-orientated way. Accordingly, the preferred term is 'person with disabilities', whereby the person is referred to a 'person', first and foremost, with disability being secondary. Policy and practice is also subtly different and, although there are variations, the predominant emphasis is on a person with disabilities living as normal a life as possible. Although on the surface the two approaches appear similar, there is a significant underlying difference in that the social model approach foregrounds social and political issues, whilst the person-centred approach concentrates on a person with disabilities prioritising normality and harnessing their particular strengths in order to do this. The consequences of the two approaches also vary. The social model approach concentrates on a disabled person taking control of their situation, deciding what is important to them and what is unimportant and challenging disabling and restrictive barriers. In contrast, a person-centred approach promotes independence rather than autonomy, with limited attention being paid to the impact of structural factors (Fawcett, 2009).

This example highlights how the application of a Foucauldian form of deconstructive discourse analysis can interrogate apparent similarities and, by placing emphasis on the use of language, can reveal divergences and divisions related to interpretation, application and consequences. Further examples of the application of this form of analysis to policy and practice relate to the importance of not taking anything for granted, of continually interrogating all knowledge claims, including those of the researcher, policy maker or practitioner, and of appreciating that, when researching in policy and practice contexts, meanings have to be continually negotiated and assumptions questioned. Deconstructive discourse analysis also highlights the imperative of not privileging one account over another on the basis of expert knowledge or implicit assumptions and the importance of paying attention to historical, social, cultural and political contexts. All of these aspects have relevance for social change in that a direct uncomplicated, rational and logical relationship between research, policy and practice and the production of evidence is not assumed and a critical lens is directed towards the construction of meaning and what and who is being recognised and privileged and what and who is being ignored.

## 23.5 Quantification for Social Change

Quantitative forms of analysis are traditionally associated with the production of objective, rational and logically sustainable knowledge, with little attention being paid to reflexivity and discursive positioning. However, quantification is often seen as providing the 'hard facts' for social change and as a result operates as an extremely significant lever for social policy reform and the resourcing of social programs. Unemployment figures, homelessness numbers, poverty rates, prevalence studies and mortality and morbidity data, for example, are all politically important quantifications used at the levels of organisational, national and international policy-making. Government research organisations also collect and analyse huge volumes of quantitative data on the health, welfare and socio-economic status of populations, with much of this data being made publicly available for secondary analysis by social work and social policy researchers. As a result we argue that, although there are points of apparent contention and difference that need to be attended to, incompatibility between deconstructive discourse analysis and quantitative approaches need not be assumed.

At the outset it is important to clarify that we are using the term 'quantification' to refer to the process of establishing categories and counting the number of cases within these categories. As a means of placing this orientation in context, it is useful to look at the ways in which quantification has been used in social policy and social work. A pertinent example refers to 'domestic violence'. Here, prevalence statistics have not only been extremely important in the politicising of the problem but have also resulted in the quantification of domestic violence becoming a political issue. In this, domestic violence has long been regarded as a 'hidden problem' and under-reported and thus inaccurate 'counting' has been viewed as contributing to the masking of the issues. Hence domestic violence activists have sought for research methods to be refined and developed in order to 'accurately' capture the extent, at a population level, of the problem. Jayne Mooney, for example, argues for more 'authoritative statistics', arguing that 'lack of ongoing authoritative statistics on domestic violence ultimately serves to limit the ability to take preventive or remedial action to alleviate the problem' (Mooney, 2000, p. 25).

Similarly, research on poverty has tended to be dominated by debates about the quantification of people experiencing poverty and how best to measure the depth of poverty. Indeed, the most significant policy debate about poverty in Australia in recent times – coined 'the poverty wars' – was a debate about how living in poverty was measured, rather than one about policy measures to address poverty (Saunders, 2005). In this situation, researchers were charged with 'over estimating' the extent of poverty, with critics arguing that poverty was not a significant problem in the Australian community. While the debate began with a concern about the technical details of measurement, it quickly became a philosophical debate about choice, freedom, responsibility and the role of government (Hunter, 2006). In this instance, 'hard facts' and 'authoritative statistics' were subject to challenge, but the measurement of poverty remained a priority.

It is notable that recently there has been a renewed engagement with questions about how quantification might fit with social change projects. In 2009, for example, a stream of the international feminist research methods conference focussed on the question 'Does feminism count?' Here, the renewed interest in quantification and quantitative research stemmed from recognising that, despite the pairing of feminist research with qualitative methods, quantitative methods continue to be widely used as part of the broader feminist transformational project. This leads to the reiteration of the contention that, whilst qualitative methods have made enormous contributions to our understanding of the materiality and meaning of human experiences, they should not be considered in opposition to quantitative methods. Indeed, this false dichotomy masks the fact that most qualitative research involves some kind of counting, whilst quantitative methods also involve interpretive acts.

It is important then to acknowledge that both quantitative and qualitative methods are valuable for social change research, and social work and social policy scholars continue to advocate combining the two. Quantitative techniques have proven useful for describing the extent of differences between and amongst different groups in society. Given that the lingua franca of much policy making is 'hard facts', social change projects that require authority in this realm are often well served by quantitative data.

However, when looking at quantitative methods through a deconstructive discursive lens, it is often assumed that there is a poor fit between the quantification of human experience and the social construction of knowledge, particularly as the latter challenges the very process of categorisation. In particular, counting can be particularly problematic, because to count one must categorise, and when we categorise we are engaged in a political activity of universalising the characteristics of those inside and outside the constructed categories in order to make generalisations. The feminist geographer Victoria Lawson (1995) illustrated this point in her discussion of the now famous quote 'Women comprise 50% of the world's population, do two-thirds of the world's work hours, receive 10% of the world's income and own less than 1% of world property'. Lawson argued that, from a post-structuralist perspective, this quantitative data masks as much as it exposes, primarily because it employs a number of unchallenged and rarely problematised concepts such as work, income, property, but perhaps most significantly, 'women'. The quote can thus be seen as totalising women's experiences:

> seemingly implying that all women experience similar oppressions and, in the process, marginalising the specific experiences of specific groups of women. (Lawson, 1995, p. 452)

As a result, counting cannot be seen to reflect reality accurately or to provide the requisite 'hard facts' for social change.

Nevertheless, there *can* be compatibility between quantitative techniques and deconstructive discourse analysis. Lawson, for example, does not eschew quantification but argues instead that counting has the potential to raise questions about significant social differences, particularly questions about pattern, process, context and position. She suggests that these questions may not be answered with just one

set of tools, or at one scale of analysis, but argues that they may not be raised at all without counting (Lawson, 1995). Concepts such as such as 'strong reflexivity' and 'strong objectivity' have also been useful in weaving a path through the post-structural debate. Strong reflexivity requires researchers to acknowledge and interrogate their role in making theory: in this sense the quantifier reflects on their role-producing categories and placing cases within those categories. Strong objectivity requires not only acknowledging the specificities of one's own subject positioning, but critically engaging with that subject positioning to analyse assumptions and conceptual frameworks which inform one's inquiry. This kind of objectivity acknowledges that all knowledge is produced by someone who is somewhere, and the outcome is an account that foregrounds, rather than obscures, the relations of knowledge production.

## 23.6 Concluding Remarks

The intention in this chapter has been to reflect on and extend some thinking on the methodological spectrum of approaches contained in this book and, using positive social change as a goal, to explore how apparently conflicting methodologies can be utilised in the arenas of social policy and social work. As part of this process, we have highlighted that, although there are tensions, this combination brings to the fore issues of interpretation and highlights the various ways in which formulations of power and knowledge operate. It also foregrounds the importance of researchers engaging in a 'politics of counting', and in particular recognises the political power of statistical representations *and* the role of quantification in revealing the operation of power relations. We maintain that such engagement, together with concomitant attention being paid to context, to the ontological and the multiple epistemological positioning of all players in a research project, to power dynamics and imbalances and to the recognition that there is always more than one interpretation possible, can result in the production of dynamic research for social change.

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# Chapter 24
# Research Frontiers and Border-Crossings: Methodology and the Knowledge Industry

**Patrick Brownlee and Jude Irwin**

> *There is a mutual interest in whether social science research intended to influence policy is actually 'used,' but before that . . . it is essential to understand what 'using research' actually means*
>
> (Weiss, 1979. p. 426).

## 24.1 Introduction

Research activities in the social sciences generally, and particularly in education and social work, are subject to their own social and economic complexities. They shape and are shaped by realities of the 'world' they aim to understand and inform. Notable here are the institutionalisation of social science research within contemporary universities and their simultaneous relationship to the knowledge economy (Marginson, 1997; Slaughter & Rhoades, 2004; Valimaa & Hoffman, 2008).

In this chapter we frame the conversations in this volume about methodological choice and epistemology by highlighting the opportunities, constraints and pressures researchers face a*s knowledge workers* rather than as university scholars. These constraints can and do affect methodological choice, and therefore the provenance and evolution of methods and methodologies. We illustrate this by presenting an example of collaborative research that successfully contributed to policy and practice, and then analysing it from several perspectives: (a) tensions between stakeholder demands and methodological canons of the discipline; (b) research *for* policy and practice and institutional policy pressures to perform research services; and (c) social complexity, methodological convergences and institutional and disciplinary divisions. A conceptual framework for understanding contemporary knowledge production is advanced, extending the metaphor of the 'knowledge frontier'. By this we aim to identify the liminal experience in the tensions between

P. Brownlee (✉)
Faculty of Education and Social Work, The University of Sydney, Sydney, NSW, Australia
e-mail: patrick.brownlee@sydney.edu.au

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servicing stakeholders and the academy, and to present the research exercise as an eternal frontier, which, by definition, is unknown and therefore open to exploration and experimentation.

The example described below is based on a research experience initiated by institutions and stakeholders in the community concerned. It is multi-layered, has a high degree of complexity and, given the volatile socio-political situation, is riddled with uncertainties. A single disciplinary approach stood to offer limited outcomes; the involvement of several disciplines, drawing on a range of knowledge and methodologies, was anticipated to add significantly to the understanding of the situation. The research was conducted by collaborative teams, often sites of competing stakeholder perspectives, priorities and needs for different knowledge; thus this example illustrates the challenges of, and possibilities for, transgressing institutional, disciplinary and methodological boundaries.

## 24.2 'Bonneville'

*Bonneville* is an old established area close to the CBD of a large cosmopolitan city on the eastern coast of Australia. It has recently come into the news as a result of both racial tensions and civil unrest involving young people. These young people move around in groups and have been accused of destroying property and, at times, threatening the safety of locals, resulting in increasing levels of fear. The area has a combination of private and public housing dwellings, with pockets of both extreme disadvantage and wealth. In several areas of public housing, some properties have been sold and are being gentrified, while others are in various states of disrepair. Overall the area is seen as disadvantaged: it has higher than average populations of one-parent families, overseas born, Indigenous and older age groups, a higher than average level of unemployment and lower than average levels of education and income. There are numerous social problems, but the issue that has remained dominant over several years is the anti-social behaviour of young people, linked with low school attendance and the misuse of alcohol and other drugs. There have been numerous attempts to develop services for young people, but they have been only moderately successful. While there is a youth service in the area, it continually struggles for funding. There are several schools (public and private) and attempts have been made to engage them, but this has met with limited success. The local council, business groups, community services and resident groups are concerned about the growing tensions in the community and have been meeting in an attempt to address the issue. At the start of this project they decided to invite a small group of social science researchers to undertake research that would lead to a greater understanding of the situation and the identification of possible strategies to address it.

The collaborative research team that was initially formed to explore the issues of Bonneville included three researchers from different but related disciplines (education, social work and social policy) from a nearby university, and three representatives each from different state and local governments. As the group worked

together to develop the parameters of the research, they were explicit about their different reasons for collaborating. The university researchers had numerous and varied motivations, but all of them had a common need to meet their institutional requirements for research and the production of scholarly publications. The research partners also had varying drivers, shaped by organisational needs and priorities, but all wanted to produce 'evidenced-based outcomes' that could shape polices and practice and move towards a solution to the problem. Initially 'evidence-based' was interpreted to mean a requirement for quantitative data produced by drawing on methodological approaches modelled on the natural sciences. As the project progressed, however, the privileging of such methods diminished and a range of creative methods and novel ways of collecting data developed.

Early in the project three interrelated tensions emerged: (a) a struggle to agree on a common understanding or meaning of the 'problem'; (b) different, and sometimes competing, expectations about methodological choices and outcomes, often created by different institutional, organisational and disciplinary requirements; and (c) different understandings about what constitutes knowledge (or evidence) and who produces it.

### *24.2.1 Deciding on 'the Problem'*

An early task for the research team was to develop a common definition of the 'problem'. The team members knew it was a priority to develop a common understanding and to identify which aspects of the problem they all considered important, and which aspects were contested. This involved a process of restructuring the problem, with all partners being open about their expectations and assumptions, and the suspension of pre-determined ideas. The group agreed that the issues were much broader than racial tension and the anti-social behaviour of young people. They decided to focus on exploring more about the community and the needs and priorities of its members. Having decided on this broad area of focus the next tension emerged: where to start, and how to choose methodological approaches.

### *24.2.2 Negotiating Methodological Choices and Data Collection Methods*

Early discussion about the 'problem' had highlighted the differing positions, values and expectations of team members. It was apparent that team members had diverse goals, expectations and power. It was also clear that the ontological and epistemic foundations assumed by the university researchers came from different disciplines and were deeply value-laden, and that these foundations influenced their preferred choice of methodologies, design, the research process and the interpretation and application of outcomes.

Views about where to start and what methodological approaches to use ranged from recommendations to collect large amounts of quantitative data from both

primary and secondary sources to proposals of activities that would engage the community and seek their views. As the research partners began to consider each other's perspectives, discussions led to an agreement to begin the project by undertaking a household survey that would collect both quantitative and qualitative data, whilst simultaneously beginning to engage residents in the community. It was also decided to collect demographic data from a range of national and local sources to provide more detailed information about the structural, political, social and economic issues of the community and how these influenced the everyday life situations of residents.

The household survey had two aims: (a) to measure social cohesion and neighbourhood attachment, and (b) to explore what residents liked and disliked about living in the areas, what they would like to see changed and how these changes could be achieved. The survey used Buckner's Neighbourhood Cohesion scale, a widely used instrument, to which open-ended questions were added.

After the data had been collected and analysed, meetings were held with residents and service providers to feed back the findings. Attendees were then involved in identifying priorities and ideas for action. The issues emerging from the survey and the feedback meetings included, but were not limited to: the isolation and loneliness of older people; public safety; the needs of young people; and the lack of options for people to move back into education. Small-scale projects were developed in response to many of the issues identified. One of these projects focussed on the needs of young people, and it is this project that is discussed in more detail to elaborate on the many dilemmas around methodological choice that confronted the research team as it progressed.

The development of activities for young people was one of the most frequent responses to questions related to suggested changes. After much discussion it was agreed that a small-scale study be carried out, using a participatory action research approach. Taking this approach allowed for the development of knowledge and understanding as part of practice. Young people were to be involved in the research design, the development of data-collection tools, analysis of data and implementation. Disciplinary, institutional and organisational requirements were taken into account as the strengths and limitations of various approaches were considered and negotiated carefully. Some of the team remained ambivalent about the approach and the methods, questioning whether it was 'real' research.

The youth project aimed to: (a) involve young people in identifying relevant individual and community issues; (b) highlight ways that young people could influence the activities and service provision in the area; (c) develop approaches of engagement and consultation with young people that could be used by other services in the area; and (d) identify ways that young people could be involved in and influence this ongoing research project. Early in the process it was agreed that relevant and efficacious data-collection methods needed to be used. A range of creative, artistic and multi-media methods were developed to engage young people and facilitate the collection of data. This was to be complemented with the use of more traditional methods, including individual and focus group interviews. The inclusion of young people from different backgrounds was identified as a priority, especially those traditionally 'hard to reach' or labelled as 'troublemakers'. In the context of the turbulent

socio-political environment of the community, this proved to be a challenge, with few young people turning up at the multi-media sessions. Despite this, rapport was developed and trust gained with a number of young people. Combined with support from local service providers (youth services and programs and schools), this led to a series of interviews with young people. As with the household survey, feedback sessions were held with the young people and service providers. The key issues identified included: (a) improving facilities in parks, such as the provision of a climbing wall and playground equipment; (b) providing more sporting facilities, such as a basketball court; (c) organising more activities for young people, such as cricket, athletics, football; (d) improving the look of the area, for example cleaning graffiti from the walls or organising street art; (e) more tolerant attitudes from some residents; and (f) creating more opportunities for young people to be included in decisions that related to them. The findings were valued by service providers and funding bodies as there was no similar research which included the views of young people.

### *24.2.3 What Constitutes Knowledge (or Evidence) and Who Produces it*

Institutional and organisational priorities had a powerful impact on the outcomes each partner sought from the research. One of the most important outcomes for the university researchers was to create new knowledge and document aspects of the research (new conceptual frameworks, research processes or findings) in high profile peer-reviewed academic journals; whereas for other partners the main priorities were outcomes useful in developing strategies to address both broad and specific community issues. Organisational pressures meant that they wanted measurable, quantitative evidence of how this research was impacting on their particular policy and practice responsibilities, and had expectations that change would happen much faster than proved possible. Some of the team struggled to recognise that research involved broad-based participation, and that encouragement of resident participation and service provider partnerships required time.

The team began to develop other ways to convey the knowledge and findings of the research so that it would be accessible to the other research partners and stakeholders in the community. These included a newsletter, articles in local papers, publications and websites and regular meetings with different stakeholders in the community.

As the project continued, and the research team integrated the knowledge of different disciplines and local stakeholders, useful insights and models were developed that, although specific to *Bonneville*, could be transferred to other comparable locations. For example a series of measurement tools were developed (both quantitative and qualitative) that were used both to pinpoint and to monitor changes in the area. These included tools to measure social disadvantage, changes in social cohesion, resident participation, social networks and partnership strength.

In this research the interplay between contrasting institutional demands, conceptual frameworks and methodologies combined to create opportunities to develop new understandings, and introduced the possibility of novel solutions to entrenched problems for the researchers, the service providers and the community of *Bonneville*.

## 24.3 Research *for* Practice and Policy versus Policies and Practices *for* Research

Social scientists' willingness to explore and experiment with methods and methodologies highlights an endogenous function of scrutinising various means of knowledge-production reflexively, at the same time as using particular means of knowledge production to define, describe and theorise social phenomena (an exogenous function). As many have demonstrated in this volume, what is within and without, however, is not rigid: whether through the postcolonial critique of researcher objectivity, democratic post-'Mode 2' participatory research, or the more pervasive and instrumental evidence-based research for governmental or market consumption, the social science researcher and the 'researched' are more conjoined and blended than ever. Three related epistemic consequences are evident from this and found in the above example: (a) the increased negotiability of methodological choices, where traditionally that choice has been disciplined and decided by academic canon; (b) an increased 'practical' demand for convergence among methodological perspectives; and (c) an increased valorisation of stakeholder review over peer review. These consequences are emergent, and are thus contested.

This contested and emerging state of contemporary knowledge production, carefully negotiated in the *Bonneville* example, underpins this volume's conversations about the variety of research approaches drawn upon to study the social and human services, systems and actors that attend social change. The backdrop of increasing governments' calls for evidence-based policy, and for problem-based or outcomes-focussed research, has been cited throughout this book as a key driver of both why and how contemporary university research is, or should be, undertaken. As knowledge has been commodified to play a central role in twenty first century information economies (Castells, 2000; Drahos & Braithwaite, 2002; OECD, 1996), university-based academic research has been drafted into service. Curiosity-driven research, largely conducted in universities (Productivity Commission, 2007)[1], is positioned as the ill-fated Linnaean mutation less able to compete with the triple helix species

[1]Curiosity-driven research, or what is often equated as 'pure basic' research, relies heavily on government funding in countries with a public higher education system such as Australia. In 2004–2005, for example, 77% of such research was funded by Federal government sources; however, total Federal government funds were directed by a ratio of 2:1 into applied research over pure basic research. Experimental research, on the other hand, was largely funded by business, while both Federal government and business attributed approximately 40% of their R&D spend on applied research (Productivity Commission, 2007: Table 2.4).

(Etzkowitz & Leydesdorff, 2000) of government-industry-university collaborative research. Where once the claim was that research should be an open-ended process of inquiry that afforded the thoroughness of cycles of patient investigation, the possibility of unexpected results, and the primacy of *disciplined* critical thought, contemporary university research and researchers are presented with a competing (and competition-based) legitimacy through 'national innovation policy' (Nelson, 1993), national and international productivity reports (Productivity Commission, 2007), and intellectual property and patent (pur)suits (e.g., Drahos & Braithwaite, 2002; UWA vs Gray, 2008). Research in education and social work has proven difficult to exploit for patents (Productivity Commission, 2007), but, as knowledge is a tradeable commodity and a key to competitive advantage (Burton-Jones, 1999), such research is bound to perform according to market demands.[2]

In some respects, the university researcher has become the researched. Sophisticated national research assessment or evaluation regimes exist in many OECD countries, largely to quantify the contribution of academic research to GDP, but also to scrutinise what counts as quality research. The traditional system of peer review through journals and publishing houses is now supplemented and potentially supplanted by exercises such as the Excellence for Research in Australia (ERA), the UK's Research Assessment Exercise, or New Zealand's researcher specific Performance-based Research Fund (Moed, 2008). Controversially, Australia's abortive attempts to include stakeholder assessment of research 'impact' in the now superceded 2007 Research Quality Framework, as well as its infamous inclusion of conservative political columnists (as 'end users') on its Australian Research Council expert assessment panels (Haigh, 2006), illustrates the pervasiveness of research as commodity within the broader marketisation of the public sphere. Imperatives of transparency and accountability police the trade in knowledge and its production[3], as Fawcett, Goodwin and Phillips (Chapter 23, this volume) described in relation to research as policy. A further illustration of this comes from the US National Science Foundation's Social Behavioural and Economic division, which in 2005 declared, in response to calls for measuring the return on funding social science research:

> The goal is to reach a point where the nation's public and private sectors are able to evaluate reliably the return they have received from past research and development (R&D) investments in [social] science and engineering and to forecast, within tolerable margins of error, likely returns from future investments. Understanding the dynamics of innovation is important to developing valid metrics and to deciding on fruitful policies. (Cited in Nowotny, 2007, p. 482)

[2]Meanwhile, other 'soft' science areas, such as the Humanities, have become far more commodifiable and patentable, notably in the so called 'creative industries', championed by academic-entrepreneurs like Richard Florida (2002).

[3]Somewhat removed from Kuhn's original idea of public policing of the integrity of knowledge through peer review, see Kuhn (1970). At the other end of the spectrum, also far more extreme, than Latour's suggestion that scientists' ideas and activities are (*and should be*) influenced by the social (Latour, 1987).

Inevitably, university-based social science has succumbed in part to the centripetal pull of market productivity, of collocating its knowledge production and ownership outside the academy, somewhat different to education and social work's critical concerns with doing research *in the field*. The influence of market mechanisms creates a contradiction for researchers, however, in terms of research productivity. In the *Bonneville* example, the impetus for some of the research team to feel the need to produce only acceptable peer-reviewed articles on their 'take' of the situation was in compliance with institutional and departmental imperatives to produce countable research outputs. This influenced a decision for some of the researchers to prefer standardised techniques and analyses to make the problem fit the approach and instrumentation, and thereby make a research process straightforward and efficient for producing research papers. On the other hand, the initial terms of the collaborative research invitation required the *Bonneville* researchers to be accountable to their partners' expectations and deliver confirmatory evidence of the stated or perceived problem (how to isolate and remove the anti-social behaviour). This proved to be an inadequate proposition, largely because the normative assumptions of the stakeholders were part of the problem, or at least obscuring the problem, and thereby any sustainable interpretation. Deeper engagement with the problem, and, indeed, reinterpreting the problem, only came from a critical engagement *between* the differing academic researchers.

While researchers must be responsive to their non-academic collaborators' needs, and inextricably are part of the social and human conditions they research[4], the space to consider and present critical or simply different 'takes' on a problem, or indeed to problematise, is vital to the creative and authentic integrity of the research process and unique value of academic research work (Marginson, 2008). Thus, what researchers in social work and education might instead strive to give to their non-academic partners is not just knowledge, but understanding, following Nowotny's observation that *[i]mplications may follow from knowledge, but they hardly speak for themselves* (Nowotny, 2007, p. 481).

Given the contextual and dynamic nature of knowledge (Castells, 2000) evident in our *Bonneville* case, the utility of the research outcomes were considered to be limited without generating and sharing an understanding of the dynamics and complexities of the stakeholders and communities concerned. This understanding included: how epistemology informs design and approach (i.e., sociology, action research and social justice); the value of different types of data and how they can be interpreted; and empowering research users to think about the relationships that are impacted by uses of that knowledge.

The community-level approach was considered the most appropriate to generate understanding of how communities can themselves shape change, as well as to locate the researchers within that process as facilitators (within their role as

[4]Following the general claims of the *cultural turn* in social science about subjectivity, as well as social transformation theory concerning the construction, flow and appropriation of ideas and knowledge. Cf. Giddens' explanation of institutional reflexivity where the means and ways of describing society, often institutionally bound or influenced, are transformative (Giddens, 1992).

researchers). This raises a moral and ethical complexity about where researchers ought to draw their own research boundaries, and where, as Groundwater-Smith and Irwin have argued (Chapter 5, this volume), it is ethically untenable to pursue research concerned with enabling change (within specified moral frameworks) without providing the appropriate *understanding* or capacity amongst research stakeholders to generate such change. From various epistemic paradigms that emphasise context and relationship – social systems and social ecologies, actor-networks, ethnomethodology, inclusive and socially just action-research frameworks – designing participant involvement in research *approaches* is a viable, internally consistent and often essential research choice. Such approaches seemingly transgress traditional scientific boundaries of detachment, but it is these very motivations to *work from within a research problem rather than from without* that have allowed this range of research approaches to evolve from mere participatory tools toward conceptually mature concepts enabling intimate understanding of a problem and facilitation of an inclusive, and thereby socially sustainable, solution.

## 24.4 Research Boundaries: Liminal and Frontier

Disciplinary boundaries, knowledge boundaries, paradigms, communities of researchers, schools of thought and faculties; market boundaries; intellectual property limits; and bound*less* researcher productivity: research in and across education and social work seems to (re)negotiate institutionalised boundaries and norms daily in the contemporary knowledge economy. At the same time, the idea of a knowledge 'frontier' attends the discourse around research productivity and innovation (Nowotny, 2008). It is also the main theme of a new European Research Council fund for basic social science and humanities research, which Nowotny was instrumental in establishing (ERC, 2010).

In synthesising the contributions to this book, the idea of the frontier provides a useful framework. (Table 24.1)

**Table 24.1** Knowledge frontiers – a conceptual framework

| Frontier | Domain | Utility | Limitation |
|---|---|---|---|
| Knowledge as frontier | Able to solve major human challenges, (particularly in health, human rights, the environment) | Need for innovation. New over accepted wisdom. Universal solutions | Patents vs. public |
| Social complexity as frontier | Society increasingly unknown, despite more sophisticated science and knowledge building | Contextual rather than universal solutions. Social validity | Accountability and risk. Deliverable outputs |
| Trans disciplinarity as frontier | Response to complexity as well as academic governance | Social science as science | Synthesis or creolisation |

The first *frontier* 'knowledge' is the idealised form, rooted in Enlightenment axiology; it has direct links to knowledge production for the knowledge economy and seeks to maximise global scientific effort. It acknowledges social complexity (Urry, 2003, 2005), often as an obstacle to be overcome, and it demands input from across the disciplinary spectrum of natural and social sciences. Yet complexity and trans disciplinarity are knowledge frontiers in their own right, deeply unknown and salient for understanding the evolving relationship between epistemology and research design, and between the general exogenous and endogenous character of social scientific research explained above. Heuristically, this set of frontiers presents a tension between discovery (frontier 1) and exploration (frontiers 2 and 3).

*Social complexity,* evidenced in the *Bonneville* case and cited many times in this book, represents a challenge for researchers in and across education and social work. This diversity of being and doing experienced through globalisation has become the vernacular or discourse *de jour* of policymakers, politicians and academics in conceptualising the need for new approaches to a seemingly intractable complexity as the main obstacle to resolving social problems. To this extent, it acts as a frontier for social scientific research and invites exploration.

Considering our Bonneville example further, one of the purposes of *social* science approaches, such as the action research employed, is the questioning of social complexity concepts (difficult-to-reach youth, for example), from both their ideational/ideological as well as material basis. In other words, these concepts are not static, are normatively inconsistent, and ideologically charged. The approaches chosen by the *Bonneville* research team provided a tactile entry point into the apparent or material complexities by engaging directly with what was seen or constructed as the problem. In doing so, the idea of difficult-to-reach-youth itself was scrutinised. The focus on and inclusion of these youths in the research process exhibits the kind of courageous inquiry required (cf. Marginson, 2008) to explore the frontier of social complexity.

This does not suggest that the *Bonneville* case demanded a simple pragmatism, an Aristotelian *phronesis*, as many critiques of social science as science would contend (Nowotny, 2005). Pragmatic detachment can foil attempts to gather essential information. As Welch (Chapter 17, this volume) and Bagnall (Chapter 18, this volume) explain drawing upon comparative research experience, social and cultural understanding is as much a pre-requisite as it is an outcome for any social scientific research endeavour that necessarily engages with people and their diversity, their individual experience, their complexity.

For some, complexity, manifested in social and cultural diversity and globalisation more generally, presents opportunities (Cope & Kalantzis, 1997); for others, the 'atomisation' of the individual (Beck, 1992; Beck & Beck-Gernsheim, 2002), or rather the negative social valency of the individual in contemporary society, represents complexity as problematic. The aim here is not to debate the phenomenon of social complexity (cf. Luhmann, 1995; Urry, 2005) but to link it to the neoliberal market discourse around accountability, evidence and transparency (cf. Giroux, 2005) which has also conditioned the social relations of academic work. As a reaction by the market to quantify that which is unknown or unresolved, combined with

unprecedented technological capacity to collect and analyse vast amounts of data, accountability and what counts as evidence become a condition of researching social complexity as it relates to the knowledge economy. In other words, a reduction of complexity is the goal, achieved not by investigation but by the conditions of investigation. Familiar tools and calibrations are expected to rationalise the unfamiliar, as was the case initially in *Bonneville*, contradicting the market-science mantra of innovation *and* the essence of academic freedom. This is played out in both the types of metrics agreed to study a problem, the degree of oversight or contractual control of *interpreting and publishing* (adverse) findings, and the outcomes or so-called deliverables that are to be presented within a certain timeframe with certain features.

Results, outputs, the need for conclusiveness through certain evidence – this is the common experience of contracted and applied research in social sciences, of research as national commodity. Ironically, in the 'hard' science example of the link between mobile phone technology and brain cancer, ambiguity and inconclusiveness are valid and desirable outcomes for the telecommunications industry and national economies, at least in the short term. Validation, re-validation and counter-validation ultimately question methodology and the science of knowing, and thus remain important. The problem of succumbing to deliverables as accountability in the (Mode 2) study of social complexity is that it acts as a proxy for questioning, for understanding, after Bauman's (1999) observation that contemporary neoliberal, atomised, marketised society no longer sustains the capacity for critical or deep self-reflection; merely, and at best, it entrenches limited or contextually discrete evaluation – first-aid rather than radical surgery.

The researcher engaged by government to study disadvantage in school, for example, might be contracted to (a) provide evidence of that disadvantage via certain metrics; (b) understand that their findings will be used as an accountability measure to, say, direct resources to ameliorate that disadvantage. To that extent, researcher and output will need to be transparent – accountable. This is a fairly straightforward transaction that might be termed evidence-based research. The metrics are the key negotiable in this instance, but it is clear that an account and recipe for systemic change to resolve disadvantage would be outside the parameters of a devolved study where responsibility for fundamental change is limited. Whether the researcher is able to then write such a recipe for peer consumption alone is moot, as epistemology has been found wanting in this example.

Some researchers (Smith, 2003; *see also* 2005; Nowotny, Scott, & Gibbons, 2001) contend that knowledge emanating from such Mode 2 production is validated as long as it is 'socially robust' (e.g., delivers efficiency, justice – Smith, 2003, p. 4). This, however, might only provide a validity that is as ephemeral as the next change of government or next financial year. Social complexity theory would remind us that social robustness is by no means an assured thing and that the means by which ideas (such as efficiency or justice) are distributed socially (Hannerz, 1992) are part of the problem. One concern with 'social robustness' is that it has been conceived of technocratically with a 'hard science' perspective; that, *ceteris paribus,* validation of Mode 2 knowledge can occur through iterative cycles of social experience

(Nowotny, et al., 2001; Nowotny, 2003). The problem is, *all things are not equal* in studies of the social. What we are invited to examine is not a socially complex knowledge frontier, but a controlled environment in the socially robust approach. The idea of a Mode 3, as presented in this volume by Groundwater-Smith and Irwin (Chapter 5, this volume) is one way forward for the researcher.

The frontier of social complexity is left wanting in the cause of the knowledge economy. However, while *reliability* is demoted from a tenet of Mode 2 social 'science' overall (and at a project level where repeat, iterative or comparative examination might be confined, or broadening the terms of reference might go beyond the terms of the funding envelope or political purpose), inter disciplinarity presents as a form of compensatory *construct validity*. The idea that interdisciplinarity is a feature of Mode 2 knowledge production comes directly from the modal model founders, Gibbons et al. (1994). It is worth making a distinction here between inter- and trans disciplinarity, although the terms are often arbitrarily exchanged: the former suggests cooperation and collaboration brought to bear on a problem; the latter is best reserved for the potential of a transcendence of the singular disciplines, an awareness or synthesis of two or more bodies of know-how, and more than simply an instrumental combination of statistical and interpretive techniques (*see* Gibbons et al., 1994). The idea of a transdisciplinary knowledge process might also address concerns that the three knowledge frontiers discussed here are typically colonised by the usual suspects – principally, American and European accounts at the expense of other *Southern* knowledge practices and paradigms (Connell, 2009; Weiler 2009). So, like the frontier of social complexity, trans disciplinarity as frontier presents at least two possibilities: a site for epistemic evolution and transcendence, or utility for rationalisation-maximisation of research resources. Put more simply, is it scientific innovation or market innovation? Neither or both? Nowotny (2007) makes a further observation of our frontiers:

> ... inter- or transdisciplinarity, difficult to institutionalize as it may be, will not by itself lead to a reduction of complexity – initially it might even increase its level. (p. 27)

Genuine exploration of disciplinary methodologies and epistemologies to address complex problems is a key issue for researchers in education and social work, who bring many disciplines to bear on their fields or domains. A contemporary example for education as noted in the introduction to this volume (Markauskaite et al., Chapter 21, this volume) is the growth in 'learning sciences' as a frame for a long standing (if not initially harmonious) relationship between disciplines as diverse as psychology, computer science and sociology (Sawyer, 2006). Whether this frontier work may ultimately evolve into a new distinct discipline, methodological tradition or disciplinary knowledge remains to be seen, but it points to the possibilities of genuine and reflective collaboration across disciplines with some shared epistemological roots.

## 24.5 Conclusion

This collection has focussed on an array of methodologies, exploring how these can contribute to new knowledge, understanding and explanations about social and educational issues and how they can play a part in positive social change, affecting the lives of people in an affirming way. In doing so we need to avoid making the research question fit the shared disciplinary framework and 'methodological toolkit'; rather, it should be the other way around. Nowotny is more ambiguous in summing up:

> In the end I think you just have to practise methodological pluralism, and to know how to match your research question with the methodology that you want to use to answer that question. (Nowotny, in Franklin, 2007, p. 379)

Research flexibility tends to contradict the notion of discipline, but 'closing out' options for extending our knowledge or exploring issues in ways that are different (thereby limiting the possibilities of producing alternative solutions to complex problems) should not be the casualty of disciplinarity informing methodology. The challenge remains to explore ways and to develop approaches for divergent conceptual frameworks and methodologies to 'talk to each other', transgressing disciplinary boundaries and influencing each approach, so that what we do is more than just 'mixed methods'. The resultant interplay between these conceptual frameworks and methodologies may create opportunities to evolve and transform disciplines and develop new understandings, introducing novel solutions to entrenched problems. The success of such an approach, however, is dependent on sound disciplinary contributions, which is critical to bridging the disciplines.

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