UNIVERSITY OF STRATHCLYDE

SCHOOL OF EDUCATION

THE SHIFTING SHAPE OF USEFUL KNOWLEDGE IN LITERACY TEACHING.

Sue Ellis

A thesis by published work presented in fulfillment for the requirements for the degree of Doctor of Philosophy

May 2012

BRITISH LIBRARY

ETHOS

Boston Spa, Wetherby
West Yorkshire, LS23 7BQ
www.bl.uk

Appendices A-G (published papers) have not been digitised at the request of the university. Please contact the awarding university for further information.

Author's Rights

This thesis is the result of the author's original research. It has been composed by the author and has not been previously submitted for examination which has led to the award of a degree.

The copyright of this thesis belongs to the author under the terms of the United Kingdom Copyright Acts as qualified by University of Strathclyde Regulation 3.50. Due acknowledgement must always be made of the use of any material contained in, or derived from, this thesis.

Signed:

Date:

Acknowledgements

Many people have contributed to the publications that I have submitted and are acknowledged therein. I would like to make particular acknowledgement of my colleague Penny Munn, who died last year and is sorely missed. I would also like to acknowledge my colleagues Elspeth McCartney and Jim Boyle, who are very much alive and with whom I enjoy working enormously.

I would also like to thank my supervisor, Professor Effie Maclellan for her encouragement, support and insight during the preparation of this thesis, and at other points in my academic career.

Finally, I would like to thank my longsuffering husband, Mark, and my children Tom and Sam, who have put up with an awful lot of my nonsense.

Contents

Abstract	vi
Table 1.0: List of publications: Papers submitted and contributions to each.	vii
Table 1.1: Impact on other professional, scholarly and research work	viii
Introduction	1
Literacy learning and teaching	1
The need for research-informed literacy teaching	4
Teachers' use of research	6
Overview of thesis	8
Papers 1 and 2: Constructivist curriculum analysis and case study approaches.	11
Paper 1	12
The research paradigm	13
Why it is helpful	14
How it positions teachers	14
Paper 2	15
The research paradigm	17
Why it is helpful	18
How it positions teachers	20
Mid-point summary	21
Papers 3 and 4: Post-positivist intervention approaches	21
Paper 3	23
The research paradigm	25
Why it is helpful	26
How it positions teachers	26
Paper 4	28
The research paradigm	28
Why it is helpful	29
How it positions teachers	30
Mid-point summary	31
Papers 5 and 6: Evaluation and case study approaches	32
Paper 5	32
The research paradigm	34
Why it is helpful	35
How it positions teachers	36
Paper 6	37
The research paradigm	39
Why it is helpful	39
How it positions teachers	40
Mid-point summary	41

Paper 7: Staff development/ action research approaches 42
Paper 7 43
The research paradigm 46
Why it is helpful 46
How it positions teachers 47
Reflection and future issues 48
Literacy research, teachers and teaching 49
Nothing is as practical as good theory 51
Education research 52
Scottish teachers, policy and professional development 55
The present and future for literacy education in Scotland 58
References 62
Appendices
Appendix A: Paper 1
Appendix B: Paper 2
Appendix C: Paper 3
Appendix D: Paper 4
Appendix E: Paper 5
Appendix F: Paper 6
Appendix G: Paper 7

Abstract

This submission for a PhD explores some of the paradigms of literacy research, and how teachers are positioned to use the knowledge generated to inform literacy education in schools. It draws on the candidate's published work from specific intervention and research projects to examine, on one hand, how a variety of research paradigms position teachers and teaching in relation to evidence-based practice, and on the other, how Scottish teachers are professionalized to attend to empirical evidence. It highlights how the clash of rhetorical traditions creates a theory-practice divide which teachers are not well-placed to negotiate. Recasting educational theory to develop an empirical evidence base to ground the theorization of teachers' classroom work would help to promote evidence-informed decisions about literacy curriculum design and teaching.

Table 1: List of publications: Papers submitted and contribution to each.

Paper	Reference	Contribution
Paper 1	Ellis, S. Hughes, A. and Mackay, R. (1997). Writing stories 5-14: What must the teacher teach? *Scottish Educational Review*, 29, (1), pp. 56-64. Edinburgh: Scottish Academic Press.	Identified the methodology and analysis perspectives. Lead writer of manuscript & responded to reviewers' comments on final paper. Verification of this can be sought from A. Hughes (co-author).
Paper 2	Ellis, S. (2003). Story writing planning and creativity. *Reading, Language and Literacy*, 37, (1), pp. 27-31. Oxford: Wiley Blackwell.	Determined research design, collected and analyzed the data, wrote the paper and responded to reviewers' comments.
Paper 3	McCartney, E., Ellis, S., and Boyle, J. (2009). The mainstream primary classroom as a language-learning environment for children with severe and persistent language impairment – implications of recent language intervention research. *Journal of Research in Special Educational Needs*, 9, (2), pp. 80-90.	Co-determined research design, instrumentation & mechanisms for data collection; co-led teacher/SLT sessions; contributed to data analysis and interpretation of results. E. McCartney can verify this.
Paper 4	McCartney, E., Ellis, S., and Boyle, J. (2010). Developing a language support model for mainstream primary school teachers. *Child Language, Teaching and Therapy*, 26, (3), pp. 359-374.	Co-planned research design; designed and implemented CPD to recruit & inform teachers; co-devised and analyzed teacher data E. McCartney can verify this.
Paper 5	Munn, P. and Ellis, S. (2005). Interactions between school systems and Reading Recovery programmes: Evidence from Northern Ireland. *The Curriculum Journal*, 16, (3), pp. 341-362.	Co-wrote bid; designed all semi-structured interview schedules for tutors, head teachers and teachers; designed all instrumentation to measure depth of implementation; devised coding categories (iterative analysis); co-designed tutor questionnaires; P. Munn designed teacher questionnaires & ran all statistical analyses. The interpretation, analysis and final report was a joint enterprise but I answered all questions from DENI (P.Munn was in hospital). For the paper, I scoped the overall

		argument and outline and co-wrote it. P.Munn did the statistical analysis. A. Hughes, (Head of Department at the time) can verify this.
Paper 6	Ellis, S. (2007). Policy and research: lessons from the Clackmannanshire Synthetic Phonics Initiative. *Journal of Early Childhood Literacy*, 7, (3), pp. 281-297. London: Sage Publications	Planned and designed the study; devised semi-structured telephone interview schedules for teachers/ head teachers; coded and triangulated responses; researched Education Committee minutes, tracked National Test data and wrote the paper.
Paper 7	Ellis (2002) Independent, Imaginative Writing: lots of problems some solutions. In Ellis, S. and Mills, C. (Eds.) *Connecting, Creating: New Ideas in Teaching Writing*. Royston: UKRA.	Sole design of development framework & instrumentation; sole identification of appropriate instructional anchors; collected, analyzed and interpreted the teacher data; sole report.

Signed:

Date:

Table 2: Impact on other professional, scholarly and research work

Paper title	Evidence of impact
Paper 1 Ellis, S. Hughes, A. and Mackay, R. (1997). Writing stories 5-14: What must the teacher teach? *Scottish Educational Review*, 29, (1), pp. 56-64. Edinburgh: Scottish Academic Press.	Requested for electronic reserve by California State University Monterey Bay Library in 2004 and again in 2008. Led to authorship of implementation support packs (distributed to all schools in Scotland): Ellis S & Friel G (1998): *Learning to Write, Writing to Learn*, Dundee, Scottish Council for Consultation on the Curriculum pp 154 Ellis, S and Hughes, A. (1998) *Writing it Right? Teaching Writing 3-8*, Dundee: Scottish Council for Consultation on the Curriculum, pp 36
Paper 2 Ellis, S. (2003). Story writing planning and creativity. *Reading, Language and Literacy*, 37, (1), pp. 27-31. Oxford: Wiley Blackwell.	9 citations This paper was graded 'high weight' by Myhill et al. in their recent systematic review of writing research: Myhill, D., Fisher, R., Jones, S., Lines, H. and Hicks, A. (2008) *Effective ways of Teaching Complex Expression in Writing*. Research Report No. DCSF RR032 ISBN 9781847751423
Paper 3 McCartney, E., Ellis, S., and Boyle, J. (2009). The mainstream primary classroom as a language-learning environment for children with severe and persistent language impairment – implications of recent language intervention research. *Journal of Research in Special Educational Needs*, 9, (2), pp. 80-90.	9 citations. A sister-paper won the *International Journal of Language & Communication Disorders* prize for 2011: McCartney, E., Boyle, J., Ellis, S., Bannatyne, S. and Turnbull, M. (2011), Indirect language therapy for children with persistent language impairment in mainstream primary schools: outcomes from a cohort intervention. International Journal of Language & Communication Disorders, 46, pp.74-82.
Paper 4 McCartney, E., Ellis, S., and Boyle, J. (2010). Developing a language support model for mainstream primary school teachers. *Child Language, Teaching and Therapy*, 26, (3), pp. 359-374.	

Paper 5 Munn, P. and Ellis, S. (2005). Interactions between school systems and Reading Recovery programmes: Evidence from Northern Ireland. *The Curriculum Journal*, 16, (3), pp. 341-362.	5 citations The study informed DENI spending priorities & Reading Recovery was granted £3,000,000 continuation funding. The Evaluation Report was the sole focus of a one-day seminar at Institute of Education, London. Dame Marie Clay gave a 30-minute response to the Report and to our paper.
Paper 6 Ellis, S. (2007). Policy and research: lessons from the Clackmannanshire Synthetic Phonics Initiative. *Journal of Early Childhood Literacy*, 7, (3), pp. 281-297. London: Sage Publications.	13 citations The paper is reproduced in Fletcher-Cambell, F., Soler, J. and Reid, G. (2009) *Approaching Difficulties in Literacy Development*. London: Sage. The paper is quoted by the Children's Laureate, Michael Rosen on his website and in an address to Kings College University, London.
Paper 7 Ellis, S. (2002). Independent, Imaginative Writing: lots of problems some solutions. In Ellis, S. and Mills, C. (Eds.) *Connecting, Creating: New Ideas in Teaching Writing*. Royston: UKRA.	1 citation

THE SHIFTING SHAPE OF USEFUL KNOWLEDGE IN LITERACY TEACHING

Introduction

All research paradigms have different rhetorical traditions that determine the methods and standards for making convincing arguments. This dissertation explores some of the paradigms of literacy research and analyses how teachers are positioned to use knowledge generated by research to inform literacy education in schools. It draws on my published work on specific intervention and research projects to examine, on the one hand, how a variety of research paradigms position teachers and teaching in relation to evidence-based practice and, on the other, how Scottish teachers are professionalized to attend to empirical evidence. The meta-argument, which provides a connective logic to the publications, highlights the clash of rhetorical traditions that creates a theory-practice divide which teachers are not well-placed to negotiate. It is argued that recasting literacy education research to focus more on the ways in which research evidence can be made useful for practitioners would ground teachers' professional knowledge about literacy and help to promote balanced and evidence-informed decisions about curriculum design. Connecting practitioner knowledge with research evidence would also provide a stronger basis for the theorization of their classroom work.

Literacy learning and teaching

Literacy learning and teaching crosses research disciplines. Literacy educators must draw on linguistics, literary theory and psycholinguistic perspectives to understand what children need to learn and on ethnographic, socio-cultural, historical, neurolinguistic and psychology research to understand the cultural, social and

cognitive aspects of literacy learning. Research into literacy education thus generates different sorts of evidence, arising from the various lenses through which classroom practice and policy can be examined. The relationship between these lenses is complex. For example, reading is a cognitive act; consequently, psychology research and its associated evidence paradigms have had a strong influence on the content and pedagogy of literacy teaching and on education policy (for example, Rose 2008; Palincsar and Brown 1984). However, Gee (2004) suggests that literacy is situated and specific to individuals and their communities. Understanding the socio-cultural context of becoming literate requires sociological and ethnographic paradigms and suggests a basis for literacy intervention that is rooted in changing the literacy culture and curricula of schools to make stronger bridges with the communities they serve. International surveys indicate that socio-economic status, gender and race are the biggest factors affecting how quickly and well a child learns to read (OECD 2010). European policy recommends targeting these socially constructed aspects with a mix of cognitive, social and cultural interventions (Eurydice 2011). The complexity is played out at all levels of policy and practice. Teachers need to adopt many perspectives to form a rounded view of the curriculum.

Literacy teaching in Scotland needs to become more effective. HMIE (2010) estimate that 23 percent of Scottish pupils leave school with poorer literacy than is needed for full participation in today's society. Since literacy problems become harder to address as learners get older (Clay1991), improving initial literacy teaching is a pressing issue. In England and the USA statutory, centralized curricula have been introduced to address this and debates about curricular content happen at national level. Scotland, on the other hand, has a curriculum framework designed to promote diversity. Schools serve localized populations with localized literacy needs and schools are empowered to design a curriculum that dovetails with those needs. Devolved decisions about the content, focus and pedagogy of literacy teaching create a space for education staff to use professional judgment. However, professional judgment is a complex and not infallible tool; research by Coburn and her colleagues indicates that it is influenced by personal experience, professional

training, professional cultures, the formal and informal organizational systems in which teachers work, local and national policies and, in some contexts, by research (Coburn 2001; Coburn and Talbert 2006).

Empirical research is important because history shows that it has regularly challenged professional judgment and overturned conventional practitioner knowledge about literacy teaching. For example, it has shown that low practitioner expectations may be linked to low literacy attainment (Strand 2012). It has also shown that some intuitively appealing interventions to mitigate the gender-gap in attainment, such as identifying 'books for boys' to encourage them to read, actually make the gap wider (Batho 2009). Empirical studies have shown that systematic phonics instruction does indeed help pupils learn to read (Torgerson et al. 2006), but also that it is most effective when differentially implemented depending on the prior literacy experience of pupils (Connor et al. 2004; 2007), that it needs to be coached in context (Thompson et al 2008), and that phonics programmes alone do not ensure a literate population (Pearson and Hiebert 2010).

Empirical research can also provide evidence about what makes literacy education effective and drive changes that result in better literacy outcomes for pupils. For example, large-scale surveys show that high reading engagement mitigates social class and gender effects on attainment whereas close monitoring of test scores does not (OECD 2010a). A meta-analysis of engagement studies by Guthrie and Humenick (2004) identifies that combining literacy strategy-instruction with intrinsically purposeful and motivating tasks, choice, collaboration and coherence, increases engagement. Guthrie and Cox (2001) show that this can be realized in various ways. Research also shows that teachers have the biggest impact on literacy attainment. Hall (2013) reviews empirical research evidence on highly effective literacy teachers and reports that, although they tend to use a similar mix of activities to their less effective colleagues, they work within them slightly differently: highly effective literacy teachers actively balance teaching the codes of written language with meaningful opportunities to use literacy; their teaching is more responsive,

purposeful and tenacious; they seize the 'teachable moment' to enhance the quantity, focus, rigor and coherence of learning; they actively organize to increase time on task and create opportunities to learn. Shulman (1986), a quarter of a century ago, reminded us of the importance of teachers' knowledge, including their understandings of teaching content, of how children learn that content, and of what might be difficult. The research Hall (2013) cites shows us how highly effective teachers act on that knowledge.

The need for research-informed literacy teaching

There are economic, political and legal pressures for literacy teaching in Scotland to become more evidence-based. Illiteracy is costly to the economy (KPMG 2006) and Scotland needs a literate workforce if it is to remain competitive and maintain its place within Europe. Literacy, as an important measure of human capital, is the focus of European Union high-level research-informed policy initiatives intended to raise literacy attainment and maintain Europe's place in the global knowledge economy (Eurydice 2011).

In political terms, education is funded by public money and there is a general expectation that public money will be well-spent. In Scotland, public sector accountability in the face of private lobbying is not the salient political issue that it is in the USA or England (Robbins 2010; Mills 2012). However, best-evidence scrutiny of policy development and implementation is still important because it protects public sector employees against charges of incompetence, cronyism or corruption.

The legal imperatives for ensuring that best-evidence informs literacy teaching are driven by the view that literacy is a key tool for basic education, which was recognised as a human right over 50 years ago in the United Nations Universal

Declaration of Human Rights. Pupils can, and do, seek legal redress for poor literacy teaching, undiagnosed literacy problems or inadequate provision (BBC 2000a; BBC 2000b). The internet makes up-to-date research highly accessible and allows stakeholder networks to share this knowledge to an unprecedented degree. Scottish schools and local authorities may be compelled to justify themselves against best-evidence criteria by lawyers working for parents and pupils, if not by fellow educators, local authorities, professional associations or the government.

Plainly, the relationship between literacy research and education is complex. Literacy research has varied purposes, uses and users. It may create knowledge to develop theoretical models, knowledge to inform content, pedagogy, practice or policy, or it may be used to construct and trial new research tools and methodologies. Users may be academic researchers, teacher educators, teachers, parents, politicians, managers, lobbyists or administrators.

Research paradigms are often classified according to their assumptions about the nature of knowledge, of knowing and of finding out. Mertens (2005), for example, separates research and evaluation on the basis of the type of questions, and thus the users. She identifies four major research paradigms with different epistemological, ontological and methodological assumptions: positivist and post positivist; constructivist; transformative, and pragmatic. Each is associated with different methodologies: post positivism with quantitative, experimental approaches; constructivism with qualitative methods such as interviews and document reviews; and transformative and pragmatic paradigms with mixed methodologies, chosen and scrutinized with particular principles in mind. Mertens distinguishes research and evaluation by the type of users and questions they address (research or policy and school community questions) but the same four broad paradigmatic categories are applied. Although advocates for particular paradigms identify teachers as a distinct user group with particular requirements (for example, Ladson-Billings (1995) argues the benefits of grounded theory for pedagogical understanding), there has been less consideration of how the range of research and evaluation paradigms positions

teachers, the pressures on the type of knowledge required, or how the knowledge needs to be re-shaped as it moves between communities of users.

Examining how the purposes for which knowledge is created, collated or used shapes its nature, form and value, and the consequences of this for teachers' daily work is clearly important. Approaches that distinguish between research and evaluation are particularly helpful in centralized policy contexts such as England and North America where there is a focus on making high-quality research accessible to policy makers and understanding how they use it (Levin 2010). However, making the research available and establishing an evidence-based policy does not automatically ensure that literacy *teaching* becomes research-informed. Coburn (2001; 2003) shows that teaching decisions are filtered by local and social understandings, forged by historical practices and by the formal and informal frameworks, policies and social networks that exist in schools and local authorities. Understanding this tier of research users, how local authority and how school staff are positioned to use research, is particularly important in Scotland's decentralized policy context, because this is where decisions about the literacy curriculum are made. The meta-argument in this dissertation looks at two aspects of this: one involves understanding how research paradigms position practitioners and their working lives and the other involves understanding how practitioners in Scotland are professionalized to attend to research evidence.

Teachers' use of research

The few published studies on teachers' use of research suggest an ambiguous relationship. Some studies suggest that teachers are thirled to un-evidenced, ideologically inspired models of teaching (Slavin 2008; US Department of Education, 2002) or are defensive and resistant to change (Bolam 1994). Helmsley-Brown and Sharpe (2003) found teachers less likely to consult research than

professionals such as doctors and Coburn and Talbert (2006) report that the organizational systems in schools and local authorities are poorly developed for the task of bringing research to bear on practice. Other surveys indicate that teachers are interested in research (Rickinson 2005), but that the way they use it is deeply social; school managers and school ethos influence not only how often teachers consult research (Williams and Coles 2007) but also the content and the type of research studied (Coburn and Russell 2008). Levin et al. (2009) found that personal experience and recommendations from colleagues are a stronger influence on teachers' beliefs than empirical evidence and several studies have found that when presented with original research, teachers do not assess its validity and reliability but focus instead on how closely the findings match their own experiences and classroom realities (Zeuli 1994; Williams and Coles 2007).

Several studies have indicated that teachers may not fully understand the research they do encounter. Cunningham et al. (2004) found that many primary teachers lacked knowledge of basic literacy research concepts such as 'phoneme' and Sheikh (1998a; 1998b) suggests that research findings should be re-cast into teachers' professional language if teachers are to understand them. Williams and Coles (2007) report that teachers rarely read research papers, relying instead on summaries which deliver the research findings in bite-sized chunks, and they also found evidence that teachers may lack 'effective information skills and strategies which would enable them to make use of research evidence' (Williams and Coles 2007 p.iv). The influence of research, therefore, is often indirect and exerted through research-informed resources and regulations rather than through direct professional engagement with the research evidence (Bolam 1994).

Clearly, the relationship between teachers and research is one that is ripe for wider consideration. The meta-argument of the work presented for this dissertation argues that literacy, as a complex subject, requires complex investigations that draw on a range of disciplines, paradigms and methodologies. Each positions literacy and teachers differently. Together, the mix forms a context that is difficult for teachers

and local authority educators to negotiate. This has implications for knowledge mobilization in Scotland and elsewhere.

Overview of thesis

The papers submitted here represent a variety of literacy research paradigms. They make different kinds of contributions to the research about literacy teaching and learning in schools but they also make different assumptions about the professional context of practitioners' work and different demands on teachers' epistemological understandings. They are grouped so that cognate points can be picked out. The discussion of each paper is structured as follows:

- a description that outlines key issues in relation to the paper;
- an explanation of the research paradigm;
- an explanation of why it is helpful;
- a consideration of how it positions teachers.

A short mid-point summary at the end of each pair of papers highlights the main elements of the connective logic in the argument.

Papers 1 and 2 report a curriculum document analysis of national writing guidelines and a case study of how writing is taught in schools. The methodologies are constructivist/ pragmatic and are focused on exploring the context of practitioners' work to understand the professional decisions they make. Both studies, in different ways, position teachers and teaching as central to learning and offer potential to translate into professional knowledge.

Discussion of Papers 3 and 4 examines some issues that arise from mixed method, quasi-experimental interventions framed by post positivist paradigms. The meta-argument is that no single methodology should be privileged by literacy education

research and that randomized controlled trials of programme efficacy need to be supplemented by a robust, qualitative knowledge-base about implementation if the RCT knowledge is to become useful for teachers. Paper 3 is a mixed-methods implementation study of a programme that had been successful in randomized controlled trials. Paper 4 is a focus group study of how to support implementation by developing a model of negotiated compliance and the meta-argument raises issues around compliance and professional judgment.

Papers 5 and 6 report a mixed-method evaluation study and a case study of a programme implementation. Both papers shed light on how contexts of implementation affect programme efficacy and the meta-argument concerns the implications for teachers' knowledge and for reporting evidence. Paper 5 provides evidence that schools, as highly localized implementation contexts, impact on the efficacy of even highly regulated programmes. Paper 6 demonstrates that programme efficacy may look different when seen through different lenses. The final paper, Paper 7, stands alone as an early-career paper aimed at teachers. It is not a research paper but is included because it raises issues about the form and nature of professional knowledge and knowledge-creation as distinct from the form and nature of research knowledge and knowledge-creation. As a professionally-orientated paper, Paper 7 illustrates the difference between knowledge transfer and knowledge mobilization; that the form of knowledge that can serve improvements in teaching may be different from the form of knowledge that serves research. It illustrates the outcome of one way of engaging a substantial number of teachers in using research knowledge at a high level, but one that does not require them to become mini-researchers. It illustrates one way to support teachers in enacting research in multiple contexts in order to construct pedagogically grounded understandings of literacy research. The commentary that surrounds Paper 7 also serves a different function: it provides substantive information, not reported in the paper itself, about the staff development framework and implementation processes used, and locates the knowledge mobilization debate in debates about professional equity, breadth and depth of implementation, and cost-efficiency. Paper 7 therefore stands in a different

relation to the meta-argument from papers 1-6 and plays a substantially different role in the overall thesis.

The final section of the meta-argument examines briefly some aspects of the professional context for how research knowledge is used in Scotland. It examines some problematic aspects of the way education theory is applied to literacy curriculum development. It also examines the rather linear nature of the links between research and professional knowledge as represented in models of initial teacher education and enacted in national assessment policies for literacy, knowledge mobilization and continuing professional development in Scotland. It considers the implications of the theory-practice divide for how teachers are professionalized to attend to empirical research and for the profession's capacity to drive future research agendas.

Overall, the thesis indicates an urgent need to articulate how research paradigms might contribute to professional knowledge as well as to research knowledge and policy knowledge. Focusing on what makes it difficult for teachers to negotiate the range of disciplines and research methodologies is important if we are to theorize and develop literacy teaching in ways that could frame and support teachers' professional judgments and use literacy research effectively to create professional knowledge. The thesis acknowledges however, that the focus on problematizing research knowledge challenges some dominant conceptions of the linear links between research and professional knowledge and between education theory and practice. It will require decisive action from the research and professional communities to embed research knowledge in appropriate forms into the organizational systems and staff development processes of local authorities and schools.

Papers 1 and 2: Constructivist curriculum analysis and case study approaches

These first two papers focus on the writing curriculum. Paper 1 is a document analysis of the *5-14 National Guidelines* for teaching writing. The *5-14 Guidelines* were produced in 1989 to guide teaching content and progression in Scottish primary and early secondary education. The guidelines were based on current 'best practice' and the paper considers how well this perception of practitioner knowledge matches insights into effective writing tuition from a variety of research-informed perspectives. Paper 2 presents a mixed-method case-study of how these guidelines impacted on teachers' conceptualization and implementation of the writing curriculum, and how this affected the ways their pupils understood the specific tasks assigned to them. It considers the teacher data at three levels: planned curriculum content; pedagogy and teaching; and assessment to analyze what teachers did, and how they responded to evidence of pupils' understanding. In broad terms, Paper 1 identifies the theoretical implications of the gaps and assumptions in the curriculum guidelines and Paper 2 presents evidence of the practical manifestation of these gaps.

Research-informed approaches to writing, how pupils learn to write and how writing is taught exemplify how literacy can be viewed through multiple lenses. Systemic functional linguistics links the social purposes of writing to its text structure, syntax and vocabulary, and holds that an explicit understanding of this benefits writers (Martin and Rose 2008). Cognitive approaches outline the processing requirements and strategies as well as the different 'knowledge telling' and 'knowledge transforming' functions that writing can perform for the writer (Bereiter and Scardamalia 1987). Developmental approaches indicate that young writers actively construct understanding and may do this in different ways (Clay 1991). Social- and critical-literacy perspectives focus on literacy as a social construct (how texts position both writer and the topic) and empowerment through literacy (Street 1995; Gee 2004). Pedagogical approaches based on the process of writing indicate that it is empowering for pupils to identify strategies to help writers generate, manage, review

and edit content (Graves 1994; Fisher et al. 2010). Together, these lenses imply that a successful writing curriculum and pedagogy must focus on the child, must encompass the full range of pragmatic social and cognitive purposes for writing and must identify linguistic structures and strategies that enable learners to orchestrate, drive and manage their own writing.

Paper 1 Ellis, S. Hughes, A. and Mackay, R. (1997) 'Writing stories 5-14: what must the teacher teach?' *Scottish Educational Review* 29 (1) 56-64 Edinburgh: Scottish Academic Press; Scotland.

Paper 1 provides a document analysis of the *Imaginative Writing* strand of the National 5-14 Guidelines. National curriculum guidelines are an important mechanism for transferring policy into practice. They guide teachers' planning, implementation and assessment and inform school, local authority and national evaluation frameworks.

The paper outlines the empirical and theoretical knowledge gained from the various paradigms of linguistics, process writing research, developmental writing research and pedagogical research on children as writers in school. It uses these perspectives to examine the *5-14 Guidelines* and identifies missed opportunities to focus teaching and teachers more directly on young writers' understanding and thinking. It argues that an unintended but likely impact of the *5-14 Guidelines* will be to narrow teachers' understanding of the content and pedagogy of writing to focus on the discrete features of the written product rather than on the social and cognitive context of writing, the child as a writer or on the writing process.

The paper questions the policy decision that curriculum development be based on 'best practice'. Whilst this avoided radical change and maximized the acceptability of curriculum guidelines to the profession, it missed an opportunity to create a

research-informed curriculum. The 'best practice' approach replicates and enshrines widely-held but unfounded practitioner knowledge about the nature of writing, the aims of school writing and of teaching children to write. Thus, instead of re-positioning writing as a social, linguistic and cognitive tool, the *5-14 Guidelines* continued an unhelpful focus on teachers' interpretations of written products.

The research paradigm

The research approach in Paper 1 is a curriculum document analysis that draws mainly on the theoretical perspectives of linguistics, developmental writing and process writing. The research paradigm is broadly constructivist; it accepts that the curriculum framework reflects priorities and understandings that are socially and culturally-determined (Eichelberger 1989). It identifies from the content, those theoretical perspectives which are represented in the curriculum and those which have been prioritized. These can be linked to explicit and implicit assumptions and the implications for teaching and learning examined. The analysis can also identify omissions, and hypothesize the likely effects of these. Such analysis can help researchers and practitioners to develop more complex practical and theoretical understandings of the scope and reach of the curriculum framework.

A recent study that used this methodology to investigate England's National Curriculum is *The Cambridge Primary Review* (Alexander 2010). This drew on dominant research themes to analyze the current curriculum aims and frameworks of the National Curriculum. The final report sought to re-envigorate education to address first principles about what matters in children's lives and the global and social contexts of schooling as reflected in the schools, classrooms and education policy mechanisms of England.

Why it is helpful

Critical analyses of curriculum guidelines can make a valuable contribution to literacy education and to educational research; they help us all to understand the context in which teachers are operating and make it possible to explain and understand important aspects of teacher actions, as well as the influence of different research paradigms.

Curriculum analysis is the first step in understanding how theoretical frames align with those of the practice community. The knowledge generated takes different forms. One form identifies the dominant perspectives and assesses the validity and breadth of the theoretical and empirical knowledge that is informing, and possibly driving, the curriculum. Analysis of the content items and of the (possibly unacknowledged) assumptions and bias towards particular perspectives on literacy helps teachers to think about how different dimensions of the literacy curriculum are represented. Another form of data identifies the gaps –what is *not* in the agreed curriculum but could be. This could help teachers identify where else in the school curriculum children might get this input, and if necessary, to put it in.

How it positions teachers

This curriculum document analysis does not seek to deny reality by suggesting a parallel vision of education with alternative aims, purposes and philosophical justifications. Rather it seeks to examine how the current curriculum frames teachers' work and to identify where the emphases and gaps lie. In practical terms, curriculum document analysis highlights what may be driving a curriculum but also what might be lost from a curriculum that is too narrowly focused. Importantly, challenges are not simply ideological; they are based on hard-won knowledge that is theoretically and empirically grounded.

The approach acknowledges that education is not neutral and that choices made about aims and purposes are given life in the form of curriculum frameworks and teaching content. It offers the potential for teachers, education administrators and policy makers, as well as researchers, to understand more fully how to control, mould, use or investigate the framework to achieve particular ends. By mapping this onto the frameworks in use, it seeks to make knowledge more accessible.

Such research highlights problems in the curriculum using the best available evidence and understandings. It exposes underlying assumptions in the curriculum and it positions teachers as potentially knowledgeable, active, participants who can shape its delivery. It makes research knowledge accessible for principled implementation decisions. It does not pretend that teachers are completely autonomous and, lacking a clearly articulated model of use, it leaves them relatively unsupported should they wish to act on the knowledge generated. Without support, teachers may feel this is theory that lacks practical import. It creates knowledge that can inform professional judgment and agency but needs to be re-contextualized as a tool for teachers if it is to empower them. The research needs frameworks to actively engage teachers in its use.

Paper 2
Ellis, S. (2003) Story writing planning and creativity *Reading, Language and Literacy* 37 (1) 27-31 Oxford: Wiley Blackwell ISSN: 0034-0472

The study reported in Paper 2 was carried out some years after, and was influenced by the work for Paper 1. It investigates how some Scottish teachers actually taught planned and assessed writing: how they used resources; what they noticed; what they valued; and what they sought to change. It also investigated the impact of this on the pupils' purposes, values and understandings. The data indicate that the teachers made performative judgments about the writing children produced and that these

framed their lesson design and teaching input. The consequence of this was that the lessons were designed to improve the written product. The teachers' interventions did not build creative or expressive capacity in the young writers and they did not particularly seek to do this. Although teachers readily identified what pupils found difficult, they did not address these aspects by teaching strategies to overcome the difficulties but instead structured tasks so that difficulties did not present themselves. The study also found that teachers believed that a child was either imaginative or not and that this was mirrored by a professional belief that creativity and imagination could not be taught, fostered or changed. This resulted in pedagogical choices that did not seek to introduce young writers to strategies to develop creativity or imagination in imaginative story writing.

The paper argues that a stronger focus on building capacity in pupils as young writers (rather than on assessing written products), would focus on the cognitive challenges involved in writing. This would result in more analytical understandings (and critical use) of the various scaffolds and writing tasks suggested in text-books and schemes of work.

The gaps and unfounded assumptions in the curriculum guidelines were, to a large extent, evidenced in the writing classrooms. Teacher reflection was limited by the teachers' understandings of what was possible and desirable for children to learn. This practitioner knowledge was confirmed rather than counterbalanced by the product-orientated *5-14 Guidelines*, possibly because they were based on 'best practice' rather than on more theoretically and empirically informed approaches.

The pupil data indicated that the children had a limited understanding of what writers might seek to achieve by writing. The paper suggests that scaffolding wider cognitive effort out of the writing task limits pupils' scope for writing and their understanding of the knowledge domains that could legitimately and usefully inform their writing. By focusing writing tasks explicitly on the structural, syntactic and lexical quality of the written product, teachers had prompted pupils to re-define what

is required. Instead of seeing writing as a tool to generate and hone ideas or to engage the reader in considering those ideas, pupils defined writing as a technical task. They did not engage in the writing process in ways that helped them to generate, represent and empower their thoughts and ideas but in ways that focused on producing a text to meet narrow teacher-as-reader expectations of well-formedness.

The research paradigm

The research paradigm is constructivist and accepts many teacher and pupil constructions of meaning and knowledge. It uses a mixed-method case study methodology to investigate how writing was taught within individual classrooms. It employed individual and focus-group interviews as well as classification and statistical analyses of the story structures produced. Iterative semantic analysis of interview data identified key themes, which were then used to code the views expressed. The dominant themes from each group of participants (teachers and pupils) were compared with each other and with the theoretical analysis of the curriculum resources and dominant themes from theoretical perspectives on writing and writing research. The sampling of written scripts in this study has high ecological validity, drawing on writing tasks generated as part of the normal school curriculum. The focus on different perspectives and on teachers' interpretation of the tasks chimes with theoretical ideas about teachers as 'front line' policy developers (Coburn 2012), although this was not a phrase known to me at the time. Triangulation of pupils' and teachers' accounts ensured that the data, although based on participant recall rather than direct observation, was as robust as it could be.

Case studies are not replicable and do not follow a rigid, pre-determined protocol to identify and then test atomistic variables derived from a particular theoretical outlook. Although they involve systematic data collection and analysis, the 'case'

may not be typical and it can be difficult to reliably extract general principles to generate robust, transferable knowledge. However, the value of case studies lies in their capacity to capture the many ways that different factors impact on each other in intricate ways in specific situations. They are able to incorporate a variety of theoretical perspectives and are particularly useful for researchers, teachers and policy makers to understand the complex interactions between literacy teaching, learning, curriculum and resources in a real classroom environment. They can create an empirical basis for further conceptual work about the types of literacy learning mix or the pedagogical practices that are effective and less effective for literacy learning in particular contexts, leading to additional exploration through further empirical work (Bassey 1999).

Why it is helpful

From the perspective of theorizing what matters in the complex environment of the literacy classroom, case studies illustrate for teachers and researchers, the complexity of teaching and learning environments. A theoretical foundation to help teachers understand their work needs to embrace methodological and knowledge frameworks that enable researchers to theorize the complexities of practice as it exists. The need for this was identified by research innovations by the Design-Based Research Collective (DBRC 2003; Brown 1992). They seek to re-position empirical research in education to focus on understanding how curriculum or pedagogical designs function in different settings and identify the implementation and learning issues involved. This, they argue, would create usable knowledge for the field in the form of, for example, subject-specific scaffolds and context-sensitive advice about implementation. The knowledge would be useful for teachers and help to theorize teaching in ways that are dynamic.

This case study generates knowledge about literacy learning and teaching that is context-alert and creates tools that are transferable across teaching contexts. One such tool is the classification of story-writing tasks in terms of the extent to which the story events were scripted. Most analyses of narrative writing use linguistic theory to classify the syntactic and structural complexity of the finished product. Such analyses can inform teaching: for example, Perera (1984) showed that teachers expected linguistic structures in writing that were not evident in pupils' spoken language until much later; genre theory, which draws on systemic functional linguistics to link the structure, syntax and lexicon of the text to its social purpose, has generated several pedagogical scaffolds (Rose 2008). However, linguistic classifications and supports are necessarily based on the features of the written end-product and do not directly address the complexity of the composition task or of the thinking processes that underpin the production of the text. Yet teachers need to notice and support the process of text production. An open-ended, imaginative, story task requires young writers to create, drive forward and control a completely invented story. This presents a different cognitive challenge from a scripted story task in which the story characters and sequence of events are pre-determined, either by a real-life experience, a picture-sequence or a story plan. Scripted tasks map out the key characters, initiating event, complicating factors and resolution in sequence and these elements do not play the same pivotal role in the writing process as they must play in unscripted, creative writing. In writing scripted stories, the writer must recall/recreate the key characters and events and relate the story in an engaging way. Unscripted stories, however, require the writer to use key elements such as characterization to generate ideas at the beginning and throughout the story, but also to constrain the storyline to keep it manageable and stop it going off at tangents. Although both scripted and unscripted stories result in narrative text, they make different cognitive demands on the writing process. The challenges this presents, and the pedagogies that can support, without crushing each type of story, are discussed in Paper 7.

How it positions teachers

The research design in Paper 2 positions the teacher and pupils as central players in the classroom environment and seeks to build practitioner and theoretical understandings of how pedagogical frameworks, resources, interactions and environments inter-relate to promote or inhibit pupil learning. It ties the empirical evidence of what matters in literacy teaching to teachers' working lives and concerns.

The case study did not begin with a view of 'good practice' and measure resources, outcome and activities against this. Instead it sought to draw on empirical data to describe in a reasonably systematic way, some of the relationships between frameworks, resources, activities, intentions and outcomes. This allowed the possibility that different paths could lead to common outcomes and that practice could influence research questions. It also allowed the possibility that teachers could use principles extracted by research to analyze, and learn from, their own practice. The research generated useful knowledge by identifying how some of the aims, resources and interactions in the classroom environment knitted together to promote or inhibit different kinds of learning.

Because the research design tries to capture the complexity of the teachers' working environments one could speculate that teachers may recognize, or apply, the principles and lessons in their own practice. However, a single case study can only hint at the elements, patterns and tools that might be important. Teachers would need case studies across many contexts to begin to identify which elements, factors and patterns of relationships are widely held. A series of case studies would enable a stronger theorization of the relationships between the factors. It could begin to identify those that were local and specific to the chosen contexts or were more general and related to the policy or organizational frames, to their alignment through

implementation at national, school and local authority levels, for example. It could also identify and refine the tools that help us to capture them.

Mid-point summary

These two papers then, report research studies that are closely linked to the professional context of practitioners' work. Both methodologies position teachers as central to the teaching and learning curriculum. This raises the possibility that the knowledge generated might mirror aspects of professional knowledge because it is not a huge jump. However, both require to be used with translation mechanisms if principles are to be fully embedded into practice.

Papers 3 and 4: Post-positivist intervention approaches

For some researchers, the problem of using research knowledge to inform literacy education appears simple: rigorously evaluate programmes and ensure that teachers use only those that demonstrate high impact (Torgerson and Torgerson 2001; Chalmers 2003; Slavin 2008; Tymms et al. 2008; Chambers 2008). This view gained impetus from the definition of 'rigorous scientific standards' applied by the US National Reading Panel (NRP), set up in 1997, which equated reliable scientific evidence with replicable evidence (NRP 2000 p.21). Many argue that education research (see for example, Chatterji 2008; Pawson et al. 2005) and literacy research in particular (Cunningham 2001) does not lend itself to positivist models that prioritize randomized controlled trials (RCTs), but the NRP inquiry adopted *a priori* a positivist, hierarchical ranking of research methodologies. This had immediate impact on the literacy curriculum in the US because government grants were available only to schools and districts that used 'proven methods' of instruction and

it produced ripple effects that traveled across the world. Randomized controlled trials (RCT) trumped controlled cohort studies, which trumped case study series, then individual case studies and, at the bottom, professional observation as a basis for evidence-based teaching (Eisenhart and Towne 2003; Cunningham 2001).

In England, this model of literacy research was vigorously promoted to policy makers, first by Slavin (2005) in locating his *Success for All* programme within the National Literacy Strategy, and then by phonics researchers. For example, Morag Stuart, Professor of Psychology at the Institute of Education in London, gave expert academic evidence to the Westminster Select Committee of Enquiry into Reading and told them that psychology was the only paradigm with 'hard evidence'. The Chairman clarified this, saying: "So we should listen to psychologists more than education researchers?" and she replied, "The research on reading goes on in psychology departments" (Education and Skills Committee 2005 Q. 38-9 p.5).

Literacy researchers that criticize this hierarchy argue that it favours intervention studies and promotes reductionist views of literacy development whilst ignoring ethnographic and sociological research that would ground and contextualize experimental work (Cunningham 2001). A well-designed RCT identifies one variable for investigation (for example, an educational programme) and controls for others that may influence the outcome. It requires random allocation of pupils, strict compliance measures, blind assessment and levels of significance agreed independently at the start of the trial. There are technical difficulties meeting these criteria - children cannot be randomly allocated to schools and classes, or randomly allocated to follow different programmes within a class, and schools have distinct socio-economic profiles and management characteristics. Cluster randomization at the level of class or school is possible, but requires huge numbers of schools.

However, prioritizing RCTs as the most powerful methodology to inform literacy teaching raises more than technical questions. Papers 3 and 4 illustrate why different methodologies need to work together to create useful knowledge for

teachers. Papers 3 and 4 concern two linked research studies into how children with speech and language difficulties can be supported in mainstream schools. Paper 3 presents a mixed-methods implementation study that highlights what actually happens when a successful programme is transplanted from the rarified conditions of an RCT into real school contexts and Paper 4 reports one way to ensure compliance in programme delivery. Both papers concern the difficulties of implementing research-proven programmes in ways that impact in real classrooms and they raise issues about the extent to which teachers are positioned as curriculum conduits rather than central drivers of teaching and learning.

Paper 3:
McCartney, E., Ellis, S., and Boyle, J (2009) The mainstream primary classroom as a language-learning environment for children with severe and persistent language impairment – implications of recent language intervention research. *Journal of Research in Special Educational Needs.* 9 (2) p. 80-90

In 2007, an RCT conducted by Strathclyde colleagues Jim Boyle (Psychology) and Elspeth McCartney (Speech and Language Therapy) had shown that tailored advice to support mediated use of an activity manual could make a statistically significant improvement to children in mainstream schools who had receptive language difficulties (Boyle et al. 2007). This success, which involved relatively inexperienced speech and language therapy assistants, suggested that perhaps the same approach would support school staff and help them meet their legal obligations to provide appropriate support for the language-impaired children in their care. It was possible this study might be even more successful because, working with the children all day, school staff could provide teaching and reinforcement during general classroom activities in addition to the dedicated intervention sessions.

I became involved at this point. We designed a cohort intervention involving 38 children with receptive language difficulties, spread across 19 schools in one local

authority. The project used the same inclusion criteria, the same target-setting and intervention procedures, and the same consultancy and training model as the original RCT. The local authority was enthusiastic and all teachers and head teachers agreed to implement the activities on the original schedule devised for the RCT and to log contact sessions. The children were pre-tested and post-tested immediately after the intervention using the same standardized test as the RCT.

However, as Paper 3 reports, the intervention did not work. There was no significant impact on the children's expressive or receptive language and when we analyzed the teachers' logs it was clear that the implementation study averaged far fewer contacts per week than the previous RCT. Although the teachers had usually planned for the agreed three activities a week, circumstances meant that they were not all delivered; staff were relocated to cover absence and classroom events (lack of time, other pupils/ activities being prioritized) diverted staff from implementing the planned activities with the group. In short, the programme failed to compete successfully for curriculum space and teacher attention.

This study generated a number of interesting findings that were not clear from the RCT. It showed that neither their legal obligation to pupils, nor the knowledge that if properly implemented, the intervention would work, was sufficient to trigger teacher compliance. Moreover, the increased knowledge and awareness of the class teachers did not compensate for the lack of dedicated intervention sessions, despite the potential benefits of being with the children all day. Scotland's policy of social inclusion is based on the ideological belief that mainstream schools offer richer learning environments for social and language development. This study indicates that, for language development at least, the practical realities are such that children may make better progress attending specialized language support units or speech and language therapy groups.

The research paradigm

The research design is a cohort implementation study. Cohort studies detail the participant and contextual characteristics of an implementation in ways that enable the nature of the cohort and its responses to be documented and compared to others. The population sample is not randomized, which means that the research may be affected by erroneous elements that are unique to that particular cohort or context and might generate data that misleads researchers and teachers (Sackett et al. 2000; McCartney 2004). This is why the knowledge from cohort studies is judged to be less replicable and therefore less scientifically reliable, than RCTs.

However, the mixed-methods in this cohort study yielded important information about the operational issues that affected how the programme is prioritized and implemented in schools, including complex issues arising from teachers' planning, managing group work and individual learning agendas, managing pupil time, teacher time and other staff, as well as the challenges of navigating the complex power hierarchies in schools. This information did not emerge from the RCT because the RCT's funding, status, dedicated staffing model and enforced compliance measures removed it from the implementation constraints. It generated important professional knowledge for teachers.

Some teachers, operating on a common-sense principle that 'half a cake is better than no cake' had assumed that any contact around the agreed language activities would have some impact. The cohort study showed that this was not a sound professional judgment: unless schools could ensure that the children were going to receive sufficient sessions each week, the programme was not good use of anyone's time.

Why it is helpful

Paper 3 illustrates the value and role of implementation studies in education research. Datnow et al. (2002), Coburn (2001; 2003) and many others indicate that successful programmes lose impact when rolled-out. To roll out a successful programme, knowledge that it works is not enough; it is important to identify how it dovetails with the affordances and constraints in learning and teaching environments and to have an evidence-base for any decisions about the compromises made. RCT knowledge has clear value; it indicates what might be worth trying but Paper 3 illustrates that, for teachers, implementation knowledge is as important. For researchers, knowledge *that* the programme worked rather than *how it operates* is important because they can build theoretical knowledge around the 'active ingredients' of the programme. For teachers, knowledge that the programme worked is not enough. The adaptation issues are not obvious and implementation studies provide essential professional knowledge.

How it positions teachers

The rhetoric of the 'scientific RCT' in literacy research is seductive, particularly the focus on distinguishing effective literacy interventions from ineffective ones. It offers a vision of certainty, the promise of hard-nosed evidence for what works, and a recipe that teachers only have to follow to guarantee success.

In all professions, research evidence must guide rather than determine professional decisions and actions; professional judgment mediates how the evidence is brought to bear in context. Teachers always have to adapt programmes because a curriculum based entirely on faithful implementation of RCT-proven programmes would be atomistic and lack coherence, which is essential for pupil engagement (Guthrie and

Humenick 2004). Teachers also adapt programmes to meet varied educational objectives; they want pupils to read, but also to get along with others, be independent and develop a range of social skills. The professional challenge is for teachers to make judgments that respect several things: the ecology of the curriculum; the key elements of the programme; the policy goals of the school, and the characteristics and needs of the pupil cohort. RCT evidence provides one part of the picture but for professional purposes RCT information is incomplete.

Fundamentally problematic for building an education theory that supports teacher decisions, is that RCTs of programme efficacy randomize-out the impact of the teacher. This can give the impression that the design features or content of the programme are what matters most. It can skew policy, resources and professional attention away from research on teaching and teacher adaptations, which Hall (2013) shows will give the biggest payoff for learning.

In terms of evidence-based practice, the RCT showed that, with the right support, children with severe and persistent language difficulties can make progress. The cohort study showed that knowing how a programme actually operates is equally important. This led to the study reported in Paper 4, where focus group research methodology was used to develop a multi-leveled management model for implementation. This employs a range of prompts and checks to ensure that head teachers, teachers and classroom assistants prioritize the programme.

Paper 4
McCartney, Ellis and Boyle (2010) Developing a language support model for mainstream primary school teachers *Child Language, Teaching and Therapy*, 26 (3) 359-374

Paper 4 describes a model to support effective implementation of the intervention programme described in Paper 3. The model is one of negotiated compliance. It requires explicit agreements about how the intervention will be implemented, including the roles and responsibilities of all staff and the requirement to monitor each other to ensure that the operating parameters of the programme dovetail with the opportunities and constraints of the school context. It is envisaged that adopting the programme would trigger this organizational system designed to promote and ensure compliance.

The paper describes the nature and timing of the target review/ setting procedures, email prompts and other 'nudge and check' procedures that would lock all staff into a tight delivery framework, enforced by mutual checking and cross-checking.

The research paradigm

The research approach is focus-group analysis and involves two groups in different local authorities. The research design used the model produced by one focus group of users on a new focus group of potential users, in this case teachers and speech and language therapists in different local authorities. The final model has not been trialed in the field. It is an empirical question whether working in this way would deliver compliance, and whether such compliance would produce the benefits suggested by the RCT. It is also an empirical question whether this would enhance teachers' wider prioritization of the needs of children with language impairment and make them more tenacious in following-through teaching content throughout the day

to provide the frequent, focused practice and responsive teaching input these children need.

Focus group research methodology requires purposeful, planned small-group discussions designed to enable participants to explore and clarify their views so that researchers see the issues from participants' points of view and understand why they think as they do. Non-threatening discussions both allow discussants to contribute their affective reactions and generate ideas and information (Kitzinger et al. 1999). Focus groups can thus provide information about cultural/group workplace norms and expectations that researchers may not have previously identified as relevant. They are particularly useful for research aimed at understanding why things happen as they do or for exploring the potential ramifications of applying different solutions to workplace problems.

Why it is helpful

The methodology positions the discussants as experts in the context of implementation, if not in the curricular or theoretical content. This provides ecological validity (Levine and Zimmerman 1996; Heary and Hennessy 2002). Although the research findings cannot always be generalized to other groups and other contexts, they may generate questions or solutions for further investigation. For researchers, focus groups raise issues that may not have been identified and can therefore help to ensure that future studies are more grounded.

How it positions teachers

Although the focus group methodology positions teachers as powerful and active participants in the research process, the ultimate aim of this research - to create a model of implementation to ensure compliance - positions the teaching profession as a whole rather differently.

One view is that, in designing for compliance, the model risks promoting a top-heavy system in which the internal focus is on compliance-monitoring and the external focus is on a package of activities. It could result in a rule-bound, inflexible system that does not promote learner or teacher engagement. Moreover, the approach assumes that the intervention programme operates as a 'sealed unit' within the class/ school. It does not acknowledge adaptations or the impact of differences in classroom contexts, literacy communities or teacher knowledge and skills. However, if the model prompts teachers to address the needs of children with language problems it would do much to support the educational rights of children who are already vulnerable. Another view therefore is to argue that the educational rights of vulnerable children must be ensured and curriculum implementation must embrace such models to obtain adequate education for disadvantaged pupils.

The tensions between professional judgment, research evidence and compliance are under-explored in teaching. In professions such as engineering or medicine compliance is a central tenet of professionalism. It relates to vital parts of the job, enshrined in law. In teaching, elements enshrined in law (such as meeting the needs of vulnerable children) are served by professional judgment but compliance in peripheral aspects (using specific planning formats or resources, for example) is heavily monitored and enforced. It is an empirical question whether designs based on negotiated compliance, with all their implied external checks-and-balances are the best way to ensure delivery. One cannot assume that models of negotiated compliance would automatically change teachers' attitudes to their professional

responsibilities. It is possible that other forms of knowledge mobilization would offer more efficient and effective ways to deliver pupils' rights.

These are not the only questions created by the negotiated compliance model in Paper 4. The monitoring process includes several 'checkpoints' in which progress is to be discussed with the speech and language therapist. It is a model of inter-professional working that offers excellent conditions for deep and meaningful staff development. We know that teaching activity followed by conversations with 'expert others' focused on specific teaching and learning options for particular pupils within particular activities builds professional understanding (Coburn 2001). However, it is equally possible that in practice the teacher could become a sort of 'speech and language therapy assistant', operating with little understanding and agency. Again, implementation studies are important if we are to understand this process.

Mid-point summary

The connective logic around Papers 3 and 4 argues that no single approach should have a monopoly on education research. Schools are highly localized implementation contexts. RCT studies, although replicable, cannot generate the implementation knowledge that teachers require if they are to make professional decisions about particular contexts, groups or individuals. Adapting the implementation of an RCT is a complex and necessary process to design an effective literacy learning mix for a specific class or school. The importance of the implementation studies that help teachers to do this may be downplayed as having relatively low evidence-weight.

Simply having research information does not ensure that it will be used, so the practical problem of how to ensure the best deal for pupils remains. There is a need

for better research on compliance and on how teachers understand their professional responsibilities. More emphasis on the implementation knowledge that enables successful adaptation of programmes could change understandings of teacher responsibilities.

Papers 5 and 6: Evaluation and case study approaches

RCTs neutralize the context of implementation and cohort studies only apply to one context. Paper 5 considers evidence from a mixed-methods evaluation of *Reading Recovery* in Northern Ireland and shows that intervention programmes do not operate as sealed units; the context of implementation affects their impact even when delivery and compliance are closely monitored.

Paper 5 Munn, P. and Ellis, S. (2005) Interactions between school systems and Reading Recovery programmes: evidence from Northern Ireland *The Curriculum Journal* 16 (3) 341-362

Reading Recovery was developed in New Zealand by Marie Clay in the 1970s and is an intervention designed to impact on the lowest attaining pupils. It provides a tight framework of generic activities, structured observation and analysis so that teachers provide instruction closely tailored to the needs of the child. Children are withdrawn from class for daily individual sessions focused on their specific needs and coached to use their knowledge in flexible ways and develop reading behaviours that are both self-sustaining and self-expanding (Clay, 1991). The assertion that Reading Recovery works regardless of the context of implementation has facilitated its export to almost all English-speaking countries in the developed world, and research studies

have commonly accepted that Reading Recovery is a stand-alone intervention (see for example, Brooks, 2002; Gardner et al. 1998; Shanahan and Barr, 1995).
The implementation framework for Reading Recovery is designed to ensure high compliance and fidelity and has an inbuilt 're-direction system' to resist the tendency of schools to colonize and re-shape programmes to mirror their own systems, contexts and priorities (Clay 1992): Reading Recovery tutors in the local authority support and monitor the work of Reading Recovery teachers in schools. They in turn are supported and monitored by National Network trainers in London, who are monitored and supported by the International Network trainers in New Zealand. National and international trainers are accountable only to the International Reading Recovery Network, which ensures that Reading Recovery is delivered as specified.

Paper 5 reports an evaluation study commissioned by the Department of Education for Northern Ireland (DENI). A previous evaluation of Reading Recovery in Northern Ireland had been carried out from a psychology perspective and had generated information about positive impact on individuals (Gardner et al.1998). However, policy makers needed information for effective policy development and management at school, Board and national levels. They wanted to know whether it had the wider impact on teachers and school systems that was claimed and whether it delivered value for money. Value for money involved assessing the wider gains to the school system and whether the Reading Recovery pupils maintained their gains over time.

Paper 5 reports that pupils, on the whole, maintained their gains. However, even strict compliance measures could not completely mitigate the effect of school context on the efficacy of the programme. Schools had different motivations for taking-on Reading Recovery. Some actively wanted involvement because they thought it would improve attainment in struggling readers or raise general standards. Others were put forward because they had an unacceptably long 'tail' of underachievement. Many of these schools saw underachievement as a separate issue

from the core literacy curriculum they provided. Reading Recovery was therefore operating in a range of implementation contexts, some of which were conducive to it, some indifferent and some actively hostile. Paper 5 reports qualitative and quantitative data on the nature and scope of Reading Recovery teachers' involvement with classroom teachers and the fit between Reading Recovery and the school literacy practices. It also reports data on the struggling readers who had experienced Reading Recovery, including the number of Reading Recovery lessons and weeks on the programme.

We found that Reading Recovery was generally effective, but was most cost-effective and time-efficient in schools where the classroom literacy teaching frameworks dovetailed with Reading Recovery methodologies. The direction of influence was not the direction that Reading Recovery advocates had suggested; it was not the case that, after adopting Reading Recovery, the general classroom practice in the school improved to align itself with the content and methodologies of Reading Recovery. In fact, this sequence tended to be linked with class teachers who were rather hostile to the programme. We found that Reading Recovery worked best when it was introduced *after* there had already been general staff development on literacy teaching and the teachers had changed their curriculum.

The research paradigm

This is an education evaluation study and it uses a mixed methods research methodology. We had a clearly defined policy purpose in terms of the need to understand how the programme was operating in the schools and Boards across Northern Ireland, and an expectation that the evaluation would yield implementation advice to make that operation more effective. We used a variety of methodologies to understand this from the perspective of different participants, and triangulated the data to identify and explore the problems identified. We used: statistical analysis of

the pupil data, which included the pupils' Reading Recovery book levels at the beginning and end of the intervention, the number of weeks on the programme and whether the pupils had been (in Reading Recovery terminology) 'successfully' or 'unsuccessfully discontinued'. We also used case studies of a cross-section of schools and interviews (of reading recovery tutors, head teachers, reading recovery teachers and class teachers) to scope the range of models operating in the field, and the possible issues that might arise from this. These initial inquiries informed the design of three questionnaires that went to the head teachers, the class teachers or to all reading recovery teachers in schools. Finally the data from the questionnaire returns informed further interviews with reading recovery tutors and with focus groups of teachers.

Why it is helpful

The previous evaluation of Reading Recovery had examined individual pupil gains through quantitative analysis linking test scores and the socio-economic status of pupils' families (Gardner et al 1998). It had provided contextual information from teacher interviews about the organization of Reading Recovery in the schools, but the research design did not make it possible to examine the relationships between organizational features of the context of implementation and programme efficacy, or make iterative use of qualitative interview data to inform the quantitative analysis.

One strength of the study in Paper 5 is that the researchers had psychology and education backgrounds and negotiated a joint investigation from the start so that no single perspective was privileged. Drawing on different epistemological lenses allowed us to think about the data in different ways. Tierney and Clemens (2011) point out that qualitative and quantitative studies can be complementary. Although some definitions of mixed method research focus on the pragmatic use of qualitative and quantitative research techniques to explore the research question (Johnson et al

2007), Brannan and Moss (2012) have recently argued that equal weighting and respect for different epistemologies can be powerful because quantitative and qualitative research methods are geared differently to the analytic task. This creates the possibility of framing traditional problems in new ways, and can produce new insights, understandings and potential solutions to policy problems.

How it positions teachers

Paper 5 shows that schools form unique contexts of implementation which affect the efficacy of the programme. It generates knowledge about the direction of influence between Reading Recovery and schools, which suggests a different policy pathway.

The study also reminds educators, policy makers and researchers that what happens in individual interactions between teachers and learners is only a part of the learning story in a school. Even when highly trained and dedicated, the teachers' agency to influence pupils' learning is partly determined by the systems in which they work. This supports the current change in focus of studies of effective literacy teaching away from individual teachers to the school as the unit of analysis (Hall 2013). It identifies teachers as 'front-line policy makers' (Coburn 2012) but locates their agency more firmly within a wider network of formal and informal systems and interactions, which needs to be understood.

For teachers, this puts a focus on how their work is framed and shaped by, and how they are positioned as individuals within, wider organizational and policy frameworks. It challenges theories of literacy pedagogy to move beyond individual attainment and efficacy studies to embrace the wider cognitive and social aspects of literacy teaching and how these can be theorized for the teaching profession.

These issues are further considered in Paper 6. Paper 6 identifies some of the tensions between how education research interventions are designed and evaluated and how they are reported to researcher and educator communities. These include the methodological difficulties of ensuring that research is ecologically sound (Lincoln and Guba 1985) and the need to consider wider *educational* success criteria when reporting research.

Paper 6
Ellis, S. (2007) Policy and research: lessons from the Clackmannanshire Synthetic Phonics Initiative *Journal of Early Childhood Literacy* 7 (3) 281-297 London: Sage Publications

Phonics, unlike other aspects of literacy acquisition represents a defined and closed set of knowledge and skills that pupils must learn if they are to decode print. It offers literacy researchers clarity of focus but represents only one aspect of the knowledge and skills required for literacy. There is debate about the emphasis and status phonics should be accorded within the reading curriculum as a whole.

The debate has had a long and troubled history dating back to the 19th Century. Current questions concern the developmental pattern of phonological awareness. Psychologists debate the type of perceptual units involved and whether alphabetic representations are mapped onto pre-existing, phonological representations of spoken language which the brain gradually restructures into phonemic representations (associated with analytic phonics) or whether the process is relatively independent of phonological awareness but linked to print exposure (associated with synthetic phonics) (Wood 2009). Two systematic reviews concluded that, whilst systematic phonics approaches are more effective than non-systematic ones, there is no clear advantage for a specifically synthetic or analytic models of phonics (NRP, 2000; Torgerson et al. 2006). However, the Rose Review in England (DfES 2006) recommended that all schools adopt discrete, systematic

synthetic phonics teaching programmes and devoted four pages to an experiment conducted by psychologists in Clackmannanshire, Scotland.

The Clackmannanshire phonics study was a tightly framed cohort trial of synthetic versus analytic phonics to examine the claims of the two psychology models. It was introduced in seven Clackmannanshire primary schools funded by a national early intervention initiative and it reported stunning results; the average word-recognition age of the synthetic phonics intervention cohort was more than three years ahead of their chronological age.

Paper 6 illustrates the problems of presenting research designs rooted in single-lens perspectives as a basis for teacher knowledge, education policy and curriculum design. It documents the wider context of implementation, including the additional funding, the staff development and support, the parallel social and reading engagement support programmes and additional staffing provided.

Paper 6 also compares the national test data with the results of the standardized word-reading tests used by the researchers. The Scottish National Tests are not standardized, but they do represent realistic literacy use and are biased in favour of the child (evidence from class-work can overturn a poor test performance) and therefore are likely to reflect any broad increase in literacy performance. The word reading scores did not translate into the wider competences required for meaningful, real-world, reading tests. The two economically advantaged cohorts accounted for over half the pupils in the trial but only just met average attainment levels on national tests. Some small schools with a high percentage of pupils from challenging socio-economic conditions showed a dramatic improvement, whilst others did not.

The research paradigm

Paper 6 is a case-study of how this particular piece of literacy research was received in the different policy contexts of England and Scotland. The data was gathered from interviews and documents. It sheds light on the value of using multiple lenses, the relationship between psychology research and curriculum interventions, and on how policy decision-making structures affect the use of evidence.

Why it is helpful

Although the Clackmannanshire intervention met the requirements for 'good', replicable, research on reading, it was poor at capturing information for educators. The narrow lens was simply inadequate for making robust recommendations. Moss and Huxford (2007) have previously argued that phonics represents different things to politicians and researchers. This study shows that psychology studies need careful interpretation if they are to be used in education.

The additional contextual information indicates that case studies, rather than being an 'inferior' or 'unreliable' form of research are appropriate and useful for documenting and understanding contextual complexity (Stake, 1978, 2003). They offer researchers interested in literacy policy and curriculum studies, the potential to understand how to optimize effective literacy learning by identifying positive and negative factors, both intentional and unintentional, and the complex interactions between resources, teachers, pupils and the wider learning context.

This case study challenges the way a psychology intervention was applied in education. There are many examples of how case study methodologies have contributed to the move towards an understanding of difference in language and literacy behaviours. Reading pedagogies based on miscue analysis (Goodman 1973)

and intervention programmes such as Reading Recovery (Clay 1991) are both founded on separate series of case studies of struggling and non-struggling readers. By focusing on what participants actually do, not on what they fail to do, case studies have contributed significantly to moves away from deficit models in education theory. Case study data was used by Labov (1972), for example, to challenge 'unscientific and biased' accounts of African American Vernacular English by showing that its grammatical structures, although different from Standard English, were equally rule-governed and clearly not 'sub-standard'. They were transformative and changed attitudes to linguistics as a discipline and to language variation.

How it positions teachers

The Clackmannanshire phonics data has been used by others in two distinct ways: first, it has been cited in academic debates about the relative merits of synthetic and analytic models of phonics processing (Stuart 2006; Wyse and Goswami 2008); second, it has been promoted to educators and policy makers as a highly successful curriculum intervention, with success attributed solely to the phonics content enshrined in the experiment's design (DfES 2006; Wyse and Styles 2007).

Researchers within a discipline share a common research paradigm and concur on the theoretical questions and methodologies that have value. The Clackmannanshire questions were narrowly focused to investigate the implications of different theoretical models in psychology and the methodology linked specific outcomes with narrow, atomistic programme design features. However, policy makers and educators do not share the narrow questions or theoretical debates. The research was not designed to understand 'real world' literacy teaching and learning, but to understand questions of theoretical importance to the phonics research community.

Although at first sight the Clackmannanshire study seems to be addressing literacy in the classroom, it is actually doing something different. This positions teachers in a problematic way; whilst it is reasonable for researchers within a discipline to look to that discipline for theoretical validation and impact, it may not be appropriate for teachers to adopt the same framework. For teachers, the problem is that the collective volume and force of such studies may distract them from the need to embrace complexity, to ask broad questions and, above all, to understand context. Failure to translate research studies into the wider literacy learning environment means that evidence about other contextual factors - teacher knowledge of the pupils, teacher effects (including time on task effects), wider support and language curriculum issues and motivation to read, may be overlooked. It may also feed a general belief that somewhere there is a single solution to literacy problems.

Of course, The British Psychological Society ethics procedures require psychology research reports to be measured, and to locate evidence in a wider context to avoid their import being distorted (BPS 2009). Poor contextualization is an ethical problem because it can suggest that results are more generalizable than they are and can inappropriately elevate atomistic elements in ways that skew education policy objectives, implementation frameworks and resource allocation. The case of phonics is one literacy example from England, but Gambrell et al. (2011) describe similar literacy examples from the USA.

Mid-point summary

Social context is clearly central to literacy education questions. Solid psychology research may be poor research for literacy education. Translational studies are needed so that teachers are not left to independently identify, articulate and resolve contextualization or epistemological issues. Any study based on testing a single

'solution' regardless of context, is only able to offer partial insight and to imagine that it can do otherwise is a category mistake.

Paper 7: Staff development/ action research – a transformative approach?

Some theorists argue that context is so central to teaching that it should be the starting point for theory-development. The Design-Based Research Collective (2003) suggests a theoretical approach to education research that goes beyond traditional programme-based intervention studies. It identifies and explores discipline-specific scaffolds for teaching and learning across contexts and involves working with teachers to understand the affordances of particular tools, resources and interactions in relation to particular contexts. They argue that the understandings from such research would allow researchers to create education theories that speak more directly to classroom contexts.

This thesis has examined how the current literacy research paradigms position teachers and teaching in ways that make direct application to classrooms potentially problematic. It raises inevitable questions about how teachers can be enabled to engage with, and see the relevance of, research evidence, and use it to inform their work. Solutions such as Design-Based Research are interesting but long-term and this is a pressing problem that requires more immediate solution. Although researchers report many examples of teachers working with university academics on research projects that result in better synergy between research and those teachers' classroom practices, such approaches are inevitably small-scale and costly. We need models that can deliver cost-efficient knowledge mobilization and contextualization at scale so that all teachers engage in such work as part of their professional lives. The solution cannot be left to chance, it cannot only be available to those fortunate enough to encounter interested university researchers, and nor can it involve only

those teachers with sufficient time, energy and drive to enroll in academic study courses.

Paper 7 therefore, is an attempt to exemplify one way that aspects of current literacy research knowledge can be adapted to context by involving teachers in attending to how they action effective writing pedagogies in schools. It is not a research paper, but a book chapter aimed at a professional audience and the paper itself simply summarises the knowledge outcomes of this particular approach to staff development. Although its content is not particularly original, the learning mix that it reports resulted from a process that fused staff development and research knowledge to engage teachers directly in contextualizing research knowledge. It is a report of 'research-informed teaching practices', but framed in a way that promotes adaptation to context and thus offers a practical way that research knowledge can be mobilized so that it is strengthened through use. The extended commentary around the paper provides the implementation detail omitted from the chapter itself. Together Paper 7 and its commentary function to provide one account of how prompting teachers to contextualise research evidence can develop research-informed teaching. It also illustrates that there is much potential in working with teachers to build classroom-focused models of writing instruction. In purely positivistic research terms, the data collection lacked rigour, but the process of mobilizing the knowledge by embedding the ideas into classroom practice did not.

Paper 7
Ellis (2002) Independent, Imaginative Writing: lots of problems some solutions in Ellis and Mills *Connecting, creating: new ideas in teaching writing* UKRA

Paper 7 is an early-career paper written for teachers. It is included here because it represents an attempt to present a model of collaborating with teachers to explore how research knowledge might be framed and applied to promote contextualization. The methodology has obvious weaknesses when considered from a positivist

perspective: it depends on self-reported activities that are not corroborated or triangulated with evidence of pupil experiences, attitudes or attainment; the written teacher feedback was recorded in the form of reports of group discussions rather than individual, contemporaneously written and externally analyzed journals; and the project took place in a policy context in which schools were under strong pressure to raise writing attainment. Despite these limitations, the study illustrates the potential of working with teachers to construct classroom-focused, contextualized models of writing instruction that may not map directly on to research concepts.

Paper 7 identifies what the Design-Based Research Collective (2003) might perhaps term 'instructional anchors' for imaginative writing pedagogies and employs them in an implementation framework that explicitly recognizes contextual variation. The structure of the staff development process acknowledged differences in the immediate school contexts and in the priorities, aims, content knowledge, pedagogical skill and pupil knowledge of teachers. In doing so, it recognized that what is easy for one teacher may present insurmountable problems for another. The study positions teachers as insiders in the process of contextualizing research, central to the context of implementation, but it does not demand that they become researchers.

The knowledge in the paper was gained systematically from a series of curriculum development sessions involving 119 teachers in three local authorities. The teachers each attended two sessions, held five months apart. They had different motivations for attending. For 53 percent of the teachers, writing was on their school development-plan; they were representing both themselves and their school and would be required to 'cascade' their new understandings to other staff. 15 percent of the teachers had attended because they were personally enthusiastic about teaching writing (some had attended previous courses) and 16 percent had been told to attend by their head teacher, but had no particular interest in teaching writing. There was no data on the motivation of the remaining teachers.

An opening task for the first workshop required the teachers to identify the type of writing they found hardest to teach and some specific issues that were problematic. They were then introduced to a number of instructional anchors, pedagogical tools selected from a content-specific bank of possible tools, to try in their own class. The teachers prioritized their actions, choosing two or three instructional anchors for immediate trial and two or three others to try later. They were asked to use the tools on several occasions, and in different curricular contexts if possible (for example, using an anchor when writing a story as part of the language curriculum, but also when writing a story to consolidate knowledge about social studies, personal development or religious and moral education. It was suggested the teachers try first those anchors that would be easiest to implement and save more challenging activities for later in the trial period.

The teachers were asked to note which anchors they tried along with the contexts, significant learning interactions, and adaptations they made. They did this in their daily planning diaries, which they brought to the recall workshop. This took place approximately one term later. Here, teachers shared their experiences. They talked about using the instructional anchors in the context of the class, school and curricular topics; their learning purpose(s) and what they wanted the class to gain as writers; the learning interactions in terms of the responses of both individuals and the class and any contribution they felt the tool made to pupils' learning or development as writers. In another task the teachers discussed examples of pupils' work they had brought, identifying significant learning and next steps as well as how the work related to their class programmes and the instructional anchor and context. A final task helped them use the pupils' work to design a staff development session for colleagues based on their analysis of their school's needs.

The research (development) paradigm

This is a form of low-level action-research that, whilst requiring considerable professional expertise, does not require teachers to exhibit or develop research skills in experimental design, data analysis or theory-building. Professional expertise was involved in examining the contexts of implementation, adapting and using the research knowledge, and articulating how it dovetails with the constraints and opportunities of classroom work. The study thus fulfills some possible aims of action research: it breaks down the formal-theoretical knowledge/ practical knowledge distinctions (Cochran-Smith and Lytle 1999); it uses theory and practice to develop teaching, and it enables teachers to tailor theoretical knowledge to individual contexts (Lunenberg et al. 2007). If analysed and reported differently, it might be considered 'teaching informed research'. As a way of beginning to examine how research is lived through pedagogy, this study represents a start.

Why it is helpful

The approach accepts that 'examples of good practice' are not context-neutral, and that knowledge mobilization is not a simple linear process of moving research information and techniques into the domains of schools and teachers. Inclusion of Paper 7 in this thesis allows questions to be raised about differences in the form and nature of research knowledge for teachers and for researchers.

Paper 7 is also premised on the understanding that what is easy for one teacher or class may be problematic for another. Garet et al. (2001) show that effective staff development builds content and pedagogical knowledge in ways that actively involve teachers and that link new knowledge with existing priorities, programmes and pedagogies. Off-site workshops are associated with various difficulties: they often have insufficient time to develop deep understandings or comprehensive

content and individuals may lack opportunities to collaborate with colleagues in adapting content to specific contexts. However, linked workshops avoid some of these problems. In these workshops, the teachers tried ideas, made changes across different contexts, reported implementation difficulties and adaptations and, through this, showed every sign of having developed a shared and more robust conceptualization of the instructional anchors.

Because of the way knowledge is mobilized, the model does not fall neatly into any of the three categories of action research suggested by Foreman-Peck and Murray (2008): it is not *action research* as *professional learning*, which may embody unchallenged professional assumptions, result in Mode 2 knowledge and prioritise process and engagement over the veracity of the knowledge generated. Nor is it *action research as practical philosophy*, whereby teachers analyze and triangulate data to understand whether new interventions effectively align classroom practices with specific educational values. Finally, although it should deliver social change by making children more literate, it does not do so by rejecting traditional political and historical frameworks and is therefore not *action research as critical theory*. In many ways, it best aligns with the starting point (if not the solution) suggested by Stenhouse (1979), when he urged that all education knowledge be treated as hypotheses to be tested in the unique environment of individual classrooms.

How it positions teachers

Researchers are beginning to understand how the mechanisms of particular professional development models enable empirical research to impact on teaching and teacher understanding. Coburn (2001; 2003) and Stein and Coburn (2008) suggest that focusing teacher discussions on how pupils develop understanding within specific activities and how the teacher supports this is important. It has more impact on attainment than a focus on delivering the content, on implementing the

activities or on discussing more generic pedagogic techniques, timelines or planning formats. Corcoran and Goertz (1995) also find that content-specific pedagogies linked to explanations of how children learn are important in raising attainment. Edwards and Daniels (2012) indicate the importance of balancing the affective and cognitive in understanding how research knowledge impacts on professional decisions.

The model that underpins Paper 7 locates teachers, teaching contexts and teacher understandings at the centre of investigations into creating useful knowledge for literacy teaching. It requires skilled, trustworthy and informed knowledge-brokerage, attuned to both the specific research areas, to the contexts of use and to the affective and cognitive dimensions of professional decision-making. It differs from most action research models because it positions teachers as professional expert users rather than as originators and interrogators of research. It is a framework that allows both teachers and researchers to play to their strengths. It is limited in that it provides opportunities to re-negotiate rather than radically re-define the nature of the problems and solutions in teaching writing, but in requiring professional users to reframe knowledge in their own context, it represents a genuine process of knowledge-creation and thus provides a different model for knowledge-mobilization research.

Reflection and future issues

The introduction to this dissertation cited evidence that knowledge from systematic and formally interrogated research inquiries can help to increase the effectiveness of literacy education. It also cited evidence that teachers and education organisations may not be effective users of research. Each study reported in this thesis has contributed individually to the research knowledge-base on literacy teaching. The meta-argument has scoped some of the complexities of generating and using literacy

research evidence in ways that address the business of teaching. I have argued that teachers require research knowledge that can inform professional decisions and that implementation models need to position teachers and teaching environments as integral parts of the learning landscape. Studies that explore the capacity of different models to engage teachers in adapting research knowledge to specific contexts are also required.

The task of capturing complex stories about literacy in ways that are useful to teachers is not easy and one purpose of this section is to summarize the arguments around this. Another purpose is to locate these issues briefly within the broader landscape of how teachers are professionalized to use literacy research in Scotland. Research, no matter how appropriate, only becomes useful when applied. Because of devolved responsibility for the curriculum, Scottish educators in schools and local authorities have a responsibility for, and need to be particularly alert to using, empirical evidence and research knowledge to inform their curriculum design and delivery. Ensuring useful literacy research is one part of this story. The other part is understanding how teachers are professionalized by policy and practice to attend to it.

Literacy research, teachers and teaching

The process of relating theoretical and empirical knowledge to practice is highly complex: different lenses identify different cornerstones for practice and different principles for action. Negotiating and prioritizing which lens to use, and how, requires a broad epistemological understanding of the literacy research field and a detailed understanding of the specific fields in the frame. Inter-disciplinary research, which often makes the theoretical landscape more explicit and provides models for integration, or for negotiating between paradigms, is surprisingly scarce (although see Hall et al. 2010 and Ellis and McCartney 2011).

This dissertation has suggested that the arguments around 'literacy teachers don't use research' need to see both teachers and research in a more sympathetic light. It suggests that the research-practice divide may exist, not because research is bad, or because teachers are deficient but because teachers are left to master and apply a range of literacy research paradigms that do not directly address the pedagogical, implementation and curriculum design issues they face.

Paper 1 used curriculum analysis and argued that the narrow theoretical perspectives informing the National *5-14 Guidelines* would promote narrow, product-based and performative teacher understandings about writing. Paper 2 used mixed-method case studies and showed that this had happened. Papers 3 and 4 illustrated the difficulties of making an RCT-proven programme work in school contexts and the knowledge-base teachers need to make informed decisions. Paper 5 showed that the context of implementation affects the efficacy of even those programmes with strong compliance procedures, and Paper 6 showed that literacy research may address discipline-specific questions that do not map onto teaching and policy in simple ways. Paper 7 illustrates one way to enact research in context and a possible model for building pedagogically-grounded understandings of literacy research.

Overall, the message from these papers and the commentary surrounding them is that, at present, to use research knowledge effectively, teachers must add the skills of being research knowledge-brokers to their already lengthy list of professional skill requirements. Researchers within a particular discipline can look to that discipline for theoretical validation and impact. Literacy teachers, however, must negotiate competing knowledge paradigms, which define problems differently, generate different types of evidence, different assessments of the reliability of evidence, and they are offered little support on how to contextualize or even prioritize the knowledge generated. To contextualize the knowledge, teachers must identify the discipline, understand the theoretical framework and critically assess the sample and evidence-base, spot when the context is education but the question focused

elsewhere, identify ideas that might be useful, work out how they fit with ideas already in use and how they should be prioritized in relation to current practice and to evidence from other paradigms. They must translate the principles for their class cohort and negotiate their integration into existing organizational frameworks and curriculum structures. Creating such a framework for understanding is a complex task, not central to teachers' remits as classroom practitioners. And teachers are left to construct it largely for themselves, unsupported, in their own time, and against a backdrop in which high research status is accorded to studies that are not designed to offer insights into the complexities of real-life classrooms and teaching.

A further problem is that research that superficially addresses literacy in the classroom may actually be addressing other questions, questions arising from specific theoretical models developed and contested by researchers seeking evidence to support particular theoretical standpoints. The research may happen in a school context but the questions do not relate to teaching.

This places teachers in a difficult position. To use the available research evidence, they must construct an epistemological framework that can resolve the apparent disjuncture between competing paradigms *and* the disjuncture between research and practical implementation. It is not surprising that they do not do it particularly well.

Nothing as practical as good theory

Recently however, there have been serious moves to address some aspects of this. In Europe, analyses of international surveys and systematic reviews of high quality, empirical studies have identified not only trends and relationships in literacy learning and teaching but some implications for curriculum design, content, pedagogy and intervention priorities. Expert analysis of the PISA and PIRLS studies of literacy have resulted in OECD documents (for example OECD 2010a; 2010b)

and European Union documents (see for example Eurydice 2011) that give specific, research-informed advice about the policy and practice priorities that are likely to improve literacy attainment.

In the USA researchers are beginning to attend to the need for focused, research-based support for teachers. For example, the RAND committee (Snow 2002), which a decade ago identified an agenda for developing the research, the tools and the processes that could support reading comprehension teaching in schools, is beginning to bear fruit (Snow 2012). The *National Institute of Child Health and Human Development* established expert committees to distil research findings into classroom-focused advice and teaching principles (see for example, Shanahan et al 2010). These focus on both general and specific implications for classroom pedagogy and, whilst they prioritize positivist and post-positivist research paradigms, they identify key practitioner knowledge and list aspects to be addressed, rather than by dictating inflexible solutions and programmes. In the UK, the EPPI-Centre based at the Institute of Education makes the best evidence available in forms that address the needs of policy makers and user groups (Oakley et al. 2005). Such endeavors mean that literacy research is actually in an increasingly positive position to support knowledge brokers in making research useful to practitioners.

Education research

But good research is only useful if it is used. The extent to which teachers are socialized into using empirical research evidence by their professional training and by the systems and organizations that shape their daily work, matters. Ensuring accessible, applied information is only one part of the story; understanding how Scottish teachers are professionalized to attend to evidence is another important dimension.

Some education research paradigms argue that to limit education research to an empirical evidence-base is to reduce it to a technical, practical subject. Dewey argues that knowledge is non-predictive and that 'thinking and storying' drive symbolic understandings of the relations between actions and consequences. Poor application of such 'thought experiments' or 'storied links' can create strongly argued theoretical positions whose purpose is to rationalize or re-imagine experience. Quality is judged on the rigour of the internal logic and the extent to which it elaborates and justifies a vision of what is desirable or preferable. In literacy research, the highly-polarised arguments in the 1980s in the UK and USA about 'real books' / 'whole language' teaching (Smith 1992) and the current venomous arguments in Australia about process and genre approaches to writing (Martin 2011) exemplify the problems. Because the researchers do not seek to engage with the teaching and learning issues that teachers face on the ground, their arguments cannot be invalidated by empirical evidence. They produce theory that seeks to privilege particular ideological, philosophical or single-domain knowledge paradigms that exist quite independently from the reality of teachers, teaching, schools and learning. The ideas are employed, not as situated ideas, specific to time and place, but as enduring theoretical cornerstones from which the aims, means and purposes of modern pedagogy must be built.

Conceptualising educational theory as primarily a means of challenging orthodoxy by imagining a different social reality with alternative purposes for education is also problematic. Biesta (2007) for example, argues that education research should not focus on producing technological-empirical research to better understand the world of teaching and learning as set by others. Instead, challenging 'given problems or predetermined ends' in education is essential as a foundation of democracy (Biesta 2007 p. 17). However, democracy gains its power from the people having free and equal representation. It could be counter-argued that constant re-definition and challenge by a minority of privileged, well-funded academics who are only tangentially engaged with the world they seek to re-define bears the hallmarks of a luxury elite rather than the foundations of democratic enquiry. An inescapable

practical consequence of constant re-definition and challenge is to disempower and breed resentment in, those who must exist within the system, including those who have a professional responsibility to deliver a practical service to people who desperately need it. To those who take a pragmatic bent, constant challenge to 'given problems or predetermined ends' could be seen as a mechanism to exert power and control, rather than a manifestation of democracy.

All research needs 'blue skies' thinking and abstract theoretical work, but few professional disciplines can willfully dismiss the need to understand the world as it is in order to focus on imagining a parallel version. By referencing arguments solely to philosophical and cultural tradition, rejecting the need to reference ideas to an empirical reality, such education theory risks creating a professional knowledge-base attuned primarily to ideals, aspirations and rhetoric. This has two consequences: First, it separates theory from practice, leaving teachers unsupported in making the pedagogical decisions that are required in their working lives. Second, it undermines education as an evidence-informed discipline. This makes it vulnerable because, once education theory is positioned in ways that protect it from empirical challenge, professional knowledge is seen not as the application of specific, grounded knowledge and expertise, but as a form of philosophical or political argument. As such it is easily hijacked by the rhetoric of evangelists and entrepreneurs, and is too easily countered or dismissed by the rhetoric of politicians. If education researchers are excused from any requirement to locate theoretical models in tangible, grounded knowledge or empirical evidence, why should anyone else?

Importantly, education research based primarily on rhetorical argument cements a theory-practice divide, in which teachers may be professionalized to attend to rhetoric rather than empirical evidence. A theory-practice divide is commonly accepted in Scotland. For example, in his review of teacher education in Scotland, Donaldson (2010), distinguishes between CPD designed to 'to gain greater theoretical knowledge' from CPD designed 'to gain new teaching practices', with no

hint that the two might be integrated (Donaldson 2010 p. 68). Many initial teacher education (ITE) courses separate 'theoretical' professional studies modules, covering the theoretical basis for professional thought, the aims of schools and schooling and the generic theoretical principles of learning and teaching, from 'practical' curriculum and pedagogy modules. Responsibility for the 'practical' is increasingly devolved to field professionals and generalist teachers.

This creates a fault-line running throughout initial and continuing professional and curriculum development in Scotland. It is a division that distracts teachers, teacher educators and researchers from engaging with the kind of empirically informed theory and literacy knowledge that is necessary for nuanced curriculum design. Ultimately this leaves teachers unsupported in developing the professional knowledge-base to support their classroom decisions.

Scottish teachers, policy and professional development.

In Scotland, devolution of the curriculum to local authorities has been accompanied by a fiercely 'bottom up' approach to the development of professional knowledge and tools. The theory/practice divide becomes particularly problematic when teachers and local authority groups are given tasks that in other countries might be handed to those with empirical expertise or research knowledge. For example, teachers and local authority staff were charged to create the National Assessment Resource (NAR). This develops 'a shared understanding of standards and expectations' (Education Scotland 2012) and tracks literacy attainment by referencing it to curriculum levels. Importantly, it does not identify or track those elements research knowledge indicates are most crucial for literacy development, the elements that teachers need to note if they are to support children learning to read and write. Committee discussions, rather than empirical field-trials, determined whether the test materials would be useful, practical and age-appropriate. Committee

discussion, rather than trials on a population of readers, also established the equivalence of test items within each level. Anecdotal evidence suggests that problems that would have been identified by field-trials only emerged when the NAR was in use: the items target tangential aspects of literacy; do not make efficient use of pupil and teacher time; do not reveal useful differences in performance; and do not inform future teaching and pedagogy Because the NAR cannot provide meaningful measures of progress or identify literacy problems many Scottish local authorities, despite their austerity budgets, are paying English companies for external literacy assessments and accepting the cost and time delays involved.

The Scottish Government is rightly determined to avoid any suggestion that a 'one-size-fits-all' standard curriculum could ever meet the diverse needs of all Scotland's pupils and educators, and has adopted a strongly 'hands off' approach to literacy policy and curriculum advice, whilst ensuring efficient mechanisms for spreading 'good practice'. One consequence of this is that Scotland's knowledge mobilization system lacks mechanisms for identifying reliable knowledge that could inform development and policy priorities (Morran 2010). The membership of Scotland's Standing Literacy Commission contains no-one with literacy research expertise but consists of individuals representing key stakeholders (for example, parents, inspectors, local authority policy officers, Directors of Education). These people have no easy access to robust, internationally published, externally interrogated literacy research or to syntheses of 'best practice' knowledge. Research knowledge does not inform their discussions or underpin the curriculum advice they offer and it is hard to identify any specific *literacy* expertise or experience that individuals on the committee bring.

The knowledge-gap created by this absence of reliable knowledge is addressed by a national CPD policy that seeks to empower teachers to create useful knowledge through active, constructive, problem-oriented professional development, grounded in the contexts, circumstances and social settings in which the teachers work (Donaldson 2010). The vision is for professional learning communities (PLCs)

where teachers 'support and challenge one another around agreed areas for improvement' to form a community of inquiry that is 'peer led, collaborative and sustained' (Donaldson 2010 p. 64-65). However, with support that focuses on the enquiry process, and without a system for ensuring that the inquiries are informed by robust research knowledge, PLCs may prove a costly, unreliable mechanism for creating professional knowledge or evidence-informed practice.

The combination of weak assessment data and no mechanisms to mobilize research-informed knowledge allows PLCs to validate intuitively appealing but mistaken practitioner knowledge. Dufour (2004) observes that PLCs were developed, and have been successful, in education systems that are 'data rich / information poor'. In such systems, standardized test data serve to ground inquiries and help professionals to monitor the impact of PLC interventions. In a context where many teachers bring a nationally-endorsed reliance on rhetorical enquiry, serendipitous knowledge of literacy research and few external points of reference, and where they rely on ill-focused and poorly standardized attainment data, PLCs may find it hard to efficiently and reliably advance effective literacy teaching. If PLCs divert time, effort and money from helping teachers embed subject-specific systematic, robust and properly interrogated and adapted literacy research evidence into the curriculum, they are a problem rather than a solution.

When professional inquiry draws so heavily on knowledge created in the context of individual professional experiences, contexts and problems, it arguably takes Scottish literacy education several steps closer to what Nowotny et al. (2001) have investigated as 'Mode 2 knowledge production'. In traditional 'Mode 1' knowledge, researcher-generated and validated knowledge is transferred or exchanged with professionals acting as research users. Mode 2 knowledge, however, is created within its context of application by a much wider range of participants. It employs an ad-hoc range of theoretical perspectives and practical methods, is distributed, applied, cross-disciplinary and so highly contingent on context that it appears fluid. Because it does not arise from, or feed into, any identifiable academic discipline it is

not accountable to traditional academic research frameworks or methodologies, and cannot be easily challenged or invalidated by them; everything may be 'true' for somebody.

Whether giving the teaching profession in Scotland the responsibility for generating their own professional knowledge will result in increased literacy attainment is an important, empirical question (but not one that Scotland can currently answer due to the absence of reliable test data). However, it is rather ironic that the absence of strong knowledge mobilization strategies within Scottish education may confound the possibility of schools developing tailored, evidence-informed literacy curricula just as the profession is being encouraged to do precisely this, and when the knowledge that can inform such developments is becoming more accessible.

The present and future for literacy education in Scotland

Ultimately social processes determine the knowledge that teachers value and use (Coburn 2001). If it is desirable that teachers are professionalized to attend to (and use) research evidence, the systems and routines that feed professional thought in Scotland need to reflect this. Robust knowledge needs to underpin knowledge-mobilization strategies. This would prompt empirical literacy research evidence to be discussed as a regular part of the work of national advisory bodies, local authorities, colleges, schools and nurseries as well as ITE. Such an approach could enable professionals to be socialized into an understanding of how to use the different lenses for examining the literacy curriculum and literacy teaching. It would also help them to develop an intuitive understanding of the affordances and constraints of research paradigms so that they understand and value empirical research as one of the key elements that should shape professional understandings and decisions about literacy teaching.

All literacy and literacy education is culturally defined and is specific to individuals and their communities (Gee 2000; Street 1987; 1995) and it is a hugely positive step that CfE is premised on the idea that the curriculum be negotiated for specific school communities. However, the principle of devolved responsibility protects politicians from criticism and reduces the pressure on them to intervene, particularly when national monitoring systems are poorly equipped to track any rise or fall in literacy attainment. The requirement that local authorities and schools account for literacy attainment remains (Scottish Government 2010) but the knowledge vacuum leaves many schools and local authorities with little idea about the best way forward, but under huge pressure to do *something*. The situation produces educational fads that squander teachers' time and energy but have little long-term impact.

Other countries have addressed the issue of building and enacting a professional knowledge-base for literacy education. In Australia, Luke (2003) makes a distinction between schools that provide 'balanced programmes' and those with 'shopping list programmes'. Staff creating a balanced programme will have "thoughtfully exchanged information, audited their staff expertise, enlisted external help and critical friends where needed, and balanced their program in relationship to what they know are the needs of the kids." (Luke 2003 p.12). This is what the New South Wales schools were encouraged to do when he was Education Director. The process meant schools had to use research knowledge to identify and address the specific needs of their pupil cohort and community. The school programme was balanced so that teaching built on the pupils' wider literacy experiences and met their literacy needs.

In New Zealand, teachers are required to show what researchers call 'adaptive expertise'. They work within a defined literacy framework to interpret and analyze evidence, ask questions that encourage them to mobilize research knowledge to understand, for example, 'What contributes to existing outcomes?' 'What do we already know/have to improve these?' and 'What sources of evidence or knowledge

do we need to work out how to further improve outcomes?' (Timperley and Parr 2009).

Equipping school staff in Scotland to do this requires subject specific, research informed knowledge. In the absence of this, Scottish schools have been directed to analyze how well their literacy curricula meet the *Curriculum for Excellence* (CfE) expectations and outcomes. This results, not in coherent programmes dovetailed to the specific literacy needs of each school's community, but in what Luke (ibid) calls 'shopping list programmes' where new curriculum items bear no specific relationship to the pupils' experiences or to their literacy lives out of school, but instead 'plug the gaps' between the old and new curricula. In becoming CfE compliant, many schools have not been minded to analyze priorities and map out a coherent literacy curriculum tailored to the needs of their pupils, the capacities of the staff and research knowledge of what is likely to work. School staff have not identified the changes that will give the biggest payoff for pupils and balanced these with the capacity within the school and community to calculate the cost-benefit in terms of staff effort, resources and likely return. The opportunity for hard, research-informed, professional consideration of how particular pupil groups can be helped to understand and use literacy to empower their lives has been lost.

All professions are defined by the professional knowledge and skills that reside in their members. Without specific, empirical knowledge, professional teaching decisions can only be made, as Hargreaves claimed, 'partly on the basis of social skills and partly on the basis of certain value commitments' (Hargreaves 1979 p. 79). The sheer breadth and quality of empirical literacy research means that literacy teaching can be informed by hard-won, rigorously-interrogated knowledge about what works, for whom, in what circumstances. It offers the potential for developing a concept of professional knowledge in which teachers concentrate on developing expertise in selecting, adapting, orchestrating, applying and prioritizing knowledge that is framed in ways that empower and drive teaching interventions across different contexts and that meet the needs of different pupils. In doing this, Scottish

teachers would define further questions the profession needs addressed. It would become possible for teachers to set the agenda for future research without having to become researchers and do it themselves.

The papers in this thesis identify some specific issues that prevent literacy professionals from becoming more research-based. Each paper stands alone but as a group the papers illustrate some of the different kinds of knowledge literacy research creates. The meta-argument that links them explores what is problematic for literacy teachers about this. It also shows that the route the knowledge takes in migrating from the context of research to that of the classroom is complex, and that in important ways the knowledge must be transformed rather than transferred. There are various research paradigms that could inform the work of literacy teachers, but a clearer definition of what is required to extract and re-frame useful knowledge for education professionals would help us understand the complex job teachers are currently being asked to do. Maybe, with such understanding, we would be in a position to design systems that actively create such transformation, and enable teachers to strengthen that knowledge through use.

Ultimately, recasting models of literacy research to address teachers' needs more directly, would allow the relationship between research and practice to be re-negotiated. A robust foundation for the professionalism of literacy teachers must, in the end, be rooted in robust and grounded research on literacy teaching and learning.

References

Alexander, R. (Ed). (2010). *Children, Their World, Their Education: Final Report and Recommendations of the Cambridge Primary Review*. London: Routledge.

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

Batho, R. (2009). *The Gender Agenda: Final Report*. London DCSF.

BBC (2000a). *Ex-Pupil Can Sue Over Dyslexia* 27 July, 2000, 11:37 GMT 12:37 UK http://news.bbc.co.uk/1/hi/uk/852919.stm.

BBC (2000b). *Parents Campaign For Dyslexia Action* Tuesday, 11 January, 2000, 13:30.

Bereiter, C. and Scardamalia, M. (1987). *The Psychology of Written Composition*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Biesta, G. (2007). Why 'what works' won't work: Evidence-based practice and the democratic deficit in educational research. *Educational Theory*, 57, (1), pp.1-22.

Bolam, R. (1994). The impact of research on policy and practice in continuing professional development. *British Journal of Inservice Education*, 20, (1), pp. 35-46.

Boyle, J., McCartney, E., Forbes J., O'Hare, A. (2007). A randomised controlled trial and economic evaluation of direct versus indirect and individual versus groups modes of speech and language therapy for children with primary language impairment. *Health Technology Assessment*, 11, (25), pp.1–58.

BPS. (2009) *Code of Ethics and Conduct*. (August 2009) Downloaded from http://www.bps.org.uk/what-we-do/ethics-standards/ethics-standards on 12th January 2012.

Bradley, L. and Bryant, P. (1983). Categorizing sounds and learning to read: A causal connection. *Nature*, 3, pp. 419-421.

Brannan, J. and Moss, G. (2012). Critical issues in designing mixed methods policy research. *American Behavioral Scientist*, published online 15 February 2012 DOI: 10.1177/0002764211433796.

Brooks, G. (2002). *What Works for Children with Literacy Difficulties'? The Effectiveness of Intervention Schemes.* Research Report No. 380, Department for Education and Skills. Norwich: HMSO.

Brown, A. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *The Journal of The Learning Sciences*, 2, (2), pp. 141-178.

Chatterji, M. (2008). Synthesizing evidence from impact evaluations in education to inform action. *Educational Researcher*, 37, (1), pp. 23–26.

Chalmers, I. (2003). Trying to do more good than harm in policy and practice: The role of rigorous, transparent, up-to-date, replicable evaluations. *Annals of the American Academy of Political and Social Science*.

Chambers, B. (2008). A response to Tymms, Merrell and Coe. *The Psychology of Education Review*, 32, (2), pp. 9.

Clay, M. (1991). *Becoming Literate: The Construction of Inner Control.* Aukland (NZ): Heinemann.

Clay, M. (1992). Reading Recovery: The wider implications of an educational innovation. In A. Watson and A. Badenhop (Eds.) *Prevention of Reading Failure*. London: Ashton Scholastic.

Coburn, C. (2001). Collective sense-making about reading: How teachers mediate reading policy in their professional communities. *Educational Evaluation and Policy Analysis*, 23, (2), pp.145-170.

Coburn, C. (2003). Rethinking scale: Moving beyond numbers to deep and lasting change. *Educational Researcher*, 32, (6), pp. 3-12.

Coburn, C. (2012). Pathways between policy and practice and the role of social networks and social interactions. AERA Early Career Award (2011) Lecture 2012 *American Educational Research Association Conference, Non Satis Scire: To Know Is Not Enough*. 16th April, Vancouver, BC, Canada.

Coburn, C. and Talbert, J. (2006). Conceptions of evidence use in school districts: Mapping the terrain. *American Journal of Education,* 112, (4), pp. 469-95.

Cochran-Smith, M. and Lytle, S. (1999). Research on teaching and teacher research: The issues that divide. *Educational Researcher,* 19, (2), pp. 2-11.

Cordingley, P. (2008). Research and evidence-informed practice: Focusing on practice and practitioners. *Cambridge Journal of Education,* 38, (1). pp. 37-52.

Connor, C. M., Morrison, F. J., and Katch, E. L. (2004). Beyond the reading wars: The effect of classroom instruction by child interactions on early reading. *Scientific Studies of Reading, 8,* (4), pp. 305-336.

Connor, C. M., Morrison, F. J., Fishman, B. J., Schatschneider, C., and Underwood, P. (2007). The early years: algorithm-guided individualized reading instruction. *Science,* 315, (5811), pp. 464-465.

Corcoran and Goertz (1995). Instructional capacity and high performance schools. *Educational Researcher,* 24, (9), pp. 27-31.

Cunningham, J. W. (2001). The National Reading Panel Report: Essay review. *Reading Research Quarterly,* 36, pp. 326–335.

Cunningham, A.E., Perry, K.E., Stanovich, K.E. and Stanovich, P.J. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals of Dyslexia,* 54, (1), pp. 139-167.

D'Angiulli, A., Siegel, L. S., and Hertzman, C. (2004). Schooling, socioeconomic context, and literacy development. *Educational Psychology,* 24, 867-883.

De Corte, E., and Verschaffel, L. (2002). High-powered learning communities: design experiments as a lever to bridge the theory/practice divide. *Quarterly Review of Comparative Education,* 32, pp. 517-531.

Datnow, A., Hubbard, L and Mehan, H. (2002). *Extending Educational Reform: From One School to Many.* New York: Routledge Falmer.

DBRC (Design-Based Research Collective) (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher,* 32, (1), pp. 5-8.

DfES (2006). *Independent Review of the Teaching of Early Reading: Final Report.* (The Rose Review). London: DfES.

Donaldson, G. (2010). *Teaching Scotland's Future*. Edinburgh: Scottish Government.

Dufore, R (2004). What is a 'Professional Learning Community'? *Educational Leadership*, 61, (8), pp. 6-11.

Education and Skills Committee (2005): *Eighth Report: Witnesses Monday 15 November 2004: Dr. Morag Stuart*. United Kingdom Parliament. http://www.parilament-the-stationaryoffice.co.uk/pa/cm200405/cmselect/cmeduski/121/12111.htm Downloaded on 16th May 2005.

Education Scotland (2012). *National Assessment Resource: What is the NAR?* http://www.educationscotland.gov.uk/learningteachingandassessment/assessment/supportmaterials/nar/whatisnar.asp Downloaded 12th March 2012.

Edwards, A and Daniels, H. (2012) The knowledge that matters in professional practices *Journal of Education and Work* 25 (1) p. 33-39.

Eichelberger, R.T. (1989). *Disciplined Inquiry: Understanding and Doing Educational Research*. New York: Longman.

Eisenhart, M. and Towne, L. (2003). Contestation and change in national policy on "scientifically based" education research. *Educational Researcher*, 32, pp. 31-38.

Ellis, S. and McCartney, E. (Eds.) (2010). *Applied Linguistics and Primary Teaching*. Cambridge: Cambridge University Press.

Eurydice (2011). *Teaching Reading in Europe: contexts, policies and practices*. Brussels: European Commission.

Fisher, R, Jones, S, Larkin, S, Myhill, D (2010). *Using Talk to Support Writing*. London: Sage.

Gardner, J., Sutherland, A. and Meenan-Strain, C. (1998). *Reading Recovery in Northern Ireland: The First Two Years*. Dublin: Blackstaff Press.

Gambrell, L, Malloy, J.A. and Mazzoni, S.A. (2011). Evidence-based best practices in comprehensive literacy instruction. In Lesley Mandel Morrow and Linda B. Gambrell (Eds.) *Best Practices In Literacy Instruction: Fourth Edition*. pp. 11-37. New York: Guildford Press.

Garet, M.S., Porter, A.C., Desimone L.M., Birman, B. and Yoon, K.S.D. (2001). What makes professional development effective: analysis of a national sample of teachers. *American Educational Research Journal*, 38, (3), pp. 915-945.

Gee, J. P. (2000). The new literacy studies; from 'socially situated' to the work of the social. In D, Barton, M, Hamilton and R, Ivanic (Eds.) *Situated Literacies: Reading and writing in context*. London/New York: Routledge

Gee, J. (2004). *Situated Language and Learning*. London: Routledge

Goodman, K. (1973). Miscues: 'windows on the reading process'. In F. Gollasch (Ed.) *Language and Literacy: The Selected Writings of Kenneth Goodman. Vol. I.* (pp. 93–102). Boston: Routledge & Kegan Paul.

Goswami, U., and Bryant, P. (1990). *Phonological Skills and Learning to Read*. Hillsdale, NJ: Erlbaum.

Graves, D.H (1994). *A Fresh Look at Writing*. New York: Heinemann

Gregory, E (2008). *Learning to Read in a New Language: Making Sense of Words and Worlds*. London: Sage.

Guthrie, J. T., Cox, K. E. (2001). Classroom conditions for motivation and engagement in reading. *Educational Psychology Review*, 13, (3), pp. 283-302.

Guthrie, J.T. and Humenick. (2004). Motivating students to read: Evidence for classroom practices that increase reading motivation. In P. McCardle and V. Chabra (Eds.). *The Voice of Evidence in Reading Research*. pp. 329-355. New York: Erlbaum.

Hall, K. Goswami, U., Harrison, C., Ellis, S. and Soler, J. (2010). (Eds.) *Interdisciplinary Perspectives on Learning to Read: Culture, Cognition and Pedagogy*. London: Routledge.

Hall, K (2013). Effective literacy teaching in the early years of school: A review of evidence. In J Larson and J Marsh (Eds.) *The Handbook of Early Childhood Literacy* 2nd edition Thousand Oaks, Calif.: Sage.

Hargreaves, D. H. (1979). A phenomenological approach to classroom decision making. In J. Eggleston (Ed) *Teacher Decision Making in the Classroom*. London: Routledge.

Hargreaves, D. H. (1996). *Teaching as a Research Based Profession: Possibilities and Prospects*. Teacher Training Agency Lecture 1996. London: TTA.

Heary, C. M and Hennessy, E. (2002). The use of focus group interviews in pediatric health care research. *Journal of Pediatric Psychology*, 27, (1), pp. 47-57.

Helmsley-Brown, J. and Sharp, C. (2003). The use of research to improve professional practice: A systematic review of the literature. *Oxford Review of Education*, 29, (4), pp. 379-391.

Hillage, J., Pearson, R., Anderson A. and Tamkin, P. (1998).*Excellence in Research on Schools*. London: DfEE.

HM Inspectorate of Education (HMIe). (2006). *Pilot Inspection of the Education Functions of Clackmannanshire Council in October 2005*. Edinburgh: SEED. http://www.hmie.gov.uk/documents/inspection/ClackmannanINEA2Pilot.html

Hord, S. (1997). *Professional Learning Communities: Communities of Continuous Inquiry and Improvement*. Austin, TX: Southwest Educational Development Laboratory.

IRA (International Reading Association) (2005). News from Reading Today Daily: Why synthetic phonics was a natural winner. *Reading Today Daily Online*. Retrieved March 15th 2007 from http://blog.reading.org/archives/000794.html .

Johnson, R.B., Onwuegbuzie, A.J. and Turner, L (2007). Toward a definition of mixed methods research *Journal of Mixed Methods Research*, 1, (2), p.112-133.

Johnston, R. and Watson, J. (2004). Accelerating the development of reading, spelling and phonemic awareness skills in initial readers. *Reading and Writing: An Interdisciplinary Journal*, 17, (3), pp. 327–357.

Kelly, P. (2006). What is teacher learning? *Oxford Review of Education*, 32, (4), pp. 505-519.

Kitzinger J., Barbour, R.S. (1999). *Developing Focus Group Research: Politics, Theory, and Practice*. London: SAGE Publications.

Labov, W. (1972). Some principles of linguistic methodology. *Language in Society*, 1, (1), pp. 97-120.

Ladson-Billings, G (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32, (3), pp. 465-491.

Lareau, A. (2003). *Unequal Childhoods*. Berkeley: University of California Press. epaa.asu.edu/epaa/vl2n56.

Levin, B. (2004). Making research matter more. *Education Policy Analysis Archives*, 12, (56). http://epaa.asu.edu/epaa/v12n56/.

Levin, B. (2010). Leadership for evidence informed education. *School Leadership and Management*, 30, (4), pp.303–15.

Levin, B. (2011). Mobilising research knowledge in education. *London Review of Education*, 9, (1), pp. 15-26.

Levin, B., Sa, C., Cooper, A. and Mascarenhas, S. (2009). Research use and its impact in secondary schools. *CEA/OISE Collaborative Mixed Methods Research Project Interim Report*. http://www.oise.utoronto.ca/rspe.

Levine, I. S., and Zimmerman, J. D. (1996). Using qualitative data to inform public policy: Evaluating Choose to De-Fuse. *American Journal of Orthopsychiatry*, 66, (3), pp. 363 -377.

Lincoln, Y.S. and Guba, E.G. (1985) *Naturalistic Inquiry* Newbury Park CA: Sage.

Luke, A. (2003). Making literacy policy and practice with a difference: generational change, professionalisation and literate futures. *Australian Journal of Language and Literacy*, *26*, (3), pp. 58-82.

Lunenberg, M., Pointe, P. and Van de Ven, P. (2007). Why shouldn't teachers and teacher educators conduct research on their own practices? An epistemological exploration. *European Educational Research Journal*, 6, (1), pp. 13-24.

Martin, J .R and Rose, D. (2008). *Genre relations: Mapping Culture*. Sydney: Equinox Textbooks and Surveys in Linguistics.

Martin, J.R. (2011) The Development of Genre Pedagogy: from writing to reading. Keynote speech delivered at *1st International Meeting of Teacher Education for European Literacy Education*. University of Lisbon, Escola Secundária D. Pedro V. Lisbon: Portugal.

McCartney, E. (2004). 'Hard Health' and 'Soft Schools': Research designs to evaluate SLT work in schools. *Child Language, Teaching and Therapy*, 20, pp. 101- 114.

McCartney, E., Ellis, S., and Boyle, J (2009). The mainstream primary classroom as a language-learning environment for children with severe and persistent language impairment – implications of recent language intervention research. *Journal of Research in Special Educational Needs*, 9, (2), pp. 80-90.

McCoach, D. B., O'Connell, A. A., Reis, S. M., and Levitt, H. A. (2006). Growing readers: A hierarchical linear model of children's reading growth during the first 2 years of school. *Journal of Educational Psychology*, 98, pp. 14-28.

Mertens, D. M. (2005) *Research and Evaluation in Education and Psychology: Integrating Diversity with Quantitative, Qualitative, and Mixed Methods*. London: Sage.

Mills, C. J (2012). Shaping and selling policy: A critical study of policy entrepreneurs in English elementary school literacy. Paper presented at the 2012 *American Educational Research Association Conference, Non Satis Scire: To Know Is Not Enough*. 14th April, Vancouver, BC, Canada.

Morran, R. (2010). *Improving Education for Children Living in Poverty: Scotland Policy Brief 2010*. Downloaded March 2012 from: http://www.savethechildren.org.uk/en/docs/Education_Poverty_Jan_2010final.pdf.

Moss, G. and Huxford, L. (2007). Exploring literacy policy-making from the inside out. In Lesley Saunders (Ed) *Exploring the Relationship between Educational Research and Education Policy-Making*. London: Routledge Falmer.

Moss, G. (2007). *Literacy and Gender*. Abingdon: Routledge

Munn, P. and Ellis, S. (2005). Interactions between school systems and reading recovery programmes: Evidence from Northern Ireland. *The Curriculum Journal*, 16, (3), pp. 341-362. Routledge.

Nowotny, H., Scott, P and Gibbons, M. (2001). *Re-thinking Science: Knowledge and the Public in an Age of Uncertainty*. Cambridge: Policy Press.

National Reading Panel (NRP). (2000). *Teaching Children To Read: An Evidence-Based Assessment Of The Scientific Research Literature On Reading And Its Implications For Reading Instruction: Subject Panel Reports*. Washington, DC: National Institute of Child Health and Human Development. http://www.nichd.nih.gov/publications/nrp/upload/report.pdf

Oakley, A., Gough, D., Oliver, S., & Thomas, J. (2005). The politics of evidence and methodology: Lessons from the EPPI-Centre. Evidence & Policy: A Journal of Research, Debate and Practice, 1(1), 5–32.

OECD (2010)a. *PISA 2009: Overcoming Social Background: Equity in Learning and Outcomes. (Volume III)* Paris: OECD.

OECD (2010)b. *PISA 2009 Results: Learning to Learn - Student Engagement: Strategies and Practices (Volume III)* Paris: OECD.

Palincsar, A.S. and Brown, A.L. (1984). Reciprocal teaching of comprehension fostering and comprehension monitoring activities. *Cognition and Instruction*, 1, pp. 117–175.

Pawson, R., Greenhalgh, T., Harvey, G., and Walshe, K. (2005). Realist review: A new method of systematic review designed for complex policy interventions. *Journal of Health Services Research and Policy*, 10, (1), pp. 29–34.

Pearson, P. D. & Hiebert, E. H. (2010) National reports in literacy: Building a scientific base for practice and policy, Educational Researcher, 39 (4), 286–294.

Perera, K. (1984). *Children's Writing and Reading*. London: Blackwell.

Rickinson, M. (2005). *Practitioners' Use of Research*. London: NERF.

Rose, D (2008).Writing as linguistic mastery: The development of genre-based literacy pedagogy. In D. Myhill, R. Beard, M. Nystrand and J. Riley (Eds.) *Handbook of Writing Development*. (pp. 151-166). London: Sage.

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

Sackett, D. L., Straus, S. E., Scott Richardson, W., Rosenberg, W and Haynes, R.B. (2000). *Evidence-based Medicine*. Edinburgh: Churchill Livingstone.

Scottish Government (2010). *Literacy Action Plan: An Action Plan to Improve Literacy in School*. Edinburgh: Scottish Government.

Shanahan, T. and Barr, R. (1995). Reading Recovery: An independent evaluation of the effects of an early instructional intervention for at-risk learners. *Reading Research Quarterly*, 20, (4), pp. 958-995.

Shanahan, T., Callison, K., Carriere, C., Duke, N. K., Pearson, P. D., Schatschneider, C., and Torgesen, J. (2010). *Improving Reading Comprehension in Kindergarten Through 3rd Grade: A Practice Guide* (NCEE 2010-4038). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from whatworks.ed.gov/publications/practiceguides.

Stake, R. (1978). The case study method in social inquiry. *Educational Researcher*, 7, (2), pp. 5-8.

Stake, R. (2003). Case Studies. In N. Denzin and Y. Lincoln (Eds.) *Strategies of Qualitative Inquiry*. (pp. 134-164). London: Sage Publishers.

Stein, M. and Coburn, C. (2008). Architectures for learning: A comparative analysis of two urban school districts. *American Journal of Education*, 114, (4), pp. 583-626.

Sheikh A. (1998a). Teachers' attitudes towards research: A challenge for qualitative researchers. *International Journal of Qualitative Studies in Education*, 11, (4), pp. 559-77.

Sheikh, A. (1998b). Can the Curriculum Guide both emancipate and educate teachers? *Curriculum Inquiry*, 28, pp.209–229.

Shulman, L.S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15, (2), pp. 4-14.

Slavin, R.E. (2008). What works? Issues in synthesizing educational programme evaluations. *Educational Researcher*, 37, (1), pp. 5–14.

Slavin, R.E., Wordsworth, J., and Jones-Hill, M. (2005). *Success for All in England: Implementation and Outcomes of a Comprehensive Literacy Reform for Primary Schools*. Baltimore, MD: Success for all Foundation.

Smith, F (1992) Learning to read: the never-ending debate *Phi Delta Kappan* 423-442

Snow, C. (2002). *Reading for Understanding: Toward a Research and Development Program in Reading Comprehension*. Santa Monica: RAND http://www.rand.org/pubs/monograph_reports/2005/MR1465.pdf downloaded: 19th September 2011.

Stenhouse, L. (1979) Using Research Means Doing Research, in: H.Dahl, A.Lysne and P.Rand (eds) *Spotlight on Educational Problems* (Oslo, University of Oslo Press), pp. 71–82.

Strand, S. (2012). The white British-black Caribbean achievement gap: Tests, tiers and teacher expectations. *British Educational Research Journal*, 38, (1), pp. 75-101.

Street, B.V. (1987). Literacy and social change: The significance of social context in the development of literacy programmes. In Wagner, D.A. (Ed.) *The Future of Literacy in a Changing World*. New York: Pergamon Press.

Street, B. V. (1995). *Social Literacies: Critical Approaches to Literacy in Development, Ethnography, and Education*. London/New York: Longman.

Stuart, M. (2006). Teaching reading: why start with systematic phonics teaching? *Psychology of Education Review*, 30, (2), pp. 6–17.

Thompson, G. B., McKay, M. F., Fletcher-Flinn, C. M., Connelly, V., Kaa, R. T. & Ewing, J. (2008) Do children who acquire word reading without explicit phonics employ compensatory learning? Issues of phonological recoding, lexical orthography, and fluency, Reading and Writing, 21 (5), 505–537.

Tierney, W. and Clemens, R. F. (2011). Qualitative research and public policy: The challenge of relevance and trustworthiness. In J. Smart and M. B. Paulsen *Further Education: Handbook of Theory and Research*. New York: Agathon Press.

Timperley, H. and Parr, J. (2009). Chain of influence from policy to practice in the New Zealand Literacy Strategy. *Research Papers in Education*, 24, pp. 135-154.

Topping, K. and Ferguson, N. (2005). Effective literacy teaching behaviours. *Journal of Research in Reading*, 28, pp. 125–143.

Topping, K., Valtin, R., Roller, C., Brozo, W. and Dionisio, ML (2003). *Policy and Practice Implications of the Program for International Student Assessment (PISA) 2000: Report of the International Reading Association*. PISA Task Force. Newark, NJ: IRA.

Torgerson, C.J., Brooks, G. and Hall, J. (2006). *A Systematic Review of the Research Literature on the Use of Phonics in the Teaching of Reading and Spelling*. DfES Research Report 711. London: DfES.

Torgerson, C. J. and Torgerson, D. J. (2001). The need for randomized controlled trials in educational research. *British Journal of Educational Studies, 49*, pp. 316–329.

Tymms, P., Merrell, C. and Coe, R. (2008). Educational policies and randomized controlled trials. *The Psychology of Education Review*, 32, (2), pp. 3-8.

US Department of Education. (2002). *Strategic Plan for 2002-2007*. www.ed.gov/pubs/stratplan2002-07/index.html

Williams, D. and Coles, L. (2007). Teachers' approaches to finding and using research evidence: an information literacy perspective. *Educational Research*, 49, (2), pp. 185-206.

Wilson, J. (1998). Preconditions for educational research. *Educational Research*, 40 (2), pp. 161-167.

Wood, C. (2009). *Contemporary Perspectives on Reading and Spelling*. London: Routledge

Wyse, D. and Goswami, U. (2008). Synthetic phonics and the teaching of reading. *British Educational Research Journal*, 34, (6), pp. 691-710.

Wyse, D., and Styles, M. (2007). Synthetic phonics and the teaching of reading: The debate surrounding England's 'Rose Report'. *Literacy*, 47, (1), pp. 35-42.

Zill, N and Resnick,G (2006). Emergent literacy of low-income children in Head Start. In David K. Dickinson and Susan B. Neuman (Eds.) *Handbook of Early Literacy Research, Vol 2*. (pp. 347-374) New York: Guildford Press.

Zeuli, J.S. (1994). How do teachers understand research when they read it? *Teaching and Teacher Education*, 10, (1), pp.39–5.