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Sutherland, Margaret Julia (2013) *Building educational bridges: the importance of interconnections in contemporary education research, policy and practice*. PhD thesis awarded by published work.

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Building educational bridges: The importance of interconnections in contemporary education research, policy and practice.

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Submitted in fulfillment of the requirements for the Degree of PhD

School of Education

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July 2012

Abstract

Building educational bridges: The importance of interconnections in contemporary education research, policy and practice.

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The arguments presented in this thesis extend the existing discourse in the field of educational research. With support from empirical evidence and conceptual argument I will contend that the role of the teacher, and teacher beliefs, are central to changing practice and that a fine-grained understanding of teachers' attitudes is crucial if we are to bridge the disjunction between research, policy and practice. The papers presented in this submission make a significant contribution to our understanding of the complex nature of learning and teaching.

Empirical research to date has tended to be carried out in discrete disciplines within education such as psychology, sociology or early years. In contrast the portfolio of work presented here extends this knowledge by innovatively synthesising different fields of research and knowledge and challenges traditional practices where evidence was often restricted within a distinct field of study. There are increasingly nuanced debates in the academic literature about interconnectedness and the research/policy/practice nexus. The work presented here is located within this nexus.

This portfolio of publications brings together work I have completed in the field since 2000. The publications are empirical and conceptual and progress knowledge related to teacher beliefs, classroom organisation, curriculum, early years and gifted and talented education. This submission provides a unique contribution to understanding the complex processes of learning and teaching by means of synthesising existing evidence and generating new evidence that not only contributes to the discourse but crucially is disseminated in a way that is accessible and practical in nature.

The central claim underlying the work in this research portfolio is that providing for children can best be understood as resulting from three connected perspectives:

1. The complex interactions between teachers' universal understandings about learning, teaching and ability;
2. The synthesis of previously discrete fields of research;
3. The policy context teachers find themselves working in and practical application in the classroom.

This submission includes four jointly authored and four single authored peer-reviewed published papers together with two systematic reviews of literature. A range of work will be presented as evidence of knowledge exchange outputs emanating from the empirical and conceptual work. The submission will be organised under three key themes, each of which contributes to the intellectual development of knowledge and understanding about learning and teaching.

Theme 1: Teachers, Learning and Learners

The three papers presented in this theme directly address the teachers' role and interrogate through: a literature review; the development of a model and an empirical study; how teachers might understand their role within the process. The first paper (1) reports the findings of a systematic review of literature about motivation to learn. Paper two (2) reports on a two-dimensional model for motivation. Paper (3) presents findings from a study carried out with teachers undertaking postgraduate qualifications in Special Educational Needs. Synthesising the findings from these papers contributes to discourse in the field by generating overarching patterns that relate to learners and effective learning regardless of their age.

Theme 2: Classroom Organisation

The four papers in this theme focus on curriculum and the mediation of the curriculum for learners. They demonstrate how the research undertaken reveals similar concerns within the field of gifted education and education generally, thus strengthening the thesis that greater synthesis of discrete fields of research is required. Paper four (4) critiques the current curricular framework being implemented in Scottish schools in relation to pupils who demonstrate high ability. Paper five (5) examines findings from a pilot study in one Education Authority in

Scotland. Papers six (6) and seven (7) present findings from a study that examined classroom organisation from the perspectives of both teachers and pupils. Evidence is presented through knowledge exchange outputs in the form of a national staff development pack. Intellectually the papers contribute to the theoretical debates that exist around the organisation of pupils for learning and teaching. The findings corroborate the thesis that no one approach will meet the needs of all pupils.

Theme 3: High ability

Each of the three papers in this theme provides a unique contribution to the contentious debate around the most appropriate way to educate gifted and talented learners. The field is dominated by arguments for the need for specialised education for this cohort. The papers in this submission challenge this position arguing for the benefits of a more inclusive approach. Paper eight (8) is a literature review of interventions aimed at improving the educational achievement of gifted and talented pupils. Paper nine (9) explores parents' views about high ability. Paper ten (10) presents initial findings from a study of staff working in one Education Authority in Scotland. Further evidence will be presented indicating how my empirical and conceptual work translates into accessible books and reports for use by teachers, students and Education Authorities, thus demonstrating impact "on the ground" and extending my work to include both an academic and practitioner audience. Conceptually the work submitted in this section evidences the central thesis that it is the implementation of a variety of methodological and pedagogical approaches by a knowledgeable educator that will best support gifted and talented learners.

Conclusion

It is important that the individuality, personal knowledge, beliefs and understanding teachers bring to the learning and teaching processes are explored, challenged and enhanced from a theoretical and methodological base. The syntheses of findings that are presented in this portfolio provide a critical and fine-grained understanding of teaching and learning across rarely connected disparate and discrete elements within education. It is this critical interrogation of existing practice that offers a unique contribution to the field. Explicitly such insights have yet to pass down into educational practice to produce more critically informed forms of educational

praxis. The work presented in this submission offers a distinctive empirical and conceptual base from which to move forward.

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List of Accompanying Material

Theme 1: Teachers and Learning

Paper 1: Smith, Chris. M. M., Dakers, J., Dow, W., Head, G., and Sutherland, M. (2004) A systematic review of what pupils, aged 11 – 16, believe impacts on their motivation to learn in the classroom. In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education.

Paper 2: Sutherland, M., Smith, C. and McLean, A. (2004) A Model for Motivation in *Scottish Educational Review* 36, 1: 79-88.

Paper 3: Smith, C. M. M. and Sutherland, M. J. (2003) Creating a Community of Teacher-Learners *Journal of In-service Education*. 29, 3: 425 – 439.

Theme 2: Classroom Organisation

Paper 4: Sutherland, M (2011) Highly Able Pupils in Scotland: making curriculum change count *Journal of the Institute for Educational Research* 43, (2): 195-207.

Paper 5: Sutherland, M. (2003) Identification of More Able Pupils: a pilot survey of Scottish Schools *Gifted Education International* 18, (2): 209-217.

Paper 6: Smith, C. M. M. and Sutherland, M. J. (2003) Setting or mixed ability? Teachers' views of the organisation of pupils for learning *Journal of Research in Special Educational Needs*. 3, (3): 141 – 146.

Paper 7: Smith, C. M. M. and Sutherland M. J. (2006) Setting or mixed ability? : pupils' views of the organisational arrangement in their school *Journal of Research in Special Educational Needs* 6, (2): 69-75.

Theme 3: High ability

Paper 8: Bailey R., Pearce G., Winstanley C., Sutherland M., Smith C., Stack N., Dickenson M. (2008) A systematic review of interventions aimed at improving the educational achievement of pupils identified as gifted and talented. In: *Research Evidence in Education Library*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Paper 9: Sutherland, M. (2003) Young Able Children: Parents' Perspectives *Gifted Education International* 18(2):218-226.

Paper 10: Sutherland, M. (2011). The Early Years Educator: A key contributor to effective practice for highly able young children *TalentEd*, 27: 1-11.

Knowledge Exchange Output

KEO 1: Smith, C. and Sutherland, M. (2000) *The Organisation of Pupils: Setting or Mixed Ability? A Staff Development Pack for Teachers* University of Glasgow ISBN 1898220 43, 3.

KEO 2: Sutherland, M. (2005) *Gifted and Talented in the Early Years* London: SAGE Publications ISBN 978-1412903684.

KEO 3: Sutherland, M. (2006) *The Early Years Setting – an inclusive framework Including the Gifted and Talented* (Ed. C. Smith). London: Routledge ISBN: 978-0415361101.

KEO 4: Sutherland, M. (2008) *Developing the Gifted and Talented Young Learner* London: SAGE Publications ISBN: 978-1412946322.

KEO 5: Sutherland, M., Stack, N. and Smith, C. (2009) *Guidance for Addressing the Needs of Highly Able Pupils* University of Glasgow: Scottish Network for Able Pupils.

KEO 6: Stack, N. & Sutherland, M. (2010) *Gifted and Talented Pupils In Contemporary Issues in Learning and Teaching* (Eds. M. McMahon, C. Forde and M. Martin). London: SAGE Publications ISBN: 978-1849201285.

KEO 7: Sutherland, M. and Stack, N. (2011) *Highly Able Children in the Early Years: A report of practice in nurseries in Scotland* University of Glasgow: Scottish Network for Able Pupils.

KEO 8: Sutherland, M. (2nd edition in press) *Gifted and Talented in the Early Years* London: SAGE Publications.

Preface

In 1996 I was on secondment from a mainstream primary school to St Andrew's Teacher Training College as a lecturer in support for learning. I became a fulltime member of staff at the College in 1998, also gaining a Masters in Education in the same year. Following the merger between St Andrew's College and the University of Glasgow I became a fulltime member of staff in the then Faculty of Education (now School of Education) in 1999. Prior to becoming a lecturer I had completed a Diploma in Primary Education and a Diploma in Support for Learning/Special Educational Needs and had worked as a primary teacher in Scottish primary schools and for psychological services as a behaviour support teacher. Since my original appointment I have developed an active research interest in inclusive education resulting in much of my work being related to teaching and learning and in particular in the area of highly able pupils. I have been involved in research projects which have examined existing reviews of literature related to motivation and gifted education as well projects which have used mainstream qualitative methods for nuance of approach to a mainstream understanding of curriculum. This qualitative approach has allowed for fine-grained understanding of the deeper issues. This body of work has been developed with the overarching aim of bringing together qualitative research and practice so that one might inform and develop the other. The ten papers which I am submitting for the degree of PhD by published works are grouped into three key themes relevant to the development of practice in nurseries and schools. In the explanatory essay I provide a brief background to the fields, and consider the theoretical and methodological issues of bringing together different research fields in a way that becomes meaningful for teachers as they organise learning in the classroom. In four of the papers I am sole author. In the other four papers I am the co-author, preparing sections of the first and subsequent drafts of the papers in light of co-

author and referees' comments. I worked jointly in developing the original research ideas; the methods used, the refining of the research questions, and performed the analysis being reported within the papers. In the two reviews of literature I was a member of the research team participating in all aspects of the systematic review (see Appendix for co-author signatures confirming this).

Acknowledgements

I would like to thank Professor Ian Menter, Dr Margaret McCulloch, Dr George Head, Professor Alison Phipps and Dr Lesley Doyle for support, guidance and advice in producing this PhD. I would like to thank my colleagues Dr Niamh Stack and Ms Chris Smith who have acted as mentors and worked together with me on various research projects over the past decade. I would like to thank my co-authors on the submitted papers. I am grateful to Ms Frances Gaughan, Ms Susan Kelly and Ms Susan Roy for administrative support.

Finally, my thanks to Andrew and my parents who have supported me throughout my professional career.

Author's Declaration

I, Margaret Sutherland, declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

Signed:

Date:

Abbreviations

ECE Early Childhood Education

GE Gifted Education

Explanatory Essay

Building educational bridges: The importance of interconnections in contemporary education research, policy and practice.

1. Background and Rationale

This thesis centres on a collection of empirical and conceptual papers that explore key issues relevant to contemporary learning and teaching. In particular it synthesises findings from across research disciplines and contributes to the on-going debate across developed countries as to the role of the teacher in creating high quality educational experiences for all learners (OECD, 2004).

The world has become an increasingly complex place. Education is responding to the rapid pace of change in a globalised society and internationally it is considered to be a key player in ensuring that future generations acquire the skills necessary to meet the unknown demands of 21st century living (UNESCO, 2010; EC, 2011). Globally, governments have sought to increase attainment and achievement and comparative results from international studies (OECD, 2004, 2007) have been used to drive forward change. Governments have introduced standardised curricula and reporting mechanisms aligned with heightened accountability of teaching staff in the belief that all children will benefit from a consistent approach that offers equal opportunity (Yelland, 2010). The titles of the policies that accompany such tactics leave little room for disagreement. To disagree with No Child Left Behind (US Department of Education, 2001), Every Child Matters (DfE, 2003) or Getting it Right for Every Child (SE, 2006a) would appear to imply that it was acceptable to leave children behind, that not every child matters or it was tolerable to get “it” wrong for some. Such policies are often accompanied by curriculum frameworks (SE, 2006b; DCFS, 2008) that promulgate the view that standardisation of curriculum will offer all children the best opportunity in life. While on the surface this is a persuasive argument, standardisation would seem to imply that children and young people are homogeneous. It seems incongruous that at the same time as we recognise that learners and learning are diverse and multifaceted (Lenz Taguchi, 2010) and as we embrace the worldwide move towards inclusive education (UNESCO, 2010); we simultaneously constrain individuals and their individuality by standardising the curriculum. Standardisation of curriculum can be

perceived to imply standardisation of delivery; however, implementation of such curricula and policies is mediated by the teaching staff who work with children on a daily basis. Like the pupils they teach, they are diverse in their ability, experience, culture, ethnicity and socio-economic status to mention but a few, thus implementation of curriculum frameworks is unlikely to be uniform. It has long been accepted that teaching is not a neutral activity (Berlak & Berlak, 1981) and so while internationally it is agreed that teachers play a central role in ensuring high quality educational experiences (Riddell, 1998; Motala, 2001; O'Sullivan 2002; VSO 2002; UNESCO 2005), the complexities involved in the modus operandi cannot be ignored. Instead these complexities further underline the need for empirical validation and fine-grained understanding of the interwoven nature of learning and teaching and the individuals involved in the process.

There is a desire to improve educational practice through the application of research findings (Avis, 2006) and so the constituent parts of the educational research landscape have sought to examine teaching and learning within this context. Empirical research about the efficacy of particular teaching and learning approaches abound (Kyriakides et al., 2000; Muijs & Reynolds, 2001) but there is often a disjoint between research and policy and a further detachment between research, policy and practice (Sylva et al. 2007). A key aspect of the research, policy, practice nexus is the educator's understanding about concepts and theories of learning and teaching as it is this, along with appropriate research dissemination practices, that will influence what happens in the classroom and how well or otherwise research and policy are subsequently implemented (Hargreaves, 1998; Sylva et al., 2007; Malm, 2009). Another less documented dislocation is the lack of connectedness between research fields as can be seen, for example, in the interface between Early Childhood Education (ECE) and Gifted Education (GE). Evidence from empirical research in ECE has been used to inform policy and school based interventions (Schweinhart & Weikart, 1999; Rinaldi, 2001; Sylva et al., 2004) but little of this research has focused on the needs of highly able young children, although the needs of other groups of learners such as those with special educational needs have been considered within this context (Nutbrown, 2006). Within the field of GE there is empirical evidence in relation to cognitive and affective high ability in older children (Bailey et al., 2008) but a paucity of research related to early years (Koshy, 2006; Walsh et al., 2010, 2012). Where intelligence

testing has been used to identify high ability in young children the results do not demonstrate high reliability or stability (McCall et al., 1973; Sattler, 1988; Shapiro et al., 1998) and Perleth et al. (2000) suggest they are largely inapplicable in early childhood. However there is increasing interest in early identification and intervention for young children who demonstrate high ability (Pfeiffer, 2002; Jackson, 2003; Stoeger, 2006). This thesis argues that a synthesis of evidence from both fields which links to teacher beliefs and the application of research in the classroom are required if research is to move beyond the academic arena and into the classroom through knowledge exchange.

2. Theoretical and Methodological Underpinnings

The papers presented in this portfolio incorporate a range of theoretical and methodological approaches all of which have strengths and limitations. The constructivist theory of learning and teaching is rooted in the work of psychologists and educators such as Piaget (1928), Vygotsky (1978) and Bruner (1996). These theorists have dominated the discourse within education during the later decades of the 20th century. The emerging two strands, constructivism and social constructivism, while differing in emphasis, have much in common not least of which is an emphasis on knowledge and learning rather than teaching (Jonassen, 1994). Constructivist learning theory contests that ‘learners actively construct and reconstruct knowledge out of their experiences in the world’ (Kafai and Resnik, 1996: 3); this knowledge is constructed when the learner actively engages with tasks that they find meaningful. Learning and meaning are linked to experience. Much of the earlier work presented in this portfolio has its roots in these theories. The work presented in the earlier texts sought to understand more about how individual players within the education system conceptualise their work. Of key interest was the idea of ‘structures of feeling’ as first mooted by Williams (1977) and subsequently developed by Gibson (1984) that considers the impact of the present on an individual’s beliefs and actions. With its roots in the sociocultural approach this perspective articulated well with Vygotskian theory as an attempt was made within social constructivism to understand the zeitgeist of the period.

More recently the work of authors such as Osberg and Biesta (2008) and Lenz Taguchi (2007, 2008) has called into question the dominant underlying assumptions around learning and

teaching and in particular the concept of universal goals to which we all adhere. They contend that educators' values and goals will have to be renegotiated and that this renegotiation will result in 'rhizomatic logic' (Lenz Tagucchi, 2010: 19) which sees the goals of learning set within the local context of the pupils and learners. This challenge to the dominant discourse and values is important and is one that influenced more recent work within this portfolio. Rhizomatic logic has its roots in post-structuralism building on the philosophical and cultural theories of Deleuze and Guattari (1987). This portfolio of work provides an understanding of teacher's beliefs and views about teaching and learning, often relating to high ability. Rhizomatic logic suggests that beliefs and views should not be regarded as fixed but are part of what teachers might become when we acknowledge the possibility of shifting multiple truths. When teachers' views and beliefs meet research findings and policy guidelines the resulting implementation rather than being uniform as policy makers may intend instead becomes an active, individualistic and on-going process.

Capturing individual beliefs and actions is problematic and does not lend itself to traditional social science research methodology dominated by a methodological hegemony which takes little account of the 'ephemeral, indefinite and irregular' (Law, 2004:4). This is not to say that dominant social science research practice is wrong but that perhaps the human aspect and the often individualistic nature of teaching raises questions as to the 'normatives that are attached to them in the discourse about method' (Law, 2004:4). The collective works within the thesis presented here argue that it is only when we begin to cross boundaries and understand the interactions between different areas of research and practice and recognise and validate the views of individuals that we will begin to understand the complexity of teaching and learning.

The papers presented in this thesis draw on a range of quantitative and qualitative approaches as well as systematic reviews of literature. Understanding teachers' beliefs and practices was of paramount importance in the development of empirical evidence since the individualistic nature of teaching and learning is embodied in the educator. Law (2004:45) argues that methods should no longer 'discover and depict' realities but instead 'participate in' the acting out of these realities thus challenging some of the methodological certainties in traditional social science research. In contrast the rigorous approach to gathering the data

adopted by a systematic review is akin to primary research (Harden & Thomas, 2005) and it could be argued offers a more positivist approach through the methodological criteria used to evaluate studies. However tensions exist between research paradigms and the epistemological assumptions to which qualitative and quantitative researchers adhere. Brannen (2005) argues that there are more similarities than differences between these two approaches and highlights the possibilities that exist when a mixed methods approach is adopted. It is through this inter-subjectivity that possibilities for transformative developments in the social science arena arise.

3. Discussion

In synthesising the work from the portfolio of submissions three themes emerge:

1. Teachers, learning and learners
2. Classroom organisation
3. High ability

3.1 Theme 1: Teachers, Learning and Learners

The Dakar Framework for Action (UNESCO, 2000:17) states that ‘quality is at the heart of education.....A quality education is one that satisfies basic learning needs, and enriches the lives of learners and their overall experience of living’. Key to these sentiments is the educator who oversees the crafting of learning experiences that result in quality education. However this seemingly simple statement belies the difficulties faced by social science as it tries to capture the nuances of the multiplicity of realities within the classroom in order to better inform practice. Understanding these processes becomes important if we are to change and influence practice. There is apparent interconnectedness yet simultaneously there is great diversity among teachers, teaching and learning and this is problematic to traditional social science research where answers are sought in a clear and precise manner. While there are epistemological difficulties in conducting research, within a transactional framework, the teacher or more knowledgeable other remains a central component of the learning and teaching procedure. The papers in this portfolio seek to explore this relationship. The first paper (1) is a systematic review of literature that draws together research relating to the motivation of pupils. The Evidence for Policy and

Practice Information and Co-ordinating Centre, who commissioned the review, is part of the Social Science Research Unit at the Institute of Education, University of London. The centre has been at the forefront of carrying out systematic reviews and developing review methods in social science and public policy. While there were numerous studies relating to motivation, this study specifically explored pupil voice in relation to motivation. The drive for research to inform policy (Hammersley, 2000) has resulted in a call for research to be disseminated in a way that is accessible by end users and so research that has involved end users often becomes part of systematic reviews in order to ensure that their voices are heard. The inclusion criteria for this systematic review sought to discover studies where authentic pupil voice could be heard. Many of the excluded papers presented pupil voice through the filter of the researcher. Legislation (UN, 1989) has brought to the fore the importance of including pupils in their education. The small number of studies that were finally included highlighted that authentic pupil voice was an area requiring attention. Key findings from this study provide insight into classroom organisation, the use of differentiation, classroom climate and the quality and character of group activities. Cutting across these areas was the importance of the teacher in the learning and teaching process. These findings are not only of interest and relevance to policy makers; they contribute to the on-going debates about the role of the researcher/teacher (Munn & Baron, 2008) and to the dynamic interaction between beliefs and behaviour (Bégin & Gagne, 1994a, 1994b). It further highlights the disjoint between policy and evidence from research where authentic pupil voice was seldom heard.

The second paper (2) presented a model for motivation. The roots of this conceptual paper come from psychology and are based on work undertaken with teachers across Scotland. The central argument is that the motivation of teachers and pupils is inextricably linked and so teachers need to perceive themselves as learners within the process. The paper discusses this within the Scottish context and directly impacted on practice and policy developments at the time as the model discussed in this paper was used as the foundation for a training programme on Motivation by the Scottish Government in 2005 (McLean, 2005). The final paper (3) examines results from a small-scale study that looked at the learning experiences of a group of qualified teachers in Scotland who were undertaking post-graduate study. While these courses had been operating for some time in a number of institutions in Scotland, little work had been undertaken

in relation to the experiences of teachers on these specific courses and work that had been carried out had not been published. The findings from this study were used to define and develop the nature of post-graduate study to teachers from across Scotland.

Motivation is an integral part of the learning process and the findings from these papers collectively demonstrate that there are overarching patterns that relate to learners and effective learning regardless of age. Key themes that emerge include empowerment, the role of self and the creation of exciting and inspiring learning contexts. Once again the teacher is central to ensuring impact at classroom level (Hopkins and Harris, 2001).

3.2 Theme 2: Classroom Organisation

The fourth paper (4) presented here examines current curricular developments within Scotland. Curriculum for Excellence (CfE) has been adopted by Scottish schools and aims to achieve a transformation in Scottish education (SE, 2006b). Whilst there is an emerging critique of CfE (MacLellan & Soden, 2008; Priestly & Humes, 2010) this paper is the first to explicitly examine its potential for meeting the needs of highly able pupils. As such, it contributes not only to the body of knowledge about CfE but also to curriculum development in the field of GE. Much time has been spent discussing where gifted individuals should be educated – together in a mixed ability classes, separately in gifted classes, in pull out programmes, in schools for the gifted, accelerated to advanced year groups (Colangelo et al., 2004; Ziegler & Stoeger, 2004) with little agreement among researchers as to the ideal location for learning. Linked to this are discussions about the kind of curriculum that best meets the needs of gifted individuals (VanTassel-Baska, 2007). Findings from this paper accentuate the need for cross-disciplinary work arguing that the form of organisation is less important and that at the heart of appropriate curricular experiences is an effective teacher.

Returning to the theme of teachers, their beliefs and their impact on practice, paper five (5) reports the results of a pilot study that assessed how schools in Scotland identified and supported highly able pupils. At the time the study was undertaken there was no legislation or guidance available for schools in Scotland as they sought to meet the needs of this group of learners. Given teachers' reactions to the contentious nature of high ability (Geake & Gross,

2008) it was essential that some appreciation of schools' understandings of high ability was gained. The findings of this paper point to areas for further consideration by researchers and policy makers and has already been cited in other work considering frameworks for thinking (Robson, 2006). Acknowledging the significance of the impact of teachers' and pupils' perceptions on the learning and teaching process, the sixth (6) and seventh (7) papers present findings from a study carried out in primary and secondary schools in Scotland. This study built on ideas contained in the Scottish Office policy document *Achievement for All* (SOEID, 1996) and was commissioned by HMIE. Ability grouping has long interested the academic and teaching communities (Slavin, 1990; Harlen and Malcolm, 1997; Ireson et al., 2002) not least because it links to discussions about social inclusion. Social disadvantage has been linked with pupils who are placed in lower ability groupings (Hallam & Toutounji, 1996) and GE is often misconceptualised as an issue of elitism and exclusivity (Winstanley, 2004) making it a consideration of the financially advantaged and already privileged few. There continues to be interest in ability grouping among academics and practitioners and a recent paper by Hornby et al. (2011:92) cites paper 7 as contributing to 'extensive international research literature on the impact of ability grouping (e.g. streaming or banding) on children's academic and behavioural outcomes'. While the above academic papers contributed to the debate within the research community about the organisation of pupils, professional development materials based on the research were produced and sent to every school in Scotland (KEO 1). Classroom organisation and curriculum models need to respond to the unpredictable and unknown and so teachers who mediate the learning experience need to be engaging with learning in a way that facilitates this changeability and these materials offered teachers a framework for this process. The results in papers 6 and 7 are significant as they suggest that curriculum models and organisational factors alone are not the causative factor of effective learning and teaching although they are often presented to the teaching profession as such. In fact the collective evidence from the research in this thesis suggests that teachers and their views, beliefs and understandings play a crucial role supporting all learners with their individuality, experiences, understanding and context all influencing how research findings and policy will be implemented in the classroom. This complex web of factors underscores the need for the cross-disciplinary response to issues affecting learning and learners and further corroborates the central tenet of this thesis.

3.3 Theme 3: High ability

The final theme brings together a body of work concerned with high ability. Within the field of GE much time has been spent debating how to identify gifted individuals in the belief that if we can identify them we can cater appropriately for them. Historically giftedness has been measured by IQ testing but this has been increasingly called into question as a valid measure of high potential and theorists and practitioners have sought to re-examine the conceptualisation of giftedness (Sternberg & Davidson, 1986, 2005; Renzulli, 1986, 2006; Ziegler & Heller, 2000; Sutherland & Stack, 2010). Notably the work of Dweck (1999) challenged fixed notions of intelligence arguing that the development of a ‘growth mindset’, where intelligence is considered to be malleable and therefore something that can be developed, can positively influence motivation and achievement. Paper eight (8) presents the results from a systematic review of literature. Within the field of GE many of the classes and activities for gifted young people take place outside of school (Olszewski-Kubilius & Lee, 2004). The needs of highly able pupils may not be addressed through the everyday curriculum when provision is outside of school and frequently there may be a financial cost attached to activities thus raising issues of social justice and giving weight to the charge of elitism (Borland, 1989). This study focused on classroom interventions and contributes to the discourse around inclusive, effective classroom strategies and interventions as it considered how the needs of highly able pupils could be met within the regular classroom. The work from this review sought to inform policy; particularly in England where the GE strand of Excellence in Cities funding was undergoing tremendous change. While previous reviews of literature had been published (Freeman, 1998; Ziegler and Raul, 2000; VanTassel-Baska, 2004), none had used a systematic review methodology and so this paper was significant within the field.

While much has been said about the worth of the educator, parents also have an important part to play in a child’s learning (Watt, 1997). Parents were therefore asked about their experiences of bringing up and living with a highly able child in Scotland. No other work has been undertaken in Scotland with parents of highly able children and so paper nine (9) offers a unique insight into parents’ views. While the results have to be treated with caution due to the

small sample size, key issues that are pertinent to the field were identified, particularly given the paucity of work in relation to gifted children in the early years.

Paper ten (10) returns to the idea of the role of the educator in catering for high ability and presents the findings of a study undertaken with a group of early years educators. This paper fuels the debate about how to best cater for high ability in an early years setting acknowledging again the importance of the educators' understandings of ability and the effect of this on learning. This study is the first in Scotland to look specifically at staff beliefs in relation to high ability in the early years. Crucially it takes place within the mainstream early years setting thus adding weight to the thesis that it is cross examination and fertilisation of ideas and research between existing early years practice and existing practice within GE that will lead to appropriate provision for all children, including highly able young children.

Emanating from the work in this section is a number of publications and knowledge exchange documents. Two of the books in this section (KEO 2 and KEO 4) link research findings and academic debate directly to the development of good practice in the classroom. The books provide practitioners with a range of engaging activities for children combined with a theoretically based commentary and key points for teachers to consider. KEO 2 was translated into German in 2008 and is currently being published in a second edition (KEO 8) due to its popularity. KEO 4 was book of the month for three months with the National Association for Able Children in Education (NACE, 2010). KEO 2 was favourably reviewed in 2011 by the Education Subject Centre, Higher Education Academy. It was also reviewed in two international journals (Endepohls-Ulpe, 2006; Smith, 2006). Two book chapters (KEO 3 and KEO 6) are based on the theoretical and conceptual work presented in the thesis and suggest ways in which students, beginning teachers and advanced professionals can start to engage with the issues associated with catering for high ability in the classroom. Finally non-statutory guidance for Scottish schools (KEO 5) and an early years report (KEO 7) are presented. Both documents are underpinned by the research and seek to present findings in an accessible and meaningful way for stakeholders. The documents are endorsed by the Scottish Government and Her Majesty's Inspectors of Education and are freely available on the Scottish Network for Able Pupils website for all schools in Scotland and furth of Scotland to download.

One of the key issues emerging from the findings within this theme is that a “one size fits all” approach is not appropriate for meeting the needs of highly able children. Significantly a synthesis of the findings presented demonstrates that the complexities associated with addressing the needs of highly able pupils require interdisciplinary approaches. Cognisance needs to be given to the views of individual stakeholders and placed alongside general educational research findings. Once again, a key player in this is the teacher. Understanding educators’ conceptions, preconceptions and misconceptions about ability is crucial if they are to be supported in making the necessary links between existing knowledge about pedagogy and the activities and lessons they subsequently plan. In practice this means that researchers and teachers cross boundaries and make causal links between disciplines generating new knowledge that is closely linked to practice. The knowledge exchange outputs are a practical demonstration of the synthesis of research findings from GE and ECE.

Conclusion

Gifted Education needs to look beyond the narrow field in which it works if synergistic opportunities are to be developed and used to enhance existing empirical research. Similarly Early Childhood Education needs to encapsulate work being undertaken in the field of gifted education if we are to appropriately meet the needs of highly able young learners. Across each of the fields of research the teacher has a pivotal role and there is growing appreciation that the relationships between the teacher and teaching and the learner and learning are not simplistic or homogeneous. Within the collection of work provided within the portfolio I have synthesised the ideas presented within different education research fields in order to understand, influence and enhance practice in the classroom, thus forging stronger links between theoretical understanding, empirical research and practice. While much of the work relates to high ability the results have wider application to the development of evidence to inform practice. Internationally Governments, policy makers, researchers and teachers are striving to make education relevant and appropriate for all in new and uncharted territory. Increasingly synergies between research, policy and practice must occur if bridges are to be built and the nexus is to be narrowed between these elements. This thesis contributes to the discourse by amalgamating,

synthesising and analysing findings to generate new understandings about the complex interactions between teachers and learners.

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