

# APPLIED EDUCATIONAL RESEARCH IN SCOTLAND: SOME HISTORY AND CHALLENGES FOR THE FUTURE

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## ABSTRACT

In this invited piece, Sally Brown provides a personal perspective on where applied educational research in Scotland has come from over the last few decades and the challenges it currently faces. The paper draws on the direct involvement of the author in a number of major research projects, either as a researcher directly involved in data gathering and analysis, or as an adviser on important programmes of research. The paper outlines the expectations of research of policy-makers, practitioners, and of researchers themselves, before charting some attempts at collaboration among Scottish institutions in the production of educational research. The key issue of capacity building in order to produce high quality research is discussed in the context of the merger of the former teacher education colleges with universities. Some of the challenges to capacity building are identified, including institutional policy and practices and the commitment and enthusiasm of the current workforce. A major challenge is sustaining the collaborative practices which AERS has attempted to foster. In a globalised environment, the added value of Scottish higher education institutions working together seems to be self-evident. The paper asks us critically to examine this assumption.

## INTRODUCTION

The invitation to contribute to this SER issue, with its early look at collaborative work within the AERS, suggested I look at where applied educational research in Scotland has come from over the last few decades and the challenges it currently faces. Inevitably, this has a strong personal slant and focuses on what I have regarded as important over the last 35 to 40 years. However, establishing AERS has, at least implicitly, articulated a framework of concerns about Scottish research that need to be addressed and this has guided the paper's structure.

None of these concerns is new, but the financial initiative of the Scottish Executive Education Department (SEED) and the Scottish Funding Council (SFC) has supported a collaborative research programme (AERS) with a chance of success where other more limited attempts have failed. Furthermore, the initiative came shortly after the major Economic and Social Research Council's (ESRC) UK Teaching and Learning Research Programme (TLRP) was implemented. This programme has the promise of fruitful engagement between researchers and the rest of the educational community through placing an emphasis on the use as well as the production of research knowledge, a priority on building up research capacity, improving the quality of research and institutional collaboration. These features also reflect the intentions of AERS and this paper's structure.

Recognition of the importance of education, and so educational research, has continued to expand, not least because of current discourses on social inclusion, the knowledge economy and the elimination of poverty. These discourses aim for life-transforming outcomes that are highly dependent on education. One aspect of the research developments has included the continued urging, by SEED and SFC as well as ESRC, for researchers to engage with practitioners and policy makers. This has been construed as an emphasis on the value of evidence-based or evidence-informed policy and practice. For some the expectation is for a direct instrumental relationship between educational research and practice, for others the priority is

for practitioners' involvement in research, but most realistically the concern is for greater understanding of practical matters through applied research.

#### ENGAGEMENT OF RESEARCH WITH PRACTITIONERS AND POLICY MAKERS

In the early 1960s, significant reforms in the school physics curriculum were particularly salient for me because they were based on the Physical Science Study Committee (PSSC) developments in the United States. This 1950s initiative arose, at least in part, from American amazement at the Soviet Union's progress in space research culminating in the 1957 Sputnik launch. As a postgraduate physics student I had spent three months at PSSC testing out with "real pupils" ideas for experiments in school physics generated by eminent physicists from the Massachusetts Institute of Technology (MIT). Unlike my background of research in physics, PSSC provided telling lessons that influenced my subsequent educational research.

#### Research and practitioners

The first lesson indicated the importance for classroom researchers, if they have ambitions to influence education, of establishing collaboration with those responsible for providing education, whether at a policy level or in the classroom. A complication is the necessity of maintaining a close relationship between research and development while simultaneously standing back to assess each from the perspective of the other. The researcher must beware of becoming the hero innovator bringing "gifts" to the classroom and experiencing rejection or, at best, an "all right in theory but not practical in my classroom" response. Thirty years later after a long period of classroom research in Scotland, Donald McIntyre and I concluded more generally:

[W]hether innovations [from research] will be seen as practical will depend on how they relate to the things which teachers have learned (through experience) about what is and what is not appropriate in their classrooms and on the implicit skills and strategies they have learned for achieving their purposes within the conditions in which they work. These things are learned in the privacy of the classroom, are rarely made explicit and become relatively automatic so they can be used effectively (often in a largely unconscious way). It would be very difficult, therefore, for a teacher to explain in any detail why certain innovations would be practical but others would not. What teachers are conscious of, however, is that proposed innovations frequently take little account (and may require the discontinuation of) classroom practices which are familiar, comfortable and, in the teacher's eyes, successful in achieving his or her purposes... To have any chance of being perceived as practical, plans for innovation would have to take account of what is already being done (particularly what is being done well) in classrooms... The emphasis would be on understanding how teachers construe their teaching. (Brown and McIntyre, 1993:15)

More recently, TLRP projects have provided evidence of the importance of starting where teachers are, rather than where one would wish them to be, and the difficulties of embedding new ideas into their practice, even when the research evidence is sound and apparently convincing (see Brown, 2005). Where there is promising collaboration with teachers, the evidence suggests:

- building teachers' involvement and confidence requires specialist support and mutual trust;
- teachers are drawn to learn from, and generate, evidence that relates to familiar contexts and focuses on matters relevant to their classroom practice;

- classroom-relevant materials developed from research evidence provide good incentives for collaboration;
- rather than general teaching directions, evidence should offer findings from specific settings that teachers can judge as useful or not for their own context;
- “evidence-informed practice” does not mean a quick fix for improvement, but teachers considering how the evidence relates their own practice and settings.

The late 1990s saw the early stages of TLRP focus on building research networks in the school sector of education, with very few funding applications from Scottish institutions. One large network grant looked like coming north of the border, but was blocked by a short-sighted assessment from the SEED. AERS now has the opportunity to build networks of its own and benefit from TLRP’s experience.

Action research offers a different model involving practitioners, and has had major support for 35 years with even earlier roots. In this approach practitioners take more, if not complete, control and ownership of the research, although they may look to researchers for support and development of enquiry skills. Action research had a greater impact on education in England than Scotland where teachers have been less ready to spend time in enquiry mode at the expense of complying with other formal demands. It remains a moot point whether conducting their own enquiries would foster effective and satisfying teaching for Scottish teachers. Evidence from the wider UK, suggests:

There is a relatively long-standing experience of teachers’ action research and, more recently, research scholarships for individual teachers have been introduced [in England]. On the positive side, there is evidence that involvement in research of this kind is clearly relevant to classroom practice, promotes the teacher’s enthusiasm and often changes practice. There are, of course, some costs attached to such involvement, especially the demands it makes on teachers’ time. What is of greater concern, however, is the lack of evidence to promote confidence in the quality of much of this kind of research, the validity of its findings and the claims or causal explanations that ensue from the studies. It can be argued that the emphasis is on the value of experience for the individual teacher and not on the accumulation of trustworthy knowledge that can be disseminated more widely. However, a lack of critical scrutiny of quality is hard to defend in any circumstances. (Brown, 2005:401–402)

#### PRACTITIONERS’ EXPECTATIONS OF RESEARCH

A central feature underpinning the uncertainties and insecurities of researcher and practitioner engagement could be the different expectations of research. Not surprisingly, practitioners frequently expect research to answer the common-sense question “what works?” and to enable evidence-based policy and practice. Such focused answers from high quality research are rarely produced, and valid guidance about what specific action should be taken in the classroom or what policy should be enacted is seldom available. Indeed, as already argued, the evidence suggests that were new research information to be presented in that way, an impact on practice would be unlikely. Where such clear findings are produced, practitioners complain that they are either already self-evident or are simply not credible. But what about policy makers’ expectations of research?

### Policy makers' expectations of research

Links between researchers and policy makers in Scotland were at their closest in the 1970s and early 1980s. Establishing the Research and Intelligence Unit (RIU), within the Scottish Education Department (SED) of the Scottish Office (SO), fostered cooperation with the research community that was the envy of researchers elsewhere in the UK. The Scottish Educational Research Association (SERA) provided a forum for discussions among civil servants, HMIs and researchers, and the RIU's practice was to visit research institutions rather than call researchers into government offices. Much of this development was attributable to the Director of RIU, HMCI Ian Morris, who was committed to responding to researchers' ideas and not just to an exclusively contractual model addressing civil servants' immediate "wants". He appreciated the value of building on existing research knowledge and the time needed to develop thorough understandings of educational matters.

During the 1980s, however, the influence of a Conservative government and Ian Morris's retirement initiated more formal patterns of interaction between researchers and the SED. Research contracts on government priorities were put out to tender, grants responding to researchers' ideas became virtually unknown, research was seen as serving the audit function, the RIU disappeared into an Audit Unit and much of the decision making was in the hands of people who had little understanding of what research could or could not do. Interactions between policy makers and researchers came down to an annual two hour meeting at the SO with representatives of SERA and an agenda largely concerned with the conditions laid down for the operation of, and publications from, the government's contract research projects.

Expectations of research in an audit culture emphasised evaluation including, of course, evaluation of the government's own initiatives. Many policy makers initially expected positive findings from such enquiries. Indeed, one young man in an SO department, not the SED, told me that I had been given a contract so I could collect the evidence to show they had been "doing the right thing". Inevitably, this study's findings were a mixed bag and not well received by him. He announced that the SO had decided not to publish the report and was startled when I published it elsewhere (as the contract permitted). In general, however, civil servants became used to discomfort and on one occasion, when I evaluated an SED initiative for educational psychologists very positively, I was called in and asked whether my findings really were as favourable as they seemed.

This is not to assert that evaluation has been the only research interest for policy makers. In the 1990s, for example, their attention focused on school effectiveness research, which claimed to provide valid knowledge as a foundation for teaching and aspired to top-down management processes for transforming research findings into central development planning and so to classroom teaching (see Brown, et al., 1995). Unfortunately, the naïve expectation that such knowledge could be "delivered" to teachers for classroom use failed to help policy makers understand the complexities and limitations of an approach that took little account of how teachers make sense of their own classroom work (Brown, 2005:396). In general, the commissioning of research has closely reflected current government priorities, but has sometimes been flexible enough to encourage broader fundamental research. However, there have also been pressures for short, small-scale, narrowly focused studies that add little to general educational understanding.

### Researchers' expectations of research

Researchers' expectations of research that would be of value to policy makers and practitioners are varied and often lack clarity. My own view is that research should help the educational community make sense of educational matters by:

- raising specific questions about practice and policy;

- providing empirical evidence and logical argument about how (a) education works in practice and (b) particular actions can be effective (or not) in various settings;
- offering alternative understandings of why things turn out as they do in various circumstances and of the factors that appear to be important determinants of the outcomes;
- identifying different possible courses of action to overtake practical or policy aims, challenge existing practices and policies, or make for a different future;
- articulating the implications in particular settings of choosing among the different courses of actions.

The aim is to understand what is going on in educational settings, why it is the way it is, how it might be different and what action is most likely to achieve what is wanted in any given circumstances. This understanding is essential for sensible decision-making, but the precise decision about what to do will depend not only on research knowledge, but also other factors of politics, resources and preferences in the particular context. So research can facilitate evidence-informed policy and practice, but to classify this as evidence-based is quite another thing.

Fulfilling this expectation is never simple and the balance for research between learning from the past and exploring the potential of new approaches is precarious. We need analytic purchase on the complications of educational matters and need to move away from moaning about the demands of complex systems, interactions and circumstances that constantly shift. Our responsibility is to capture and foster the complexity and breadth of real education and avoid its drift into the skeletal economic business model that some eagerly promote.

In 2002 Anne Edwards reminded us in her Presidential address to the British Educational Research Association

that educational research is an engaged social science... that should be both relevant and robust. It should be relevant to long term societal well being, and therefore not always immediately utilitarian, and robustly sustaining its own integrity and trustworthiness, and therefore open to scrutiny. (Edwards, 2002:160)

#### THE LOCUS OF EDUCATIONAL RESEARCH IN SCOTLAND

Responsibilities in Scotland have undergone significant changes since the early 1970s when the volume of its applied educational research was distinctly limited. At that time almost all the education of teachers, often a stimulus for research, was undertaken by colleges rather than universities. College staff were not expected to undertake research and for the few who did, it was likely to be part of a university postgraduate degree outside their day job.

Most ancient universities (Aberdeen, Dundee, Edinburgh and Glasgow) had small education departments. Research tended to be individuals' personal work and primarily located in disciplines such as philosophy, psychology or history. Within those disciplines, its distinctiveness was its focus on educational issues. The teaching, largely at Masters' level, also reflected these disciplines and provided most of the educational research training available in Scotland at the time. There were, of course, exceptions to the discipline-based enquiries of individuals. In particular, Edinburgh University established the Godfrey Thomson Unit, focusing on testing, and the Centre for Educational Sociology, which became part of the sociology department. Both developments encouraged team approaches, quantitative analysis and cooperation with the educational community.

However, a new university, established under the Robbins' 1960s higher education developments, followed a different pattern. The Education Department at Stirling University was significantly larger than those of the other institutions (referred to by one distinguished ancient university researcher as "the cuckoo in the nest"), undertook the training of teachers for secondary education and saw the practice and policies of education as its primary field for research. It largely abandoned the framework of traditional disciplines and took up team research with enthusiasm. Initially its focus was research on teacher education, but this rapidly developed with enquiries into curriculum, assessment, teaching and policy matters such as innovation and accountability. Its Masters programme and research students' topics also reflected matters directly relevant to schools and classrooms.

In addition to their own research, the ancient universities were involved in the establishment of the Scottish Council for Research in Education (SCRE) in 1928. At first there was a close association and the Council's portfolio was dominated by research commissioned from universities. By the late 1970s, however, SCRE had essentially become a research institute in competition with the universities for research grants. It had gained an advantage of a Scottish Office direct grant which, until the mid 1980s, accounted for at least two thirds of its budget. Thereafter, the reduction, and eventual removal, of this core funding ultimately led to SCRE merging with a university education department.

By the early 1980s, the RIU became uneasy about the lack of research activity in the colleges, which were directly funded by the SED, and ring-fenced some government research funding specifically for them. A group, with college representation, assessed research proposals for funding, and staff were encouraged to undergo research methods training. The colleges were delighted with the ring-fenced money, but not much progress was made in research training, even where a specific programme was set up for this purpose. With a few exceptions, the sector's high quality research output remained sparse and most college staff still failed to engage in research activity.

Towards the end of the 1980s, the colleges were drawn into the higher education sector. An enquiry into Scottish teacher education recommended the retention of mono-technic college provision and that Stirling's "different model" be reviewed (the latter suggesting Stirling's provision should cease). However, the review reported that the different model provided high quality teacher training, reduced the traditional student-teacher experience of university-followed-by-college by six months and, most importantly, was significantly cheaper. Stirling retained its provision and, during the 1990s, the colleges of education merged with universities.

The merging of the sectors brought contracts that expected former college staff to undertake research. This followed the introduction of the UK Research Assessment Exercise (RAE) for higher education. Most colleges had submitted their educational research outputs; these included some good material, but much that was judged to be poor. A significant feature of the submissions was a failure to understand what should count as research, particularly excellent research. It was expected that this would be more effectively addressed after the mergers with universities. A curious suggestion from one college Principal, uncomfortable with merger, was that SED research funding for supporting SCRE, which had a good research record, be transferred to the colleges, which did not.

During the 1980s and 1990s there were also changes in the ancient universities. Their commitments to traditional "disciplines" frameworks for teaching and research were rethought as colleges, following Stirling, introduced popular Masters' programmes focused on educational practices and policies. University readiness to think more flexibly as the mergers proceeded was promising, but the engagement of the vast majority of former college staff in high quality research has been a continuing challenge.

Effective engagement of teacher-educators with research in Scotland may be just a matter of time, but other factors could endanger that assumption. For example, a plausible argument suggests that the UK's RAE has encouraged educational research centres to secure higher quality ratings by converting themselves into social science institutes. Social sciences are of central importance to educational research, but the fundamental justification for applied research activity is its ultimate value as a support for educational well-being, including practice and policy. Social science institutes could decide that matters of practice, such as teacher education or interactions with schools, should be the responsibility of others while their function should be to provide the research base (where clever people can tell other clever people about the clever work they have undertaken?). Scotland's earlier disjunctions were not dissimilar. The mergers in Scottish higher education are now undermining the research-practice divisions, but that needs to be maintained and the relationships are still precarious.

#### RESEARCH COLLABORATION AMONG SCOTTISH INSTITUTIONS

The 1970s saw little collaboration among Scottish institutions for educational research or research training. The universities and SCRE held annual meetings to discuss research issues, but did not include the colleges. There were a few cases of collaboration with institutions outwith Scotland. Stirling, for example, had a considerable period of co-operation on teacher education research with American and Australian universities. Postgraduate research training remained competitive among the universities, and a tailored programme for college staff, set up at Stirling as a Masters in research methodology with support from the RIU, had low recruitment.

In the early 1980s, the RIU encouraged collaboration among the colleges in the research for Standard Grade developments, especially in item banking. However, reports of the collaborative activities were dispiriting and largely accounts of extra administrative duties or travel demands. Exchange of new ideas and significant findings seemed minimal and indicated little added value arising from collaboration.

Until AERS was established, inter-institutional collaboration in Scotland remained sparse, despite polemical statements about its value and a few small-scale links between individuals. The potential value of collaboration became evident, however, when TLRP became established, emphasised network research teams from different parts of the UK and assigned priority to the programme's research output looking across individual projects to more general understandings of teaching and learning. Initially, constituent projects were uncomfortable with this, preferring to focus on their own priorities. But TLRP's stringent efforts to make projects accountable for collaboration and regular "get-togethers" have ensured communication and mutual support. This has led to improvements in research practice, and avoided the descent into administrative overload. Collaboration is not an end in itself, but it provides an opportunity to add value to otherwise unconnected projects. AERS has envisaged similar inter-institutional links within its various strands of research. It remains to be seen whether this is valuable, and valued, as an opportunity to improve the quality of research and increase the research capacity of the Scottish institutions, rather than be accepted as a necessary burden to gain access to research money. Requirements promoting competition rather than collaboration, vestiges of traditional elitism in the research community and a scarcity of evidence of the effectiveness of collaboration still impose significant barriers in this aspect of research.

#### THE CAPACITY FOR HIGH QUALITY RESEARCH

For several decades there has been unease about the quality of Scottish educational research. College staff have lacked the training and skills required for excellent research and university departments have been mostly small. RAE judgements have indicated the proportion of Scottish research outputs at international levels of excellence to be significantly lower than in England. In the last assessment (2001)

no Scottish institutions gained above a “4” rating, and in the previous one (1996) only one achieved a “5”. Despite some eminent Scottish researchers engaging with and influencing the international research community, at the start of the 21st century research capacity building is clearly a priority.

It is not easy to predict success in capacity building. For example, on the one hand, evaluative research benefited significantly in the 1970s by building on arguments for “Illuminative Evaluation”, which challenged the arid questions that traditional evaluations (largely quantitative) addressed and promoted broader approaches, including qualitative methods, for improved understanding. On the other hand, this also encouraged some researchers to assume they no longer needed to understand the elements of rigorous research, such as statistics and systematic analysis, and resulted in some very poor studies based on neither theory nor adequate methods. Expertise in quantitative methods has declined since then, but many qualitative enquiries also lack understanding of the requirements for collecting and analysing data if findings are to be credible. TLRP has had significant experience of research capacity building within its projects and through a major initiative aiming to build a national network to increase capacity. While this has had some notable successes, it has also seen less effective outcomes and has recently modified its approach. AERS is in a good position to learn from this experience.

The quality of educational research in the UK was challenged during the 1980s and 1990s by both academic critics and politicians (e.g. Hargreaves, 1996), especially research on teaching and learning. These challenges of confidence in research approaches and findings also concerned the substantive issues addressed by the inquiries. Following this, TLRP placed importance on research that would not just explore the implementation of new ideas for teaching approaches or students’ participation, but would also test whether implementation did, in fact, make a difference to learning. That requirement was not welcomed by all funding applicants; some saw the task as too complex and drawing attention away from their preferred research questions. Of course, there has always been resistance to following up the difficult questions of impact on practice and policy. In the 1970s, there were escapes into small descriptive historical studies advancing neither theory nor research methods (SCRE responded by ceasing to publish historical reports), and teachers’ action-research publications have been dominated by descriptions of school management and almost never focus on explaining classrooms. And there continue to be reviews of literature and esoteric commentaries or analyses that rarely address the practicalities of moving education forward.

The AERS strategy for developing modules for joint capacity building promises researchers, whether beginners or experienced, the opportunity of accessing methodological training and other theoretical or practical knowledge underpinning research. Its success will depend on the quality of web-based materials and organised learning events, the readiness of universities’ education staff to make room for this in demanding professional lives, the flexibility of institutions in facilitating time and resources for such research training, and how they hold their staff accountable for becoming trained.

#### THE CHALLENGES FOR APPLIED RESEARCH IN 21ST CENTURY SCOTLAND

From my perspective, the priority for Scottish applied educational research is to display determination to explore and illuminate, not just complain about, the complexities of education. Concern with the use, as well as the production, of research knowledge involves finding ways of understanding how things really are, not how they might be in very simple systems.

This implies network building with practitioners and policy makers and a readiness to take account of how they make sense of what they do. A close relationship can encourage everyone to understand clearly what research can be

expected to contribute to education and how to make the most of its potential. And particularly with policy makers, who often move around and are replaced by others, it will be necessary to continue this thrust for understanding. There will be ups and downs in experiences with SEED and the now separate educational inspectorate, but relationships must be maintained to maximise the influence of research on practice and policy

Policy makers and researchers frequently have “good ideas” about what will improve education, but the implementation of such ideas is not enough unless evidence is also sought about the difference they make to learning. So, for example, trust has been put in the efficacy of school development planning and assessment of schools’ plans. But how often has the impact of the plans on classroom activity and student learning been rigorously evaluated? Inclusion, multi-agency working, management, leadership, reducing educational disadvantage, reading recovery, emotional intelligence are all apparently “good ideas”, but do we have evidence on the educational difference they make and the conditions necessary to achieve that difference? The answer to that is for a few cases we do but mostly we do not, and we need to pursue findings that may challenge the strongly held beliefs of researchers, policy makers or practitioners.

This kind of research requires more complicated approaches than in the past and possibly new techniques beyond making use of familiar ones like action research. Simply to call for randomised controlled experiments is not enough. AERS can take advantage of the TLRP developments that have added significantly to knowledge about researchers working with other educators, and ensure its researchers keep up with new approaches. The importance of a well trained research force that formulates the important research questions and tailors appropriate research designs is obvious, and the need for serious research capacity building and maintenance is clear.

Making use of new technology and mixed-mode approaches has attractive possibilities of improved access to comprehensive research training. The greatest challenge, however, relates to acceptance by individuals of the value to themselves of such training. Other demands on time, preferences for teaching or administration, fear of research requirements or criticism, or reluctance to admit areas of weakness may all deter such acceptance. But if staff are to contribute professionally to applied research, and enable research to improve their teaching in higher education, they need something like the map of training that ESRC has promoted which ensures familiarity across the field as well as some specialist skills. Institutional decisions about requirements and rewards for research activity, alternative pathways to promotion and the provision of time for training will be crucial. There is the possibility of increasing capacity with others not employed in higher education. Encouragement of this may imply new thinking about postgraduate degrees and continuing professional development (CPD).

Finally, there is the challenge of inter-institutional research collaboration with opportunities not just to monitor such associations, but to assess closely their value (testing the warm polemic of collaboration) and the conditions necessary for such benefits. For example, collaboration between quantitative and interpretive approaches has been valuable in small-scale studies, but can that be sustained between institutions in large-scale work and will it help institutional shortages of quantitative expertise? What are the advantages to be gained in co-operative dissemination of research and research training? Do the competitive priorities of higher education inhibit collaboration?

There is plenty to be done.

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