
Collaboration, Community and Collective Intelligence Will Eclipse the Cartography of Collision

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Abstract

This article is a response to 'Mapping educational research and its impact on Australian schools', Chapter 2 of The Impact of Educational Research, in which researchers Allyson Holbrook, John Ainley, Sid Bourke, John Owen, Philip McKenzie, Sebastian Mission and Trevor Johnson report on their Commonwealth Education Department commissioned study. They mined the Australian Education Index and the Bibliography of Education Theses in Australia for patterns in education research in Australia over the years 1984–1997 and compared the results with additional data obtained from university education faculties, postgraduate students of education, school principals, system-level administrators and professional associations.

This response to the study argues that its strength is in the construction of a conceptual framework for research as well as in its use of the AEI and BETA. Its framework has potential to provide valuable ongoing data to service the whole education community. The data garnered through surveys of postgraduate researchers and stakeholder groups indicate an interest in research by the education community, but are insufficient to provide many answers about the influence of research on schooling in Australia.

The framing of a research question in terms of 'impact on Australian schools' perpetuates a separation of research community, policy community and school community, even though the research framework proposed by the researchers largely avoids the separation. In the end, by avoiding a detailed analysis of what might be encompassed by a critical construction of either 'collaboration' or 'dissemination' and working uncritically within the given construct of 'impact', the researchers lost an opportunity to develop a notion of community, 'collective intelligence' or public interest in educational improvement through research. If dissemination were framed in more organic language – in terms of shared knowledge and experience,

commitment to understanding and 'collective intelligence' – the framework proposed by the study could be of major benefit to schooling in Australia.

'Mapping educational research and its impact on Australian schools' (Holbrook et al 2000), Chapter 2 of *The Impact of Educational Research*, reports on a project within which there are a number of sub-studies. In order to focus on the whole rather than the parts of a study that was, to say the least, ambitious in its objectives, this paper is organised under the headings 'what this study does', 'what this study does not do' and 'what this study might have done'. It is hoped that, in this way, the author might do justice to the achievements of this ambitious and important set of studies while at the same time raising some limitations, along with some of the issues that appear to fall within the stated and demanding objectives of the study but on which the study is silent. The study deals with issues of some significance to the education community in the current decade. This response would like to build on its work by identifying some areas of major contribution and some gaps that could be narrowed by taking this work forward.

What this study does

The study is broad, neatly conceived and yields some useful data. The study constructs a framework for analysing research trends, maps educational research in Australia in 1984–1997 using the Australian Education Index, supplements this with a 'snapshot' of research in university education faculties in 1997, surveys and analyses postgraduate students', professional associations' and principals' perspectives on educational research impact and obtains policy makers' perspectives, drawing conclusions based on all sets of data.

The study is carefully constructed to draw on existing data but, more importantly, to establish a methodology and datasets that can be continued after the study, thereby creating the much-needed possibility of cumulative knowledge. This is a timely and constructive response in a climate of increasing demand for educational research results without a parallel resourcing strategy. The continued application of this study's methodology is designed to monitor, as the report puts it, 'the outputs of Australian educational research'.

The study has a number of components:

- a conceptual framework for analysing research impact
- a mapping exercise based on an analysis of the Australian Education Index (AEI) 1984–1997, the Bibliography of Educational Theses in Australia (BETA) and a parallel survey of education faculty research

- three surveys, one each of postgraduate students in education, teacher professional associations and principals
- focus groups conducted with system-level administrators
- analysis of all data sets.

While each of these components yields interesting and useful data, the richest data is from the Australian Education Index. The survey of postgraduate students is interesting because of the large sample (although the authors express disappointment at the return rate: 41 per cent of distributed surveys) and the high proportion of educational research effort represented by postgraduate study. Perhaps the most useful aspect of the study, however, is the conceptual framework and the methodology for analysing the AEI and BETA. We should know what is being systematically investigated in Australian education. Such an analysis is a credible starting point. The study reported here points to areas where AEI coverage could be improved (books and conference papers) and identifies routine data collection in university education faculties as an area where standard procedures would yield returns.

Findings

The study finds that there has been an overall growth of educational research in the period 1984–97 and that priorities for research appear to have been in the category of educational processes and structures along with the key learning areas (with a growth in the areas of maths, English and science and a decline in history, geography, the creative arts and languages other than English). The context of education, schools and relationships (particularly community, society and government) are well represented and there is a steady but small interest in workplace education and early childhood education. There are some ‘signals’ that research methods are becoming more diverse, with interpretive and participatory studies becoming more frequent. These approaches appear to be welcomed by school-level personnel, while system-level administrators are reported to be looking for larger-scale, quantitative research with generalisable findings to support policy reform.

All groups surveyed value research and the study comments (p206) on conditions that support its utilisation. The finding of uniformity of educational research interest across Australia bodes well for commonality in teaching and policy practice but raises questions about depth and research specialisation.

Insights

A number of valuable insights arise from this study, some conceptual, some practical and some strategic.

Conceptually, the four models of 'systematic educational enquiry' and the preference for that term rather than 'research' deserve to be debated within the profession. Much could be done with the study's set of models if we are to take seriously the issue of dissemination of research. Standard and agreed classification and organisational structures are basic requirements of research accessibility and wide usage. The models generated by this study deserve serious consideration. Broad agreement within the education community on an enquiry framework with interrelationships between categories would assist all members to generate, evaluate and incorporate research. The models identified are well conceived and usefully described.

Practically, the study reports a narrowing of the gap between the worlds of educational research and practice. The study's analysis of the interplay between the conceptual use and instrumental use of research is important. The residual tension between those who wish to make immediate 'use' of research and those who argue the importance of 'theoretical' research might be productively channelled using the argument mounted here for the need for long-term change in thought patterns (through conceptual research) as well as research that leads to direct action. Additionally, the study demonstrates how the AEI can yield valuable data while clearly demonstrating that data collection from and within education faculties could be improved.

Strategically, the study raises some interesting issues. The uniformity it reveals in education-based thesis topics across Australia and the apparent failure of faculties with research specialisations to attract concentrations of students working in those areas should trigger some further analysis. This result may, of course, be a good thing, part of a 'level playing field' and national consistency. It has significant implications, however, for educational policy. The education community needs to ask questions about the kind of professional education required to sustain the 'knowledge economy' proposed by successive Australian governments. In a society where 'research', 'innovation' and 'information economy' are major policy, program and resourcing catalysts, the relationship of university research specialisations and concentrations of postgraduate study are matters of strategic importance.

A second strategic issue is the need for data analysis and research skills in schools. While all groups surveyed appeared to support 'user-oriented action' as a form of research in schools there is concern amongst most groups about the quality of what is currently being undertaken. The study asserts:

While external expertise can provide support, issues regarding the quality of data management will only be solved, when schools have staff with data collection and analysis skills, and time allocation to undertake school-based research and evaluation. (Holbrook et al 2000, p. 197)

It goes on to conclude:

It appears to be unrealistic to expect administrators and teachers in schools to keep up to date with research in its basic form. There is clearly a role for education systems to provide as many opportunities and outlets for teachers to have access to 'refined' uses of systematic enquiry of the more 'scientific' kind. (p. 197)

It is unclear whether the authors are suggesting schools need specialised staff and time for research or whether all teachers require these skills. Nor is it clear what constitutes 'opportunities and outlets'. The whole thrust of this research report suggests a community-wide approach to research rather than isolating a role for education systems (which seems here to mean employing authorities). It seems obvious, and consistent with policy debate generally (Huberman 1987) that coordinated and collaborative action will be essential to bridge the gaps identified by this research. The study, however, fails to examine or alert the reader to implications inherent in some of its data. There are many questions to be asked, for example, about the relationship of the four models of research identified by the study and factors such as schooling culture, behavioural change, research funding, teaching and learning, particularly when the surveys and focus groups appear to reveal both an attraction to, and a distrust of, user-oriented action – the most common form of research in schools.

A third strategic issue is the relationship between postgraduate study and research-driven change in schools. The observation that postgraduate theses constitute the largest body of research in education and that most postgraduate students are existing teachers or system-level administrators pursuing professional interests largely determined by the individual is an important consideration for the education community. As the report points out, this overlap is a potential mechanism for integration of research findings into practice. Taken together with the study's statistic that only one percent of salaries in education are research salaries, postgraduate research is unlikely to result in either focused effort or transformation of the education enterprise without a comprehensive program and resourcing strategy.

What this study does not do

The specific research brief is not provided in the report, so the reader must rely on the summary of specific objectives. The work 'includes mapping the dimensions of research activity in education, investigating the research contribution of the various strands of university activity, and exploring dissemination and utilisation' (Holbrook et al 2000, p. 36). The study achieves the first two of these objectives and produces

useful data and observations. It is thin on the exploration of dissemination and utilisation.

In the section 'specific objectives of the brief', the authors indicate that they organised the elements of the study into three groups: 'mapping the research field and the relative contribution of university faculties of education'; 'research outcomes and applications'; and 'securing optimal impact'. Within the first group, the authors report their expectation that the study would 'assess the strengths and weaknesses of educational research in Australian universities'. Under 'research outcomes and applications' the study was intended to 'describe and evaluate the impact of the outcomes of educational research on the practice of teaching and learning in schools, as well as educational policy and administration; and evaluate the impact and performance in terms of MCEETYA's Common and Agreed National Goals for Schooling' (page 38).

The brief is more explicitly reported in relation to the third area, 'Securing optimal impact'. Here the report lists four requirements of the study:

- assess the extent of collaboration between educational researchers and the teaching profession and pathways for disseminating research finding and outcomes;
- assess the opportunities for priority setting and coordination mechanisms in research planning to improve the flow-on benefits from educational research to practice;
- examine the effectiveness of the discipline field (field of education) in meeting the needs of practitioners and policy makers; and
- consider the implications for educational research of emerging modes of delivery in teaching practice.

It seems likely that the brief was seeking more than was reasonable from the available resources. The third area requires extensive studies in its own right, far more than sample surveys are going to deliver, as does the fourth area, which is not explored at all.

The authors acknowledge some of the problem in their discussion of 'impact'. They place this sensibly in the context of studies and reports in the UK and USA as well as linking the current study to previous Australian studies in an attempt to make a significant contribution to an already existing body of work, thereby giving it a chance of contributing to a more definitive answer in the longer term. What they do not acknowledge, however, is that the term 'impact' itself is problematic.

It is difficult to use the term without a sense of 'doing unto'. The language implies the forceful action of one thing on another, rather than interaction, cooperation or collaboration. So although the study presents some useful insights into the acceptance of and interest in educational research in schooling, it is limited by the assumptions of the policy model within which it was commissioned.

The schooling community is still conceptualising a research-oriented world. The AEI may give us indications of trends in research, enable linkage and isolate gaps. The study's analysis, however, does not tell us about the use of or interest in research by the profession. The surveys give us some indication of postgraduate student perceptions of published research and its reception in schools. The surveys of both professional associations and principals are limited. While 72 professional associations of 146 canvassed returned surveys, these represent the views of association officers not association members. Certainly, officers of the associations would be able to answer questions about the roles of associations vis-à-vis research. This needs to be regarded as only a first cut of investigating teacher attitudes to and use of research rather than the whole picture. Similarly, the survey of principals obtained results from 73 schools, some from the principal's nominee rather than the principal. Secondary schools appear to be over-represented as are non-government schools. There is no information provided about the rural-urban breakdown of schools. These criticisms do not invalidate the conclusions of the report. They do indicate, however, the limits of the data and the need for much more work to be done.

The most disappointing aspect of the report is its comments on dissemination. It is true that university faculty could give thought to dissemination in research briefs and that the Australian Research Council could require dissemination plans for grant acceptance. These measures, however useful, are bureaucratic instruments that do not provide coordination, contextualisation or user-orientation. There are also inherent dangers in relying on the originators of research to disseminate. Given the relationship of postgraduate researchers to practice we would seem to run a high risk of unquestioned assumptions and culturally perpetuated bias in educational research, not to mention inefficiency, if dissemination relies entirely on the same group. More independent and specialised means of ensuring a research orientation are required.

By linking collaboration between researchers and the teaching profession with 'pathways to dissemination of research findings and outcomes' the original brief provided an opportunity not taken up by Holbrook et al. In spite of the studies' own findings of many integrated linkages and overlapping roles within the field of education, dissemination is viewed in a fairly mechanistic and traditional way.

Although this may be understandable in the light of a government emphasis on intellectual property and an often narrowly interpreted ‘innovation’ agenda, the authors have missed an opportunity to theorise schooling sector knowledge more broadly, contextualising it, for example, with work now emerging from bodies like the Information Infrastructure Advisory Committee.

As Nutley et al (2003, p. 6) comment in relation to public policy research in the United Kingdom:

Much effort has gone into improving the dissemination process and good practice guidance abounds ... This has developed our appreciation of the fact that dissemination is not a single or simple process, different messages may be required for different audiences at different times. It appears that the promulgation of individual research findings may be less appropriate than distilling and sharing pre-digested research summaries. Evidence to date also suggests that multiple channels of communication – horizontal as well as vertical; networks as well as hierarchies – may need to be developed in parallel.

In the context of government interest in a ‘knowledge-based society’ or ‘information economy’ (the context of this commission), the schooling sector can be conceived as underpinning social capital. If knowledge can be ‘grown’ and ‘developed’ we could anticipate the growth of ‘collective knowledge’ and use such a concept to transform linear views of a researching, publishing, implementing continuum. Given that, at the same time this study was underway, some universities in Australia were attempting to restructure their teacher education programs to accommodate such a transformation (Reid and O’Donaghue 2001) and place research at the heart of teacher education, this is a major opportunity lost.

Writers like Pierre Levy (1997) argue for the development of ‘collective intelligence’ based on the continuous sharing of knowledge by individuals with a commitment to learning, common interests, but diverse talents and understanding. In order to achieve this, the entire sector must value learning, growth and knowledge – the motherhood notions of schooling. In this construct, teachers, as well as policy makers, administrators and researchers, must bring an attitude of questioning and observation to their work, seeking to ‘know’ rather than ‘assume’ or ‘believe’. They will contribute to and draw from the collective, growing ‘intelligence’ of the sector. Collaboration becomes a fundamental requirement of twenty-first century schooling, even as teaching and learning in the schooling sector becomes a more distributed activity through policies of devolution and the application of technology systems.

If students from at least pre-school age are exposed to a wide range of communication media, experiencing what cannot be controlled or even influenced by the school, and if knowledge in areas as diverse as brain research, drug therapy, food technology, cognitive theory, psychology and sociology are growing substantially in relevance to schooling each year, then the sector must achieve what Levy (1997, p. 13) calls the 'efficient transformation of difference into collective wealth'. This achievement depends on our capacity to work with a range of people and experiences – many outside what we think of as the schooling sector – to continuously observe, evaluate, understand, adjust, experiment, contribute and reconceptualise our own knowledge.

While this is not fundamentally different to cycles of action research, the imperative is greater, with pressure from governments, the public, the profession and the knowledge coming from a much broader range of sources, both inside and outside education. Thus user-oriented action, while undertaken in a local context, must take into account what is happening elsewhere in the present and what has happened anywhere in the past.

In the light of this situation, it is inadequate to conceive of 'dissemination' in terms of 'broadcasting' as the study appears to do, as if what is required is bulletins from researchers to practitioners. What is required is a recognition throughout the sector of the importance of data and information flow, the creation, analysis and recognition of 'knowledge', and the development of and support for a culture and infrastructure of knowledge growth, sharing and application that will serve both the sector and the public. This requires detailed analysis and discussion of a number of issues touched on in the Holbrook et al study: the relationship of postgraduate study to school leadership and renewal, the capacity of schools to analyse their own organisational learning, the profile of researchers, conflict of interest in the commissioning of research and how research findings are published. We need transparency, checks and balances and discussion of governance issues in relation to research. This can be difficult when schooling is so heavily funded from the one source – government – and particularly when governments have a neo-liberal or instrumentalist bent. However, it should be possible to use the public nature of schooling to create an open, distributed, transparent and responsive system in which knowledge is shared, analysed, contested and grown, where research needs can be continuously identified and results acknowledged and widely 'owned'.

Again, Nutley et al (2003, p. 6) summarise the issue in relation to public policy: 'pushing information from the centre out is insufficient and often ineffective: we also need to develop strategies that encourage a "pull" for information from potential end users'.

Finally, even on its own narrow view of 'dissemination', the report does not take its own advice. While it is no doubt what the funding agency requested, the report is dense, packed with information that in different formats and contexts would be of great interest to teachers, school and system-level administrators and policy makers. It has no dissemination plan and it is presented in a format that guarantees minimum usage.

What the study might have done

The study frames useful interactions between three kinds of knowledge: the four models of systematic educational enquiry; experiential or craft knowledge; and local knowledge. It does not attempt, however, to develop any practical framework in which this interplay might be supported. In the last five years there have been a number of initiatives around the world looking at making research more accessible to the education community and supporting its dissemination. While at least one of these, the British Columbia-based Public Knowledge Project, was underway at the time Holbrook et al were undertaking this study, most documentation was subsequent to the report (Willinsky 1999, 2000, 2001). Others, such as the Campbell Collaboration,¹ President Bush's What Works Clearinghouse,² and research networks such as BECTA's (2002) are very recent developments. In the last twelve months the Australian government's Systemic Infrastructure Initiative Higher Education Bandwidth Advisory Committee (DEST 2002a) and the Information Infrastructure Advisory Committee (DEST 2002b) have reported with substantial recommendations in relation to research networks and access to research.

The most significant of the international initiatives, at least conceptually, is the Public Knowledge Project, which conceptualises educational research being published on the web, accessible by the general public (in the same way as health information is available on the web), with more extensive reports available for those who require them, and the opportunity for dialogue between users of the knowledge and researchers. In this way, practitioners would be able to contribute findings, observations and data directly to researchers in the interests of professional knowledge and, ultimately, public knowledge. Technology makes such infrastructure and exchange feasible within the public domain.

The Bush administration's 'What Works' database is a much narrower conception fuelling fears of narrow, 'quick fix' approaches to complex educational situations. But Willinsky (2001) has successfully demonstrated that this does not have to be the model accepted either by the profession or government. In Australia, the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) has expressed interest in exploring a framework for research accessibility and the

MCEETYA ICT in Schools Taskforce is in the process of developing a research strategy for ministers. Further research is required to determine how such an infrastructure could work, but there are already some steps taken in that direction as reflected, for example, in debates about electronic publishing within AARE.³ If researchers can publish online, and we can establish consistent and standard metadata and indexing requirements, it would make sense for governments to support educational research databases linked to communication systems that enable (1) the public to access plain language summaries of educational research, (2) teachers and other practitioners to access the latest research findings in designated areas and to report their own use of those findings to the original researchers, (3) researchers to publish results quickly and to connect with others in the same field and (4) packages of research information to be 'pushed' to and 'pulled' by multiple audiences including the media.

Achievement of such a framework requires the application of information management and communications technologies to research data. The skills to achieve this can be found within the education community, broadly defined.

It is easy with hindsight to identify deficits in the mapping study that, just two years later, appear obvious. However, the issue of disseminating or marketing educational research features heavily throughout the *Impact of Educational Research* volume, with little consideration of how the deficit might be overcome. Addressing this requires a management framework, distributed rather than centralised, yet comprehensive enough to reach not only the educational research community, but also all the users of that research, including the general public. The AEI is a major asset, but only one part of what is now required. A broader conceptualisation is required, an approach that is more eclectic, flexible and capable of specific audience focus. Why is it that newspapers in Australia routinely carry items about medical research but rarely educational research? Why does the Australian Consumers' Association produce a regular *Health Reader* but not a comparable *Education Reader* or *Education Choice*? Part of the answer to that question must lie in access to medical research databases with their capacity to generate plain language summaries and abstracts.

The success of services such as AustLII (Australasian Legal Information Institute) suggests that the public can be served by quite technical professional databases if they are planned and conceived well enough. The study report ignores the component of the brief indicating it should 'consider the implications for education research of emerging modes of delivery in teaching practice' (Holbrook et al 2000, p. 38). Some of these modes of delivery would have informed the conceptualisation of 'dissemination' of research and the linkages that might free up rigid delineation of roles within the sector.

The conceptual framework outlined by Holbrook et al should be further explored and perhaps developed to underpin an Australian public knowledge framework in education, linked to similar overseas efforts. This would make a major contribution to the bridging of the research–practitioner divide while raising the profile and sharpening the edges of educational research. It would make use of the core of intellectual work contributed by this study while recognising that some of the questions posed by its brief require the intellectual focus of researchers, administrators and teachers over a number of years. One of the limitations inherent in commissioned research, especially when the commissioning agency is the major funder of educational research in Australia, is the inadvisability of the research providers raising too many questions about the framing of the commission. Within the terms of its commission this report has delivered the groundwork for understanding the potential of educational research over time. With funding and a more organic framework, others may build on that understanding.

Notes

- ¹ Information about the Campbell Collaboration can be found at <http://www.campbellcollaboration.org/>
- ² Information about the What Works Clearinghouse can be found at <http://www.ed.gov/offices/OESE/SASA/ww/index.html>
- ³ See, for example, information on the association website at <http://www.aare.edu.au/index.htm>

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