

# Chapter 5.

## Capacity building in educational research: sketching an international picture

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### 5.1. The research capacity background

Why is there a mounting interest in the performance of educational research?<sup>1</sup> Summarily put, it stems from:

- a) the role education is perceived to play in economic performance and social development;
- b) a growing concern with the accountability of educational systems against a background of increasing pressure on public expenditure; and
- c) a perception that in many countries the current capacity of educational research, at least as identified in public institutions, does not match up to the challenges it faces.

One does not need to swallow all the rhetoric about knowledge-based economies (KBEs) to argue that understanding our education systems better should be a key component of improving them – including how far they achieve the various social and economic goals set for them, and what the processes are of making progress towards these goals. At a very general level, it is true that countries that make rapid social and economic strides also see their investments in education rise sharply. Of course the direction of causality may be uncertain, so that it is in fact their mounting prosperity which enables them to expand their education systems rather than or as much as vice-versa, but generally it is accepted that investment in education helps drive things long: it raises productivity, it increases mobility, within and between countries, and promotes innovation (Kahin and

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<sup>1</sup> Large parts of this chapter were first published by in the Scottish Educational Review in May 2007, and are reprinted here with the permission of the publisher.

Foray, 2006). At the same time, education has other objectives, notably those of promoting personal growth, and equipping people with the competences to become adult citizens; often, too, education is charged with fostering social cohesion so that members of different communities can live together in reasonable mutual tolerance (see [www.oecd.org/edu/socialoutcomes](http://www.oecd.org/edu/socialoutcomes), and Schuller *et al.*, 2004).

Research – the process of knowledge generation and dissemination – is, obviously, a major factor in the evolution of KBEs. Universities are the primary locations for research, at least for that funded by the public sector, and so the capacity of higher education to conduct good quality research is a significant matter of public interest. To get a full picture of a nation's capacity we need to distinguish several different elements:

1. First, there is the overall volume of research, in all disciplines.
2. Secondly, there is the distribution of that research across different disciplines, and the effectiveness of it.
3. Thirdly, there is the quality of educational research, i.e. knowledge creation about the processes and structures of teaching and learning, and about the functioning of the education system.
4. And fourthly, there is the capacity of the education system to produce researchers, both across disciplines and in education itself.

These are all to some extent independent of each other; in other words, it would be possible for any country to score highly in one of the dimensions but poorly on all the others, or vice-versa. Finally, it is worth noting the possibility – not purely hypothetical – that a country may have a poorly performing education research set-up and still have a well-functioning education system.

However, if we focus on about capacity-building in educational research, the picture becomes further complicated, for two reasons.

1. The capacity may not be neatly located in single disciplinary structures, as is the case with some other knowledge areas. Education is arguably a field rather than a discipline, though the distinction between these two is not always clearcut. More than in most other areas of social scientific activity, educational research potentially draws on many different disciplines, including from the natural sciences; and it probably has a less well-defined core body of knowledge than most.
2. Capacity-building is not only about capacity on the supply side, i.e. the ability of researchers to produce research. It is also about the capacity of the users of research to be aware of, comprehend and draw on existing research, and to be able to formulate effective demands for further research. Moreover, capacity is not only a function of individuals and their personal competences. It also has a collective, communicative character: how well does the system allow or encourage its constituent members to communicate with each other, sharing in the development as well as the application of research?

## 5.2. Reviewing capacity

General conclusions from OECD (2003) educational R&D reviews are:

- » there was underinvestment in research,
- » concerns about the balance in the research portfolio,
- » weak dissemination, and
- » low capacity.

Building capacity is not only about training individuals. It can be pitched at several levels, through organisational and sectoral up to and including the national.<sup>2</sup> Our cases cover rather diverse approaches. They are descriptive, even anecdotal, but I hope will serve the purpose.

### 5.2.1. Skills and methodologies for 'robust' research

One issue, which tends to provoke hot debate, is whether certain kinds of research methodology are inherently superior, at least in terms of providing robust evidence of a causal nature. In particular are experimental designs, or still more specifically randomised controlled trial (RCT) techniques, a gold standard for educational researchers as they are in other disciplines? There are very sharply contrasting national positions on this, as well as sharp divisions within countries. For the US Office of Education, RCTs are indeed the gold standard, with very material effect: in order to qualify for a grant from the very substantial Office of Education research budget, proposers must include an RCT in their research design.<sup>3</sup>

Other countries dissented from this view, in some cases quite strenuously, whilst acknowledging that there is a debate to be had about our understanding of

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<sup>2</sup> The TLRP programme offers the following definition:

*Research capacity is about the resources available in the education system for carrying out research as well as using it. For research providers, capacity includes the following dimensions: sufficiency of researchers to undertake commissioned research speedily and giving value for money and high quality; diversity of approaches and methods; ability to innovate, reflect on existing practice and seek continual improvement. Capacity issues for users include: ability to identify where existing research can be used; research gaps and devise ways of seeking to fill these; ability to distinguish good research from bad and understand the need to reconcile different research studies where these give contrasting results.*

*There is an increasing focus on boosting research capacity in response to perceived weakness in the system. Developments are at national level, sectoral level e.g. within university departments, as well as via practitioner and researcher networks and systems.*

<sup>3</sup> An OECD meeting in Washington where the role of RCTs was discussed prompted an interesting response from the Danish delegation. On the one hand they were not at all convinced about RCTs; on the other hand the force of the argument about the lack of robust educational results spurred them to significant innovation in their provision of graduate research training, with much more emphasis being placed on careful empirical design.

robustness, and about how far the performance of educational research matches up to those standards. The key issue in my view is not whether there is an absolute standard of robustness, or an ideal portfolio of research approaches, but how far a country's current portfolio is adequate for both theoretical and empirical purposes; it should be possible to have a substantive debate on this latter issue without necessarily having to strain to reach preliminary agreement on the first two.

The key skillsets identified as generally lacking in the OECD reviews were quantitative, especially in the use of existing large-scale datasets. However, these are not the only weaknesses; and it is not a straightforward matter of training up more researchers in these skills. A crude manpower planning approach to addressing the issue would be inappropriate, if it ignored the interactions between different methodologies, and the nature of the system within which they all operate. As Stephen Gorard argues, it is equally important to get quantitative researchers to reflect on the appropriateness of their techniques; and to get all parties to develop the ability to communicate their own work lucidly and accessibly, and to be open to the merits of others' different skillsets (Gorard in OECD/CERI 2007 forthcoming).

Training initiatives are burgeoning in different countries. The UK's Teaching and Learning Research Programme has a major capacity-building component (see [www.tlrp.org.uk](http://www.tlrp.org.uk)), and other countries have their own variants. These may be part of a research programme, or tied to an institution or consortium. For example, the NIN (New Investigators Network) at the University of New Brunswick in Canada was established in 2002 with the aim of enhancing capacity for multidisciplinary work involving sophisticated quantitative methods of analysis and interpretation (see [www.unb.ca/crisp](http://www.unb.ca/crisp)). Evaluation of the effects of these training programmes on capacity would be very welcome – though not easy to construct.

### 5.2.2. Institutional innovation: brokerage agencies

If capacity-building is not only about enhancing individual competences, what institutional or systemic aspects need attention? There are a number of components to this, such as the quality of leadership exhibited within institutions or research units, or the maintenance or introduction of reasonable career paths for researchers. If these are absent, capacity-building efforts will be like pouring water into a leaky bucket. In a different field, the UK's Clinical Research Collaboration identifies 'developing, funding and implementing a new integrated and flexible training pathway for clinical academics' as part of its £134 million initiative ([www.ukcrn.org.uk](http://www.ukcrn.org.uk)). But I focus here on a different component: the creation of agencies with the specific function of improving communication and

exchange between researchers on the one hand and policy-makers and/or practitioners on the other. The UK has been at the forefront on this, with the creation of the Evidence for Policy and Practice Information Centre and its systematic reviews (see <http://eppi.ioe.ac.uk/cms>), and the endeavours of network-building outfits such as the Centre for Use of Research and Evidence in Education (see [www.curee-paccts.com](http://www.curee-paccts.com)). However, we give here two brief examples from other countries.

#### *5.2.2.1. Iterative Best Evidence Syntheses (New Zealand)*<sup>4</sup>

The BES programme operates from within the New Zealand Ministry of Education, as part of its commitment to strengthening the evidence base for policy. The goal is to build the capability of a national research community, transforming relevant but fragmented evidence into a more coherent whole.

The BES programme synthesises bodies of research that provide credible evidence on a range of educational outcomes such as the impact of poverty on educational outcomes, teacher professional development, and the teaching of mathematics in primary schools. It has a number of distinctive features. It stresses fit-for-purposeness, as a basis for selection of methodologies and does not impose a single methodology – a ‘rigorously pluralist approach’. It aims to maximise accessibility without sacrificing meaning or theory; is future-oriented and respects local contextual variables – particularly important in respect of indigeneity, ie the relationship between Maori and Pakeha educational outcomes. And it takes great pains to involve all the stakeholders in an extensive dialogue, especially teachers and teacher union representatives, and school principals and their representatives (significant in a system with a high level of devolved management).

The iteration involves consultation and testing of outcomes with a range of people, including external experts, for example through daylong formative assessment meetings on initial drafts; but also the continual refinement of the overall BES framework in the light of experience. The Guidelines for Generating Iterative Best Practice Syntheses are continuously reviewed as part of this process.

The capacity-building dimension is clear in all this. In addition, strong emphasis is given to seeking out teacher educators as generators of syntheses, in order to embed the process in tertiary education and training.

#### *5.2.2.2. Knowledge Chamber (Netherlands)*

In contrast to the BES programme, which has been running for several years, the Netherlands ‘Knowledge Chamber’ is only just coming off the drawing

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<sup>4</sup> This section draws directly on Alton-Lee (2007, forthcoming).

board. Moreover, it is avowedly a top-down initiative. The Knowledge Chamber is a consultative body of top-ranking officials drawn from a range of research institutions and ministry officials dealing in educational, culture and science policy. It derives from a perception that there is a risk of excess knowledge and information, creating difficulties in selecting and interpreting relevant information. This is accentuated by the compartmentalisation of knowledge. The initiative is designed to help officials deal with the content rather than the process of policy-making, and recognises that this requires specific skills. The structural consultation processes are likely to involve innovative techniques designed to foster creativity, such as digital 'storytelling'.

Other brokerage agencies exist or are emerging, for instance in Denmark, Switzerland and, in multiple forms, in the U.S. Some are concerned simply with the dissemination of research results, in a one-directional mode. But others have as part of their remit the fostering of a two-way (or multi-way) conversation between the producers and consumers of research, which may or may not be underpinned by deliberate capacity-building activities. Analysis of the roles of such brokerage agencies and the extent to which they have impact would be very timely.

### 5.2.3. Network building and knowledge validation

As is already implied in the above examples, building capacity in educational research is likely to succeed only if it builds links between individuals and between organisations. This is less of an obvious platitude than it may appear. In the first place, it challenges professional roles and identities: the more successful the collective capacity-building, the more transparent to the outside world (or at least parts of it) are the professional practices of particular groups, and this may not always be easily accepted on grounds of occupational identity. Moreover, whilst it may be the case that a plurality of methodologies is a necessary feature of general capacity-building, this may result in wearing and time-consuming clashes of paradigm or epistemological position. We can expect there to be more debate over what counts as valid knowledge; the debates may be healthy, even invigorating, but they may also consume energies which might otherwise have been devoted to actual research itself. So, the costs as well as the benefits of such linkages should be assessed, or at least their possibility borne in mind.

### 5.2.4. Building a 'scorecard'

It is obvious from the above that the knowledge base for understanding current capacity and trends in capacity-building remains very patchy. In the latest OECD review of educational R&D, on Switzerland, we began to develop some

indicators. For instance, we compiled provisional data, which compared countries on the following:

- » number of educational researchers, as a proportion of university staff and as a proportion of staff employed within education overall;
- » amount spent on education research, including both direct grants and salaries and associated expenditure on university staff assumed to be engaged in educational research;
- » ratios of expenditure to researchers, indicating the level of support given to individual researchers at different levels;
- » proportions of research council grants which go to education, indicating the competitiveness of educational researchers against their peers;
- » distribution of educational research across different areas, eg primary, secondary, tertiary, adult; or by type, e.g. empirical, theoretical, applied/development, indicating the balance of the educational research portfolio.

In fact, the data from the five reviews conducted to date turned out to not sufficiently comparable for us to be able to include this in the published review. But for an individual country (or group of countries where comparability is likely to be relatively high, such as the 'home countries') these might be a useful basis for beginning to put together an overall picture of capacity – and at the same time to develop an agenda for action. A scorecard, which went beyond a snapshot to give a picture of evolving trends, with different elements of qualitative evaluation, could be an extremely valuable tool.

### **5.3. Concluding note**

It is ironic that the knowledge base for knowledge-based economies is so thin. The growth of interest in educational research capacity as a policy but also a research issue is welcome. There is much to be done in sketching out, and reaching agreement on, the key parameters within which reasoned debate can take place on the adequacy of this capacity. This should involve not only the kinds of statistics and indicators to which this article has mainly been devoted, but a closer understanding of the way research systems work, and the extent to which the articulated or implicit goals of the system are achieved. This is quite a challenge, not just in itself but also for the obvious reason that it is difficult for members of the educational research community to engage in this with a reasonable degree of objectivity. However, that should be no reason for not trying.

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