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Knowledge and Policy: research – information – intervention

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INGRID GOGOLIN & EDWIN KEINER. Introduction

At the European Conference on Educational Research (ECER) 2006 in Geneva, Switzerland, the EERJ Roundtable focused upon the relationships between information, research and intervention. These relationships could be understood as a circular flow of decontextualising and recontextualising terms, concepts or 'knowledge' according to the respective needs and prevalent textures. Theoretically and methodically reflected *research*, well-organized *information* via databases, or legitimate and well-justified political decisions for *interventions* indicate reference contexts according to which terms and concepts get their specific shape. The supposedly neutral information becomes converted into research knowledge restricted by its constructional trait and this knowledge becomes loaded up with constitutional or political norms serving political interventions. One cannot separate, but analytically distinguish respective types of 'knowledge' in order to analyse forms and modes of transformations.

At present, traditionally differentiated and ramified educational research communication is under pressure through attempts to govern educational research into the direction of politically desired and needed 'practical' and applicable research on education by means of research management and funding. The basically underlying assumption of these attempts is a linear transfer from educational research governance, to educational research, to educational practice, and back again. In addition, the claim of rational governance leads to an increasing demand of reliable information providing 'certainty' for structurally uncertain decisions and their consequences. 'Good decisions are informed decisions' is one of the great promises of modern concepts of rationality. Provision of useful and reliable information is intended to be used for political decisions to improve education. Furthermore, the mentioned assumption also implies that the quality of decisions would increase with the amount of good and 'cumulative' information

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available. This means that a technocratic point of view tends to invert the mentioned concept of rationality. It is assumed that only 'informed decisions are good decisions'. This makes the relationships between research, information and intervention more interesting, stimulating and exciting for scholarly discussions in between the fields of educational research and educational research policy. Very rarely, the ambiguous or ambivalent features of these relationships and processes are discussed – neither in the political nor in the research sphere.

Against this background the EERJ Roundtable focused on research governance and its effects on knowledge, with attention to the ways in which research results are shaped as information which then become translated into 'evidence', which is, finally, taken as an appropriate foundation for policy interventions. The questions are how knowledge is shaped by these processes of de- and recontextualization, and how researchers and policy makers shift their social roles in mediating these processes.

In this context the Roundtable drew on research and experience to examine specific instances of shifts in the kinds of knowledge that is 'taken up' and exploited by policy makers. The participants considered relevant mechanisms in the metamorphosis of types of knowledge, in the shifts of social roles and in the consequences for research policy.

In view of an *epistemology of knowledge* this includes questions like:

- what counts as useful knowledge?
- what kinds of research are selected and translated into evidence, and what kinds of research are not?

In view of a *sociology of knowledge* this includes questions like these:

- what is the role of researchers in mediating and translating their research?
- how far do researchers collude in making their research outputs 'actionable', and
- does this shift change the knowledge that they produce? Or
- does their engagement with research translation and mediation represent a shift in knowledge itself, from mode 1 to mode 2, knowledge, with accompanying democratization of research?

Finally, in view of *research policy,* this includes consideration of the role of 'quality indicators' generated by the research community itself:

- would these provide researchers with better protection from the political misuse of their work?
- would these promote the quality of educational research?
- would quality indicators be irrelevant for political decision and for increasing research quality, and simply produce homogenization, and thus: impoverishment of the research agenda?

The EERJ Roundtable was chaired jointly by Prof Dr **Ingrid Gogolin** (University of Hamburg, *gogolin@erzwiss.uni-hamburg.de*) and Prof Dr **Edwin Keiner** (Ruhr-University Bochum, *edwin.keiner@edu.rub.de*)

The following scholars contributed to the Roundtable as invited discussants:

Professor Dr **Gita Steiner-Khamsi** (Comparative and International Education,
Columbia University, New York, USA)
Prof Dr **Jenny Ozga** (Centre for Educational Sociology, University of Edinburgh, UK)
Prof Dr **Lyn Yates** (Faculty of Education, University of Melbourne, Australia)
Prof Dr **Erno Lehtinen** (Faculty of Education, University of Turku, Finland)

Professor Lehtinen spoke about *'How to create new models for researcher-practitioner collaboration'* on the basis of a clearly outlined presentation; unfortunately he could not provide us with a full text. Therefore you will find the papers of three discussants below.

GITA STEINER-KHAMSI. International Knowledge Banks and the Production of Educational Crises

There is a noticeable proliferation of international knowledge banks that are used to monitor a nation's development, report on possible setbacks, legitimize intervention, secure funding, and eventually transplant 'best practices' from one country to another. This type of pseudo 'evidence-based' policy research has become popular because of its salutary effects on policy development. The benefits to policy makers are both political and economic. They increasingly use international comparison, epitomized in international knowledge banks, as an instrument to generate reform pressure at national level. In other words, knowledge banks serve policy makers as a political tool of consensus building. Additionally, if a nation happens to be poor, the data, retrieved in such banks, can be used to make a case for an educational crisis. After all, the production of a crisis is essential for justifying loans or grants provided by development banks or other international organizations. This economic dimension is not to be underestimated for countries in the Third World. This article is also an invitation to reflect on how the role of the state has changed as a result of international knowledge banks, in particular as a result of their tendency to propel interstate competition, coercion and convergence. This article critically examines agenda-driven policy research in education and emphasizes the political and economic uses and abuses of international comparison in the age of the global market.

The Genesis of International Knowledge Banks

In the education sector, the World Bank has taken the lead in drawing from its knowledge bank as a resource to influence national reforms. The concept of an international knowledge bank was first discussed at the Board of Governors of the World Bank in March 1996 (Jones, 2004, 2005). One of the options discussed was whether the financial lending operations should be delegated to the regional development banks (Asian Development Bank, African Development Bank, etc.) whereas the Bank itself should focus on the lending of ideas. Three years later, the World Bank's Global Development Network (GDN) was launched at a conference in Bonn in 1999. The idea was to treat local best practices as a 'public good' (Stiglitz, 2000, p. 29) and make them globally available. As a result, policy transfer would ideally occur within the global South, and replace the practice of transplanting reform packages from the First to the Third World. Although the World Bank has not decreased its role as a money bank, it did act, over the past decade, increasingly as a global monitor and lender of 'best practices.' Other international organizations, such as, for example, Transparency International in the general public sector, or, for example, UNESCO with its annual release of the Global Monitoring Report in the educational sector, have followed suit and acknowledged that monitoring national development against internationally set standards is a powerful strategy to influence national policy. In other words, the World Bank has not been alone in constructing a global knowledge bank that is subsequently used as leverage for exerting influence at the national level. Used as an advocacy tool, the ranking and scoring of nations with regard to specific indicators generates a far greater reform pressure on low-income countries than more conventional strategies such as, for example, making grants and loans contingent on externally imposed conditions.[1] In fact, in the wake of these more subtle strategies of inducing reform pressure from within, externally imposed conditionality comes across as a crude tool to accelerate change.

It is important to distinguish between two types of knowledge banks in education: one type is geared towards developing countries, and another is designed for developed countries. Both types measure the quality of education, but the characteristics of their samples differ considerably. The first type of a knowledge bank, such as, for example, the Education for All Fast Track Initiative (EFA-FTI) knowledge bank, targets exclusively low-income countries, whereas the second type includes information on education in Organization for Economic Cooperation and Development (OECD) countries. I refer to the second type of databank as OECD- or IEA (International Association for the Evaluation of Educational Achievement)-type knowledge banks, named after the two organizations (OECD and IEA) that administer such international comparative studies on

student achievement. Before I discuss in further detail several of the problematic features of international knowledge banks (competition, coercion, convergence), the two types of knowledge banks are illustrated with examples from the education sector.

The EFA-FTI Knowledge Bank

In 2002, the Education for All Fast Track Initiative (EFA-FTI) was launched at a meeting of the G8 in Monterrey, Mexico. The FTI was supposed to help reform-minded, poor governments implement universal basic education by the year 2015. The goal to achieve universal primary education by the year 2015 was inscribed in the international agreement Education for All (EFA) from the year 1990, and confirmed in the UN Millennium Development Goals of 2000. The ideas underlying the EFA-FTI were commonsensical and compelling to policy makers: governments from low-income countries need to be given incentives for borrowing the 'best practices' from other comparable educational systems. In order to reward reform-minded governments the international donor community commits itself to securing the necessary funds for reforms, and thereby places such governments on the 'fast track' of development.

In 2002, 18 countries were invited by the G8 to submit proposals for consideration in the Initiative. FTI has grown exponentially since its inception. As of January 2006, 20 FTI proposals are endorsed, and the World Bank expects another 40 countries to qualify for FTI loans and grants. It appears that the World Bank has chosen FTI as a tool to enforce donor coordination and advance evidence- or research-based lending under its tutelage. Even though more than 30 bilateral, regional and international agencies and development banks support the initiative, the main actor of FTI is its coordinating agency: the World Bank. The spirit advocated in FTI is one of 'harmonization' (World Bank, 2005 p. 2) in that all the 30 donors are supposed to be increasingly 'using common arrangements for aid, sharing their technical and analytical work, and joining together on field missions.'

Different from Education for All, which was, due to a massive lack of human and other resources, poorly coordinated by UNESCO, the FTI coordination is well staffed and exclusively administered by the World Bank. The FTI proposals appear to be highly analytical in that a host of statistical material is presented to demonstrate the need for immediate action. The authors hired for the task of preparing a FTI proposal need to make a case that the educational sector is indeed in a crisis, in need of major and immediate external funding (from the Catalytic Fund), and at the same time has the capacity of implementing major reforms. At closer examination it becomes apparent that their analyses are not only highly prescriptive but also agenda-driven: The FTI proposals confirm with great scientific rationality what the development banks and other donors expect to read: the educational sector is indeed in a deep crisis and international donors are requested to approve, without any further delay, loans and grants from the Catalytic Fund to remedy the crisis with immediate effect. As evidence for the immediate need for action ample usage is made of statistical material which international knowledge banks have amassed since the late 1990s. Once a government has signed off on a FTI agreement, it needs to bring its educational sector in line with the 2015 benchmarks outlined in the FTI Indicative Framework. Benchmarks are standards with a temporal dimension. In the case of the FTI benchmarks the standards must be accomplished by the year 2015. Thus, most grant proposals to the FTI Catalytic Fund include elements of a crisis talk, an abundance of statistical information, and ideas on how to remedy the 'crisis' ('best practices').

The 2015 benchmarks of the FTI Indicative Framework (Bruns et al, 2003, p. 73) address three areas: service delivery, system expansion, and system financing. For example, one benchmark determines that the average annual teacher salary should be 3.5 times the annual per capita gross domestic product (GDP) by the year 2015. Another benchmark requires that the student–teacher ratio should be 40:1. According to the World Bank, these benchmarks have been determined based on empirical evidence. Researchers at the World Bank examined 155 developing countries and identified 69 top-performing educational systems with regard to universal primary education completion rates. These 69 countries were deemed to be 'on track,' because they either already

have achieved universal basic education or are likely to achieve it by the year 2015. In a second step, the question became: what did these 69 low-income countries do right in the areas of service delivery, system expansion, and system financing (Bruns et al, 2003, p. 58)? Table I lists the standards or FTI benchmarks that were established in 2002 based on a study of 60 top-performing educational systems in developing countries.

As mentioned earlier, the idea of creating a knowledge bank with 'best practices' was launched in 1999 with the establishment of the Global Development Network (see Stone, 2005). It was the same year when the World Bank started to analyze educational sectors of low-income countries in order to come up with standards or benchmarks to which governments eventually (with the establishment of FTI) had to commit in order to receive a loan or a grant from any of the 30 major international donors. Phillip Jones (2004) explains in detail the various stages of the World Bank and focuses on the most recent one in which the Bank sees itself more as an education policy lender than a loan-providing bank. For a bank or for any other large international donor, for that matter, there is no use of engaging in and funding evidence-based policy research unless there are solutions or 'best practices' in hand that subsequently are transferred from one country to another, and, with the help of a loan or grant, implemented in the target countries.

Variable	2015 Benchmarks
Service Delivery	
Average annual teacher salary (as multiple of per capita GDP)	3.5
Pupil-teacher ratio	40:1
Spending on inputs other than teachers (as % of primary education recurrent spending)	33
Average repetition rate (percent)	10 or lower
System Expansion	
Unit construction cost	$6,500-$12,600
System Financing	
Government revenues as % of GDP staggered targets proportional to per capita GDP)	14/16/18
Education recurrent spending as % of government revenues	20
Primary education recurrent spending as % of total education recurrent spending (Benchmark is 50% for a six-year primary cycle; 42% for a five-year cycle)	50/42
Private enrollments (as % of total)	10

Table I. Benchmarks for primary education efficiency and quality.
Source: Bruns et al, 2003, p. 73.

OECD- and IEA-Type Knowledge Banks

The four international organizations with the greatest reach that administer student achievement studies are the IEA, OECD, UNESCO (United Nations Educational, Scientific and Cultural Organisation), and UNICEF (United Nations Children's Fund). UNESCO and UNICEF exclusively address developing countries.[2] In this section, I focus on the international knowledge banks, administered by OECD and IEA, that compile information on the quality of education in developed countries. Only very few countries in Latin America, Africa, Central Asia, or South-East Asia participate in international student achievement studies of the IEA or OECD. Despite funding made available by the World Bank for low-income countries, poor countries opt not to participate because they cannot enforce the rigorous technical standards of such studies, they cannot afford to cost-share the enormous expenses, or simply because they do not see any use in having their educational system compared to the ones of countries that are able to spend so much more on education.

OECD- and IEA-type studies have become extremely popular in high-income countries. References to reforms abroad, in particular, comparisons with developments in other countries that are perceived as successful, seem to serve politicians and policy makers as a tool to substantiate the need for dramatic change at the local and national level. A good case in point are large-scale international comparative studies of the IEA or the OECD that had been incepted for several decades but only gained a major public momentum in the 1990s. The interest in international comparative studies is not only manifested in the boom of IEA studies in the 1990s and the first century of the new millennium but also in the increasing number of countries participating in IEA studies [3] as well as in the greater media attention given to cross-national analyses. The revitalization of international comparative studies is not surprising given that they lend themselves for 'externalization' of educational reforms; that is, politicians and policy makers are able to use them as external reference points to facilitate change in their own local or national contexts.

Clearly, OECD- and IEA-type studies lend themselves to examining institutionalized forms of transnational networking and communication, and scrutinizing the politics of league tables. We are currently witnessing a boom of studies that compare the results from student achievement tests across schools, districts, regions, and nations. Starting in the 1990s, ranking and league tables have become important policy tools to accelerate change and innovation in educational organizations (Kellaghan, 1996; Robinson, 1999; Lowe, 2001). TIMSS (Third International Mathematics and Science Study), administered by IEA, for example, generated tremendous reform pressure in the United States and in the United Kingdom (Gorard, 2001; Baker & LeTendre, 2005). Similarly, the results from OECD's PISA study (Programme for International Student Assessment) made the headlines of all major German newspapers in December 2001, and continued almost on a daily basis to attract public attention in the German press, television, radio, and on the Internet. Particular attention was given to the low performance in reading literacy. Not only did German students score significantly below the average of other OECD educational systems, but the distance between students performing in the top 5 per cent and the bottom 5 per cent was greater than in all the other 31 participating countries (Baumert et al, 2001; Artelt et al, 2002).

Globalization as an Internally Induced External Reform Pressure

There are several factors that account for the great policy appeal of international student achievement studies. First, there is a move to evidence-based research in public policy in general, and outcomes-based education and standards-based education in school reforms in particular (Chatterji, 2002). These distinct movements demand that public policies be informed by concrete data, and that quality monitoring be enforced by means of continuous evaluation or, in the case of schools, by student assessments. Thus, from a theory perspective, the ranking and league tables of OECD- and IEA-type studies constitute a measurable and easily accessible, albeit often biased and abbreviated, form of 'scientific rationality' (Luhmann, 1990; Schriewer, 1990). This particular feature of international comparative studies enables political stakeholders in education to appeal to the general public when planning or suspending a comprehensive reform.

According to Luhmann's theory of self-referential systems, the act of policy borrowing, often presented as a lesson learned from elsewhere, is a form of externalization. Externalization, or references to other educational systems, function as the last source of authority (Luhmann & Schorr, 1979; Luhmann, 1990; Schriewer, 1990). A focus on the politics of league tables would enable us to examine two forms of externalization in more detail. The first form of externalization is the reference to scientific rationality. Policy makers in different parts of the world increasingly tend to use results from cross-national analyses, produced by OECD- and IEA-type studies, to evaluate the effectiveness of their own educational system. The second form of externalization is the reference to, and the selective policy borrowing and lending from, effective educational systems, which had been identified in such cross-national studies as league leaders. Both forms of externalization, reference to the scientific rationality evidenced by OECD- and IEA-type studies and reference to effective educational systems, are inextricably linked to the semantics of globalization to which policy makers tend to resort when they publicly justify the need for fundamental school

reform in their own country (Tyack & Cuban, 1995; Cuban, 1998). Whenever needed, policy makers resort to such international knowledge banks to either generate or to relieve reform pressure in their own country. In other words, they use international league tables as external sources of authority that, at closer examination, have been internally induced. Formulated differently, globalization functions an internally induced external reform pressure.

It seems that there exist three prototypes of policy reactions, which I suggest labelling as scandalization (highlighting the weaknesses of one's own educational system as a result of comparison), glorification (highlighting the strengths of one's own educational system as a result of comparison), and indifference. It is further necessary to examine whether scandalization has led to increased policy borrowing (policy import from other educational systems), and whether glorification has led to increased policy lending (policy export to other educational systems). Examples of these different kinds of policy responses are listed in Table II.

By way of disclaiming the authority embedded in visual representations, it is important to point out that I have only listed prototypical examples referring to three international comparative studies that were conducted in the 1990s: TIMSS (IEA), PISA (OECD), CivEd (IEA). These studies were completed, and their findings published, in the 1990s and in the first years of the new millennium, and thus enable us to examine the policy impact that they have had. Two of the studies represent different subject matters that are generally considered core subjects, including mathematics and science (TIMSS), and reading literacy (PISA). The IEA Civic Education Study deals with a non-core subject matter (civic education), which is, in addition, often taught in several subject matters and supported with extra-curricular educational programs (Schwille & Amadeo, 2002).

	TIMSS	PISA	CivEd
Scandalization	USA	Germany	N/A
Glorification	Japan	UK	N/A
Indifference	N/A	N/A	Germany

Table II. Typology of political reactions to international comparative studies.

As mentioned before, Table II only lists extreme policy reactions that have been well documented in the research literature. As a corollary, several cells have been left blank (marked 'N/A'), because more detailed research would be required to identify prototypical cases for the corresponding policy reactions. Table II takes summarizes the policy responses and public reactions to the three international comparative studies, TIMSS, PISA, CivED: TIMSS, for example, triggered a lively public debate in the US media, mostly highlighting the weaknesses of the US educational system in mathematics and science (marked as 'scandalization' in Table II). Five years later, the publication of the PISA findings elicited a similar response in Germany, leading to a scandalization of the German educational system in the German media, as well as among German politicians and educational researchers. In contrast, Japanese media 'glorified' the Japanese educational system after the findings of TIMSS had been reported. Recently, a similar policy response by the UK official body for inspecting schools (Office for Standards in Education [Ofsted]) could be observed after the publication of the British findings of the PISA study. In the case of the United Kingdom, and to a lesser extent Japan, the glorification of one's own educational system led to a reconfirmation of ongoing educational reform. Another common policy reaction is indifference, especially if the subject matter under scrutiny is considered peripheral, had just undergone reform, or is unlikely to be changed in the near future. The peripheral status of 'political education' (German: *politische Bildung*) in the German school system explains why the IEA Civic Education Study encountered, compared to PISA, so little policy interest and even less public attention in Germany. The indifference towards the findings in the IEA Civic Education Study is striking given that Germany ranked low in several areas, including positive attitudes of German students towards immigrants.

Despite the difference in samples, there are many commonalities between knowledge banks for developing countries (e.g. EFA-FTI) and those for developed countries (e.g. OECD- and IEA-type studies). Both types of knowledge banks contain information on what works in education. Of greatest interest to policy analysts is the relation between the quality of education (measured in

terms of student achievement) and system variables such as, for example, school entrance age, class size, education of teachers, or annual hours of instruction.

Conclusion

There are several features of international knowledge banks that make them controversial. First, they draw on interstate competition; that is, a nation's concern with not falling behind becomes tangible with league tables, public displays of ranking, and ultimately is fueled with the fear of scoring low, that is, being named and shamed publicly and internationally. Second, international knowledge banks are not only in the business of accumulating statistical information, but they also monitor development and lend or sell best practices. While reform import is voluntary and selective in developed countries and in fact in the form of lesson-drawing from other countries quite frequent, it is coercive and wholesale for developing countries. Third, using the same indicators for measuring the quality of education in different contexts, establishing common international benchmarks for achieving them, and finally recommending the same 'best practices' for reforming educational systems will make the cultural differences with regard to what constitutes 'good education' disappear, and lead to an international convergence of national educational systems. As a result we end up with an international model of education that is heavily influenced by those who have designed, funded and administered the international knowledge banks in the first place.

It is noticeable that the same educational reforms surface in different parts of the world, at times simultaneously and at times with a time lag. Two such global reforms, which are currently also heatedly discussed in Germany and Switzerland, are, for example, outcomes- or standards-based education in schools and tuition-based higher education. Whereas, until 10 years ago, the first reform was regarded as an Australian or New Zealand reform related to New Public Management or New Accountability in the public sector, and the latter associated with privatization in US higher education, these two reforms seem to have become deterritorialized and gone global over the past few years. Travelling reforms or policy transfer from one country to another has become the rule. Dolowitz & Marsh observe for the broader field of public policy studies that many fundamental changes in public policies seem to be affected by developments going on in other countries. These observations lead them to suggest, 'when we are analyzing policy change we always need to ask the question: is policy transfer involved?' (Dolowitz & Marsh, 2000, p. 14).

How and why policies of one country end up as reforms in another has become a major object of academic curiosity. A host of puzzling questions accompany traveling reforms: Why is something borrowed from elsewhere if similar reforms already exist domestically? Why is only the label but not the content of a reform transferred? What makes a reform exportable? Why are, after a while, the traces to the original model eradicated? Why are ineffective or controversial reforms exported to other countries? These and other questions guide scholars in policy borrowing and lending research, social network analysis, and diffusion of innovation studies (see Steiner-Khamsi, 2004; Steiner-Khamsi & Stolpe, 2006). The prevalence of policy transfer has brought to light the existence of policy networks, think tanks, and institutions that interact transnationally and bridge several communities (Stone & Denham, 2004; Ladi, 2005). According to Bennett (1991), public policy researchers have identified four processes that account for policy convergence: emulation (state officials copying actions taken elsewhere), elite networking (convergence resulting from transnational policy communities), harmonization (advanced by international regimes), and penetration (initiated by external actors and interests).

Where does that leave us with regard to the competition, coercion, and convergence advanced by international knowledge banks? Arguably, multinationals such as, for example, the development banks, the UN organizations or non-governmental organizations, apply different strategies of policy development than governments. Compiling a databank with 'best practices,' and providing incentives for testing out these practices in one's own system is likely to boost policy transfer. However, the relation between international knowledge banks and convergence of

educational reforms is not that direct. The architects and administrators of international knowledge banks believe in demand-and-supply driven change, and therefore must pretend the existence of a free market not only with regard to educational reforms in general but also with regard to their own portfolio of 'best practices.' In theory, the international knowledge banks are supposed to supply low-income governments with reform ideas on how to first monitor and then fix their educational systems, preferably by lesson-drawing from other countries of the global South. The international knowledge banks are not supposed to *create* demand, but rather are supposed to be active on the supply side only.

In practice, however, the administrators of international knowledge banks are banks, and their business is first and foremost the provision of loans to low-income governments. It is a business that, in turn, relies on low-income governments demanding external financial assistance in the form of loans or grants. At times, the demand for external financial assistance is made at the same time or shortly after another major grant or loan agreement had just been signed. Such demands need to be substantiated, and the best proof is the existence of an educational crisis or an emergency. In the era of globalization and international agreements (Education for All, Millennium Development Goals, etc.) the most effective way to prove a demand for financial assistance is to demonstrate that a country's educational system drastically lags behind the quality of education in other countries. Strikingly, the multilaterals provide technical assistance to governments to make such a case for an educational crisis or an emergency. Arguably, competition, coercion and convergence preceded the creation of international knowledge banks which, after all, have only been in existence since the late 1990s. The knowledge banks support, but have not produced, these features of policy development. What is novel, however, is the proliferation of agenda-driven policy analysis propelled, funded, and administered by multinational organizations (development banks, UN organizations) as well as non-governmental international organizations. This implies that international organizations periodically generate educational crises at national level, which then are supposed to be remedied with the import of global reform packages, and paid for from national revenues.

Notes

[1] For the development banks the conditions include structural adjustment, poverty reduction, and lately also good governance. The International Monetary Fund (IMF) also engaged in a comprehensive review of its loan conditionality in 2000-2002. The outcome was a series of new guidelines on conditionality (IMF, 2002) that emphasize, among other things, ownership and capacity to implement programs in the countries that borrow from the IMF.

[2] The student achievement study Monitoring Learning Achievement (MLA) has been used since 1992 by UNESCO and UNICEF to assess basic literacy skills. It is the one and only student achievement study that is widely used in developing countries.

[3] For example, the first Civic Education Study (1971) was part of the Six-Subject Study and comprised only nine countries, whereas 28 countries participated in the second Civic Education Study (1994-2001).

[4] See, for example, the reports on an international workshop on research and policy making convened in 1981 in the Netherlands in order to reappraise the relationship in response to economic crisis in the 1970s. The proceedings are published in Kallen et al (1982).

[5] The ESRC-funded project on 'Knowledge Transfer in Higher Education in Scotland' (RES 000-22-0747).

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JENNY OZGA. Research into Actionable Knowledge

Background: the policy–research relationship

I come to this Roundtable discussion from a specific context in which relations between research and policy are part of the everyday shape and form of my working life. I am responsible for a research centre with a fairly long history (over 30 years) that has had to generate funding and maintain its independence in an increasingly competitive environment and in a small, peripheral system. In the past there has been difficulty about the Centre's research findings and their reception by policy makers. For example, there is an account of discussions in 1975 between the then Director of the Centre for Educational Sociology (CES), Andrew McPherson, and representatives of the Scottish Education Department (SED) and Her Majesty's Inspectorate (HMI) about the publication of a book (*The Scottish Sixth)* based on an earlier CES research project which had been partly funded by the SED. McPherson describes a tense and difficult meeting during which the policy makers suggest that the book's discussion of policy 'went far beyond the proper limits of educational research'. The account concludes with one of the officials taking McPherson by the elbow, steering him out of the room and saying that he could: '"write what I liked" but that "I should not forget that Scotland is a small country"' (McPherson, 1976, quoted in Humes, 1986, p. 173).

Current relations are not so overtly tense, but there is a sense in which the relationship is always evolving; always susceptible to pressure, always part of the background. It is not that I am suggesting that education research in Scotland was – or is – particularly vulnerable to policy pressure (though scale must be significant). Indeed, some recent major developments in research in education in Scotland sustain collaborative relations in networks of researchers, policy makers and professionals (Munn, 2006) – though such networks may also become vehicles for effective policy steering (Ozga, 2006). I say more about networked co-production of knowledge below. My purpose in mentioning past difficulties and tensions is to stress the long and continuing history of difficulty inherent in the policy–research relationship, and to seek to identify any new factors that help to explain developments in the current context.

There is, of course, a very varied and well-established literature on the policy–research relationship, especially where the relationship between policy and the social sciences is explored. In the broader context of the development of social science and its relation to social policy, from the mid nineteenth century onwards, there is a relatively close link between social science and its development of a 'science' of society through statistical method -and policy making, a link which centred on 'identifying and instituting suitable reforms for particular social problems' (Oakley, 2000, p. 134).

In the United Kingdom, the period of the 1940s-60s may be seen as a high watermark in policy–research relations of that particular kind, where research was understood as offering resources for policy, in what Roger Dale has called the 'social administration' project (Dale, 1986). From that point on, economic crisis, challenges to welfare state enlightenment projects and changing ideologies produce a break with that project, and throughout the 1980s social science research is criticised and dismissed as irrelevant (though these criticisms may be more strongly expressed in the United Kingdom than in continental Europe). There is an element of the debates and discussions since that time that is preoccupied with finding ways of regaining lost influence for research and closing the policy–research gap.

The most recent wave of interest in the relationship in the United Kingdom, and arguments about what kind of relationship it is, and what kind of relationship it could or should be, follows in part from the increasing commitment of UK governments since 1997 to the principle of 'evidence-based' or 'evidence-informed' policy. As government apparently seeks guidance from research in shaping policy, so debates about the capacity of research (perhaps particularly in education) to do this, and – perhaps more fundamentally – about the desirability of this close relationship between research and policy, have grown in intensity (see, for example, Ball, 1997; Hammersley, 2002; Pring

& Thomas, 2004; Whitty, 2006). There is controversy over what counts as evidence, about the extent to which research in education should be steered by policy concerns, about the extent to which research is being used to justify policies that have already been decided upon, and about the possible narrowing of research agendas and privileging of particular methods that may follow from a close engagement with policy. Such disputes spill over into debates about research funding and tensions between accountability and autonomy in education research. The evidence-based approach provokes debate about the place of research in the professional formation and development of practitioners. It produces divisions within the academic research community in education.

To a degree, then, the recent shift towards evidence-based policy making looks for the restoration of the relations that existed post-war, with policy makers and research communities engaged in a shared project of problem solving. But the context is different; and new tensions and debates arise because of the implication of knowledge production in pursuit of the knowledge economy (KE) and knowledge society: governments now see knowledge not as a source of amelioration of social problems but as a source of wealth and as a resource for governance.

Knowledge Production for the New Knowledge Economy/Society

Pursuit of the new KE drives policy across Europe and beyond: the constituent nations of the European Union (EU) declare that they are attempting to become 'knowledge economies'. The Organisation for Economic Cooperation and Development (OECD) and the World Bank assert that education and training provide the entry requirements to participation in the new KE. Education and training dominate policy agendas focused on upskilling new knowledge workers and developing research and thus the knowledge that will secure success (OECD, 1996). Productive knowledge is believed to be the basis of national competitive advantage within the international marketplace. Research is fundamentally affected by the idea of the knowledge economy. Research is, after all, the production of knowledge and is understood in KE terms as central to economic growth. Knowledge here is *internal* to, i.e. part of – rather than *external* to and distinct from – the economic process, and growth is dependent on maximising the outputs of knowledge workers and the productivity of knowledge resources (Peters, 2001; Kenway et al, 2004). National systems seek to ensure competitive advantage through the commercial exploitation and application of knowledge. Knowledge production is brought into close relationship with economic policy – what matters is what works for the economy. Universities and their research are significant players in this policy frame. Intellectual autonomy is challenged by the need to meet industry needs and science is becoming 'less a public good than a tradable commodity' (Kenway et al, 2004). The World Bank publication *Constructing Knowledge Societies* asserts that:

> Continuous, market-driven innovation is the key to competitiveness, and thus to economic growth, in the knowledge economy. This requires not only a strong science and technology base, but, just as importantly, the capacity to link fundamental and applied research, to convert the results of that research to new products, services processes or materials and to bring these innovations quickly to market. (World Bank, 2002, p. 21)

There are enhanced research steering practices emerging across different national systems, experiencing different degrees of pressure from supra-national agencies (for example, the World Bank, OECD), and affected to greater or lesser degrees by emergent regional blocs (for example, the European Research Area) and by issues of national and peripheral representation (for example, the dominance of American Foundations, approved research methodologies and American-derived citation indices, and so on) (Ozga et al, 2006).

So research steering is strengthened because knowledge is central to economic growth and the new knowledge economies. As a consequence governments and trans-national organisations are more attentive than before to their relations with knowledge-producers, they seek stronger steering mechanisms; they promote 'big' science and focus on ensuring outputs, 'spin outs', and the commercialisation of research-based knowledge.

At the same time, knowledge is understood by governments as a resource that enables responsible self-government by citizen-consumers in new knowledge societies. Improved communication of knowledge is essential in enabling responsible self-management by citizen-consumers (Clarke, 2004) and will be achieved through better transfer of knowledge from universities into public and social policy (Blunkett, 2000; Nutley, 2003). Culture and creativity are also envisaged in the policy discourse as resources that are to be transferred and traded in the attempt to manage risk, build entrepreneurship and enable the functioning of social networks in building social inclusion. These factors add a new dimension to the policy–research relationship – one that increases the value of research as a commodity and as a resource, and that consequently requires increased research steering. The emergence of new knowledge economies and new knowledge societies combines to create pressures for better 'transfer' from research into public and social policy.

Developments in Knowledge

At the same time, and by no means coincidentally, we see developments in the nature of knowledge. The well-known formulation of Mode 1 and Mode knowledges encapsulates these changes, in which Mode 1 knowledge is understood as derived from traditional, discipline-based research, based in the academy, while Mode 2 is derived from hybridised research that combines the academy, the state and the private sector (Gibbons et al, 1994)**.** Mode 2 research encompasses a shift from a linear process of knowledge production and dissemination to an interactive, iterative, problem-focused, transdisciplinary model (Gibbons et al, 1994; Delanty, 2001; Nowotny et al, 2001). There are arguments that the strongly contextualised production of Mode 2 knowledge offers opportunities for democratisation of knowledge production in close relationship with society and wider social movements (Liberatore & Funtowicz, 2003; Nowonty et al, 2003) as Mode 2 knowledge is required to be 'socially robust', that is, deemed to be valid not by narrowly defined scientific communities but by wider 'communities of engagement' (Nowotny et al, 2003, p. 191). It is also suggested that Mode 2 knowledge encompasses recognition that research is social practice: embedded in context, embodied by social actors, enacted in specific settings (Yates, 2004; Ozga et al, 2006). On the other hand, the shift in production of knowledge from the academy to networked, socially embedded forms may render research vulnerable to additional, powerful forms of governance, drawing researchers in to the governing process, and offering policy makers and other powerful actors enhanced opportunities to shape knowledge through their influence on contextualised production.

Knowledge Transfer

These issues can be illuminated through examination of current policies in relation to 'knowledge transfer' (KT). More and better transfer of the knowledge locked up in research is demanded by policy makers, perhaps especially where this demand is driven by the need to support improvement in the performance of particular areas of public sector provision such as education, in the face of anxieties about competitive advantage in the new KE. Put very briefly, KT policy in the United Kingdom seeks to constitute a 'third sector' or 'third arm' of higher education institution (HEI) activity (along with research and teaching):

A recent study of KT policy in Scotland found that the nature of KT activity has shifted since its origins in commercialisation activity, and, at least in the Scottish higher education context, it is now entering the social and cultural arenas, promoting research for the wider economic, educationnal, social, health care and cultural benefit of society (Ozga & Jones, 2006). In this context, at least, it is clear that policy makers see KT as a resource for governing: there is a recognised need for what one policy maker described as 'evidence on the long-term priorities for Scotland; to discuss current work to forecast what will be important issues for Scotland in 20 years' time; and consider how Scottish HEIs can help shape and contribute towards this agenda' (Scottish Executive respondent 2). The higher education sector is understood not just as a source of specific expertise, but as being able to 'influence and shape national policy while it is being formulated'. In

other words, a new relation between governing and research-based expertise is envisioned: expertise moves beyond the task of *policy informing*, and becomes *policy forming* in a more complex form of governing.

However, the research community (in the fields of education, health and technology that were the subject of this study) understood KT largely in commercial terms, and seemed unaware of its wider implications, especially in connection with shifting the locus of knowledge production and in offering both opportunities and risks for research in relation to governing. Across the different fields, there is an emphasis on pragmatic research methods, on externally generated criteria of quality and on practice and policy-oriented outcomes. Researchers do research 'to produce knowledge that can make a difference to the wider community' (63%) and to 'make a contribution to advancing knowledge in my field' (57%). Perhaps unsurprisingly in these applied fields only 13% do research to enable theoretical developments or methodological developments (8%). Researchers across the fields report a degree of insecurity of status, along with considerable pressure on funding and on time. It is possible that the combination of material conditions of work, and weak disciplinary framing, reduce capacity for reflexivity and thus for strategic positioning in relation to knowledge production in this new context. While policy makers understand KT to position research in an emergent space between the market and the public sphere, the implications of that positioning for research are not appreciated by researchers, whose lives are dominated by the competitive pursuit of funds. Researchers are not engaging with the potential of new forms of knowledge production as a collective resource; they are not in a position to use the network form of co-production as a vehicle for mobilising other social actors, and thus – at least on the evidence from this research project – the new forms of knowledge production are being colonised as a new form of governance.

What are the Implications of This?

It is obvious that new forms of knowledge production present substantial challenges to current research cultures. There is a need to fully engage with the consequences of doing research/producing knowledge in the context of *implication*, of requiring research to transcend 'the immediate context of application, and begin to mark out, anticipate and engage reflexively with those further entanglements, consequences and impact that it generates' (Gibbons, 1999, p. 84). Such changes need to recognise that co-production of knowledge requires recognition of the process of translation that occurs when different understandings interact: 'What is meant by translation is the act of bringing two (or more) things into relationship with one another' (Law, 1999). Translation is transformative: 'all information is transformation' (Callon & Latour, 1981, p. 300).

From this we may conclude that it is necessary to stress that all research in the new context is translation – as things/people are brought into a new relationship this may change their characteristics or properties. In this process translation may be a source of domination or of liberation. Translations are discursively constituted, formed and informed by dominant ideas, but the process of translation opens these discourses up for mediation or adaptation – they do not continue without alteration. It is thus essential to engage actively with the new forms of knowledge production, using the spaces that they offer; taking opportunities for collective mobilisation of knowledge. Without such engagement, research knowledge will be commodified, and actionable knowledge will provide resources for governance:

> The contradiction [of knowledge production with in the knowledge economy] hinges on the nature of knowledge as a collective resource or as intellectual property where knowledge is treated as a fictitious commodity. Questions about what knowledge is produced and legitimised, how it can be mobilised and used, and whose resource it is (i.e. for which communities it can be a collective resource) are critical not just because they sit at the heart of education research steering but also because they are fundamental to the practical politics of education research. (Ozga et al, 2006, p. 10)

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LYN YATES. Who Counts as Well as What Counts: the desire to be 'world class' in Australia

Whether or not research is explicitly 'steered' by policy makers, knowledge is always situated; the activities of education researchers are always produced in particular material, cultural and historical contexts, drawing on particular interests and particular formations of prior intellectual work. Questions about the sources and effects of research steering should be taken up as questions for those who see themselves as staying aloof from policy questions, as well as for those who feel constrained by the new conditions of our working life.

The roundtable brief asked us to consider examples and ways of thinking about policy steering and its impact on knowledge and on education researchers. The discussion in the session itself focused in particular on the appropriateness and limits for researchers of working with policy makers and/or policy agendas; and on the implications of these discussions for preparing the next generation of education researchers.

I want to use the example of Australia to consider the knowledge–policy–researcher relationships from two directions. First, what are the conditions and interests that are being set up in contemporary policy agendas for researchers, and how might these affect their activity and affect the form and substance in which research knowledge is produced? Second, why and how have some researchers entered and attempted to shape the policy arena – not as a default or response of necessity to new conditions, but as part of their own research agenda?

In a recent book (Yates, 2004) I argued that education researchers today have to learn to be self-conscious about their insertion in a number of different contexts in which they are now required to work. Developing 'knowledge' in the form of a thesis, for example, draws on particular (discipline-based) understandings of what counts as appropriate authority in one's field and appropriate ways of displaying that to established academics; but in the case of competitive grants, signifiers of one's relative prominence in the field and of the 'discovery' nature of the research matter; and in the case of commissioned research, the values and networks of the commissioning body assume high priority, and they will specifically seek to find researchers whose work will enhance their own profile – and the three contexts require somewhat different ways of being an academic and of representing (writing) and developing research agendas. The spread of 'research steering' and of international comparative indicators and benchmarking is beginning to influence and reshape many of these contexts, and in some cases, to blur some of the previous distinctions between them. In gaining funding and legitimacy we are now heavily constrained by the US-led discussion about what can and cannot count as 'evidence', and by the data-driven operations of international assessments and benchmarking. But we should not over-state the extent to which there is one single form or one single direction in which the relationship between policy and research now takes place.

Policy Interests in Research Steering and in Selecting Whose Work Will Count

Being Useful vs. Being 'World Class'

In the ministerial press statements that accompany launches of new 'knowledge-steering' mechanisms, there is frequently a *dual* justification of the agenda. One justification is that the funding is designed to produce utilitarian benefit, to advance the national (or European in the case of European Union funding programmes) interests in economic or social terms. The other justification is that the mechanism will audit or demonstrate, or succeed in developing, research and researchers that are of 'world class' standard. I would argue that these two agendas of research steering overlap but have some distinct qualities; and that while Organisation for Economic Cooperation and Development (OECD), International Association for the Evaluation of Educational Achievement (IEA), Programme for International Student Assessment (PISA) and World Bank comparisons are important in many countries, the national inflections of these are not uniform and deserve some attention.

Both the economic benefit and the benchmarking as world-class justifications are widely heard internationally, but in Australia they tend to take a particularly explicit (dare one say crass?) form. Australian political culture has an anti-intellectualism in which knowledge agendas need to be strongly justified in terms of concrete economic and social benefit. And Australia's periphery status as a nation has led to a long-standing anxiety about how the country is measuring up on the world stage.

Here then are the words of the Australian Prime Minister, launching a recent major research funding programme, *Backing Australia's Ability* (and note that title! In Australia, politicians do love their sporting and gambling metaphors):

> Ideas, knowledge and skills are becoming the essential raw materials of economic and social progress. They enable us to make the most of our rich natural resources, develop new industries and to find solutions to contemporary and emerging problems in areas such as environment, health and national security. (Prime Ministerial foreword to BAA funding policy, September 2005. http://backingaus.innovation.gov.au/pm_message.htm)

And alongside this, in the same brief statement, we find multiple references to establishing 'world-class' performance by the local team: 'a world-class innovation system', to 'keep Australia at the forefront of knowledge', to nurture 'world class' researchers and 'world class' research capacity.

In practical terms, these two agendas of government, the utilitarian concern about solving problems and advancing local interest, and the comparative competitive concern, to be seen to have 'world class' researchers, have not necessarily had identical consequences for how education researchers are required to operate. They do come together quite readily for those researchers whose disciplinary home is economics and whose tool of choice is large data sets; but for many researchers in education there are practical choices to be made as to how much time and effort is committed to working closely with particular education systems or schools, building personal relationships with policy makers and bureaucrats, producing reports and action methods within parameters set by particular political parties, and outcomes that may not be published or even publishable; or, alternatively, how much time and commitment is given to attending international academic conferences, publishing in significant peer reviewed journals, and establishing an international reputation.

Further local national conditions come into play here. The Australian Research Council, unlike a number of research bodies in other countries, does not have a separate funding stream or panel for education researchers, so education research proposals are often assessed by academics outside the field of education, and in that context there could be preference for work that has the appearance of being theoretically important or critical over work with widespread practical application but of apparent banality. Over the 1990s in Australia relatively abstract and post-structural theories were taken up rapidly in education conferences and journals, particularly in the areas in which I work (gender studies, policy studies, sociology), and one reason for this might be the drive to be demonstrably theoretical and cutting edge in certain contexts of competitive funding.

In other words, in that recent period, academic knowledge itself has had particular material conditions and imperatives, encouraging knowledge whose virtue was to stand outside the local, and to be seen to be theoretical, abstract, new rather than collaborative or applied; just as knowledge developed through commissioned work over that time was shaped by concerns about demonstrating improvement. To put it another way, that part of the policy agenda that was concerned with 'being world class' might enable a space (in the Australian context, which has not had the same traditions of didaktics and education science as Europe) for certain types of academic work that would otherwise not be possible. Or put another way, the conditions for gaining advancement in a university context have traditionally driven a particular type of 'knowledge' production.

However, these mechanisms are changing. The most recent changes to the mechanisms I have described above have moved to constrain the potential to undertake knowledge advancement that does not have immediate pay-off. The mooted Australian version of research assessment is going to prioritise 'impact' (that is, demonstrated economic or social pay-off) as well as quality.

Education and the Normative

At the time of this ECER conference, the most prominent issue of education policy intervention and public debate in Australia was not about 'data' or 'information' of any sort. It was a debate about a national summit that the Prime Minister had convened to consider the history curriculum for Australian schools: that is, what story of Australia should schools be teaching, and what historical accounts are to be declared to be 'ideological' and illegitimate?

In the post-9/11 context, the *normative* content of education, and its relation to matters of social cohesion, citizenship, cultural difference, immigration, religion have a new and explicit prominence. But the role of researchers in such arenas is uncertain. On matters of 'achievement' and 'reform' and 'progress', the language of 'evidence-based' social policy appeals to research as a technology of government and incorporates (some) researchers as having a legitimate (and indeed legitimating) role. But the role of education researchers who are philosophers or historians or curriculum theorists in having some legitimate role in relation to policy, in the Australian context at least, is less clear. The content and substance of education (curriculum questions) are now key issues, and in Australia currently are more prominent than questions of effectiveness and system structure. Yet the developments over recent decades tend to marginalize *education* researchers who pursue such interests, or at least, in the public policy domain, do not seem to differentiate a research-based or scholarly expertise on a particular issue from any other advocacy position in relation to education. And within the academic field itself the question of what form curriculum theory and curriculum inquiry should take in these post-foundational times is in equal disarray. (Hamilton, 2005)

In national contexts, policy is likely to be more explicit about its normative (including curriculum) agendas for education, and in selecting those researchers or research evidence that suit those agendas. In international policy contexts, the normative position is implicit rather than explicit, and takes the form of economic benchmarks and achievement targets as the common-sense measure of what all education activity is about. 'Evidence' in this context takes the form of counting, and the guise of neutral and technical information; whereas curriculum issues about what is taught, whose normativeness is more apparent, are treated warily. UN Millennial Targets, for example, define the quantities of education that women should receive but do not constrain its content, notwithstanding the research history that suggests that the content, not merely the quantity, of education is a core issue in underpinning women's inequality (Yates, 2006).

Even in the 'evidence-based', supposedly data-driven arenas, it is important to understand how selectively such evidence is called on, and that whose knowledge counts at a particular time owes something to social movements and developments outside both the policy and the research arenas. This is readily seen historically. For example, neither the taking up of girls as an issue for education in the 1970s and 1980s, nor the turn to boys as an issue in the 1990s and beyond, were primarily data-driven, but in both cases involved a selective new emphasis on some forms of data and de-emphasis on others (Yates, 1997).

I am suggesting two points here: that the relationship between evidence as 'information' and policy is more complex than the policy being 'evidence-driven'; and that although we are in a period of increasing emphasis on 'data' and comparative benchmarking, it is a mistake to think that these are the only agendas driving contemporary education policy concerns and research possibilities: citizenship and values and 'social cohesion' are of strong global concern to education authorities, and the research issues here are not simply about 'information'.

Research – Information – Intervention

Knowledge Translation and De- and Recontextualization

The funding conditions of Australian universities mean that most researchers in education take on a variety of roles: they apply for competitive grants and go to academic conferences; they take on better paying but tightly constrained commissioned research for governments, schools and other institutions; they teach as well as undertake research and are expected to act as advisers both to

policy makers and practitioners; and their promotion criteria have regard both to research achievement and evidence of its significance to the professional community.

This means that the material conditions for supporting oneself as a researcher in Australia do normally require explicit attention to issues of 'translation' and of speaking to communities concerned with 'actionable' outcomes. The extent to which researchers can attempt to drive action (to 'translate' rather than fundamentally distort their theoretical understanding by taking on projects with tightly constrained parameters which predetermine outcomes of a particular kind) depends on their status and the type of relationships they build over time.

However, this way of telling the story tends to position researchers as those being 'done to' rather than acting, as people who would only be involved in policy or intervention out of necessity. In the contexts in which I work, a more common profile of those who become education researchers is of people with some interests in social change and a better world. For these researchers, the desire to have impact and to produce change is not a phenomenon forced on their research activity by external mechanisms, but is inherent in the framing of the research problematic. Some of the most significant researchers and research projects in the Australian context have been individuals and groups with explicitly critical theoretical agendas, who construct the questions about how to work in, through and with policy as part of that question (Yates, 2002; Lingard et al, 2002). In these cases, researchers have large, focused programmes of work that extend over time, and that are likely to include publications and engagement in academic and theoretical contexts which include critical theoretical perspectives on the system as a whole (Teese, 2000; Teese & Polesel, 2003), as well as other work which is overtly carried out in the service of government: secondments to take roles within the bureaucracy; consultancy projects; etc; and where the researchers' aims have been to both understand and position themselves appropriately to work the potential of policy (Luke, 2005).

The point I am making here is that this activity is not appropriately described in the words of the roundtable brief ('how far do researchers collude in making their research outputs "actionable" and does this change the knowledge that they produce?'). These particular researchers are not 'colluding' but rather seeing the working of policy and action contexts as appropriate conceptions within knowledge production, and indeed seeing knowledge-building in education as an activity that must build on the practices of education.

Nevertheless, I would argue that working within policy contexts does constrain what 'knowledge' becomes in those particular contexts.

1. Because of the widely circulating currency of data-benchmarking as the central technique by which education systems can be understood, and progress demonstrated, to translate (or develop) research ideas as policy, it is necessary (or these researchers have judged it necessary) to work ever more strongly with numerical indicators as the central story about what schools are doing. Inequalities and differences must be translated into categorical rather than contextual understandings, and schools will be driven to focus on what will be measured (and what is measurable) as achievement of their objectives.

2. The knowledge that is not able to be put into the policy arena (at least publicly) is the impossibility of education policy action to provide good outcomes for all students in a context where not all jobs are equally good. Research as policy is not allowed to acknowledge the elements of schooling that are effectively a zero sum game; and although 'improvement' agendas may be promoted (for boys, or for 'disadvantaged' students), these must be framed in a fundamental dishonesty that no existing category of students (students at private schools, for example) will have their relative advantages reduced.

What are the Implications of All This for the New Generation of Researchers?

I would see the following as the main implications of the situations and trends I have outlined here:

- The space for intellectual work that is not shaped by immediate agendas of action is reducing as the knowledge-steering activities of government reduce non-tied sources of funding and seek to explicitly tie research to demonstrated outcomes. This brings with it a likely constraint on the ability of research to be a strong source of fresh perspectives.
- The conditions of work of being a researcher (certainly in the Australian context) are likely to have a 'hybrid' worker quality, to require knowledge of how to operate in different contexts, and this has implications for research training.
- Although non-quantitative and post-structural forms of research are likely to continue to be valued in academic theory-building or in working with teachers, in policy contexts the ability to produce research evidence as 'data' is increasingly important, and this has some implications for the research training.

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