The Impact of Educational Research: Teacher Knowledge in Action

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Abstract

In this paper I argue against a dominant view that social planning, supported by strategically located and tightly controlled research and development, is delivered from above and enacted downwards by the education system. As such the paper argues against a view taken by many theorists/politicians and reinforced by the major components of the educational bureaucracy. The Impact of Educational Research produces a warrant for an alternative form of thinking about the deeper forces of contemporary change including the ways that individuals are culturally formed and how they relate to each other. Understood this way, classrooms and schools are sites where new meanings and understandings are created and shared. The paper concludes with a call for consideration of new ways of understanding and discussing the context of change that educational research relates to.

Background and introduction

During the late 1970s Barry Jones, politician, academic and one time quiz game celebrity, spent several years studying, documenting and writing about what he perceived to be a social change of major proportions. In 1982 the result of this study, a book titled *Sleepers Wake!,* was published. This book has subsequently been reprinted and republished many times, the last edition appearing in the late 1990s. There is little doubt that the enduring interest in *Sleepers Wake!* is testimony to the fact that Jones has managed to document some significant cultural and political themes.

Barry Jones's thesis in the book is as follows. Through the period of the 1970s Australia, typical of many advanced industrial nations, had been slow to adjust to the arrival of an information revolution that was reshaping the basic framework of the major industries in manufacturing and agriculture and, by implication, most aspects of daily life. Jones summarised his concerns, and basic thesis, in the following way:

> Much of our conceptualising, social response, political dialogue and educational expectation is based on an obsolete view of reality … Technological change has significant implications for education, communication and the political process. The sheer complexity of scientific and technological change in an age of superspecialization has led to ignorance, alienation and feelings of incapacity in the political and bureaucratic process, as it has in the lay community. (Jones 1990, Preface)

In somewhat different terms, Jones was arguing that 'information' as a cultural and economic resource was replacing manufacturing and primary production as the key element in the emerging, post-industrial, 'high-tech' economy. The problem with this transformation, according to Jones, was that it was not well understood and as a result existing social divisions were being widened. Jones argued that through ignorance and mis-management there was a widening gap between the 'information rich and information poor' (2000, p. 5). Of particular significance for the argument to be sketched in this paper, Jones (1990, pp. 155–6) noted that 'Education provided a key pathway in the sifting sorting process of who would be information rich and information poor.'

When the Hawke Labor Government came to office in 1983, Jones became the Minister for Science and Technology. In this role he became a leading architect in a political and bureaucratic campaign to move Australia away from an economy based on primary production and manufacturing and towards one that was more information based, and technology rich. Within this process the education system, from primary schools to tertiary colleges and universities, was understood to be a vital lever of change. As such there was an increasing expectation that future citizens should emerge from schools and tertiary education with the skills required to take part in a complex multi-phased technology-based economy.

Subsequent governments, policy makers and social commentators, from both sides of Australian politics, have accepted the logic of Jones's argument and warnings. Schools, colleges and universities have increasingly been expected to deliver messages associated with an information-based economy. Logically, it follows that 'teachers' are expected to be the key link in this message chain. Here an important assumption can be detected in Jones's argument. Social planning, supported by strategically located and tightly controlled research and development, would be delivered from above. Those below were expected to follow. The work of Jones and those who have followed him has proceeded on the assumption that practice follows theory in a one-to-one correspondence. Viewed this way, and informed by countless studies proceeding on the 'theory governs practice' assumption, schools and teachers

have consistently failed the 'correspondence test'. Put bluntly, politicians, bureaucrats and policy makers have acted according to the belief that most teachers demonstrate a lack of fidelity with the work of bona fide researchers. The problem here is that, increasingly, political and educational leaders demand that schools demonstrate that they can deliver outcomes appropriate for a tightly governed information-based economy. 'Teacher knowledge in action' (McMeniman et al 2000), part of the Department of Education, Training and Youth Affairs' volume *The Impact of Educational Research*, is written with many of these concerns, preoccupations and issues in mind.

Details of the study

The research described in *The Impact of Educational Research* sets out to critically examine the assumption that there is a tight correspondence between policy makers, politicians and bureaucrats as decision makers informed by research, and educators/teachers as appliers of those ideas/policies. The following statement from the Executive Summary highlights this focus:

> While there are examples of a direct correspondence between a particular research finding and its application in schools, the processes of take-up and impact are generally much more complex, subtle and unpredictable than a simple one to one correspondence model would imply. Of particular importance are the roles the played by third parties in disseminating and packaging knowledge and practitioners' working knowledge and local knowledge in mediating and adapting knowledge from other sources. (DETYA 2000, p. 26)

'Teacher knowledge in action', Chapter 4 in the volume, is designed to critically scrutinise the correspondence assumption and behind it the shibboleth of 'theory' belonging to universities and 'practice' belonging to classroom teachers. In brief, this study involves an examination of 'teacher knowledge' in action.

More specifically this focus involves an examination of what teachers do in classrooms and aims to identify the relative influence of educational research on these actions (McMeniman et al 2000, p. 381). Behind this focus there are a number of assumptions that suggest that:

- reflective practice is anchored in experience, and reflection of that experience is undertaken with the guidance of an expert,
- research is a resource on which the practitioner draws along with other information sources that guide knowledge in action (2000, p. 381–2).

Most importantly, the study begins from the perspective that educational practitioners are 'mediators … of propositional knowledge which emanates from a variety of research access points as formal research' (2000, p. 383). In turn, this proposition converts to the following list of processes based on Shulman's (1987) work:

- content knowledge
- general pedagogical knowledge, including classroom management
- curriculum knowledge
- pedagogical content
- knowledge of learners and their characteristics
- knowledge of educational contexts
- knowledge of educational ends, purposes and values (2000, p. 392).

In designing the study the researchers employed a qualitative method. This approach placed maximum focus on participating teachers' understandings of their classroom practice and their awareness of the various sources of ideas and knowledge that shaped that practice. The methods that were used to explore these understandings included:

- Videostimulated recall, which involved analyses of teacher's explanations of the decisions they made during a videoed lesson

  This method is described as follows:

  > The stimulated recall sessions following the lessons were videotaped and audiotaped (for ease of transcription) by the researchers, in their turn, and these sessions have been transcribed and analysed to determine the extent to which the teacher actions are influenced by, among other things, research findings. (p. 389)

- Concept mapping, in which the teachers constructed maps of the concepts that were involved in their teaching and the identification of the sources of those concepts.

  This approach was designed to make explicit the participants' conceptualisation of effective teaching through writing appropriate key words or phrases (i.e. concepts) and then constructing a 'map' of related concepts.

- Follow up interviews with selected teachers and students.

Taken together, these methods draw on many of the insights associated with contemporary social theory with its emphasis on personal narrative and on discursive self-understanding (see, for example, Giddens 1984, pp. 25–8, 359–60).

In total, fourteen case studies were conducted. Within this sample there were participants from mainstream primary and secondary schools, different socio-economic contexts and from the government, Catholic and independent sectors. The other variable addressed in the sampling procedure was the learning area. The primary participants focused on either literacy, numeracy or early childhood contexts. The secondary participants focused on one of the major discipline areas of English, science, social science and mathematics. In this study vocational education was added to the list for secondary schools.

In terms of organising and coding, the researchers initially ordered the data that had been generated and then produced a set of categories designed to answer the question of what informs educators' decisions. The following list includes the categories generated by that process.

- own learning
- intuition
- personal characteristics of the teacher
- peer influence
- self motivation
- initial training
- critical other
- professional reading
- in-service
- formal postgraduate studies
- teacher as researcher
- personal experimentation
- formally collecting data from the school
- participation in formal studies (McMeniman et al 2000, pp. 393–4).

The bulk of the published study details different teacher responses according to the framework developed through Shulman's (1987) work. The following are examples of some of the recorded reactions of different teachers.

> We draw on, as I said before, the Internet is a major tool that we use … we look at recent papers. I'm a member of ACE so if I get the Unicorn through and it's got current stuff in it, I'll photocopy it and give it to people or I leave it available. (Secondary teacher of VET on the importance of professional reading of journals/internet/media: McMeniman et al 2000, p. 452)

> I believe that some of the most exciting mental discoveries, the mental constructions come from putting open questions, in which I'll accept anything … I believe that you have to be able to have a relaxed atmosphere of safe answering. (Primary numeracy teacher on the importance of pedagogical content knowledge: p. 403)

> Here I introduce the idea of analogy … I think analogies are a good way of communicating certain meanings … I was trying to get the girls to think … getting them on a deeper level ... now it's getting those questions where I'm getting them to think more deeply about things … they need to look beyond the superficial. (Secondary social science teacher on general pedagogical knowledge strategies: p. 400)

The major finding of this study is stated as follows:

> What emerges from the data is a much more complex picture of the teacher in action and the multiplicity of functions undertaken by teachers in the teaching/learning process. At a general level the teacher is an intuitive, idiosyncratic self-starter who is able to navigate a pathway through this labyrinth of complexity to ensure positive learning outcomes for students. (2000, p. 495)

In more specific terms this statement suggests that, rather than being passive receivers of research generated by bona fide researchers, teachers are active mediators and transformers of information drawn from many different sources including:

- directly accessed research
- participation in research studies
- formal research as part of studies
- formal teacher-researcher activities outside accredited study
- active experimentation in their own classrooms incorporating their own expertise and drawing upon research outcomes (p. 496).

Thus it can be noted that classrooms and schools are sites where new meanings and understandings are created and shared. The study also brings into focus a wide range of formal and informal communication issues including the ways that ideas and information are disseminated and the barriers that prevent their free movement. In short, this study produces a warrant for better understanding the many different ways that educational information and knowledge is disseminated and shared, both into and out of specific school/classroom locations.

Issues and conclusion

In order to critically interpret the importance and possible impact of this study it is appropriate to return to the matters noted at the start of this paper. The themes registered by Barry Jones in *Sleepers Wake!* are now widely understood and accepted. It is no longer a problem to talk of the emergence of an information-based economy. The term the 'clever country', coined by political spin doctors in the late 1980s, testifies to the way that the themes Jones was exploring have been brought into everyday language and understanding. The sheer weight of numbers of students who fight for limited places in university courses is tangible evidence of the widely held belief that future employment prospects are directly linked to the quality and quantity of post-compulsory education. Understood this way, we can conclude that the 'sleepers have woken'.

What I want to argue now, however, is that *Sleepers Wake!* is silent about and ignorant of deeper forces that provided the original warrant for the book. Large cohorts and many individuals remain on the fringes of, or are excluded from participating in, mainstream society. The structural barriers that *Sleepers Wake!* was trying to address have largely been removed. The education system now manages to hold a high percentage of students up to and beyond the post-compulsory years of secondary education. The weakness in the logic of the argument revolves around the new ways that people are culturally formed as individuals and the ways that they relate to each other. People are far more active than Jones assumed and do not wait passively to be informed by 'clever' experts. Thus there is a theoretical silence in *Sleepers Wake!* that fails to account for the deeper social shifts that have been developing for a long time and that have now come to prominence. In brief, *Sleepers Wake!* proceeds on the assumption that society is made up of thinkers and doers. The thinkers belong to the upper echelons of educated groups. Their ideas and practical strategies are aimed at directing the behaviours and attitudes of the less educated and less knowledgeable. Thus this argument endorses the theory–practice divide, where theory is understood to be superior to practice. It is to the credit of the writers of 'Teacher knowledge in action' that they do not accept this reasoning and instead register the existence of a different relationship.

In the formula set out in *Sleepers Wake!,* and institutionalised in numerous government policies over the last twenty years, there is an enduring assumption that policy makers, government consultants, powerful bureaucrats and the administrative 'mandarins' of the contemporary university system will shape and control the research system at the centre of the new information economy. After that it is up to lower level operatives, increasingly controlled by outcomes-based performativity measures, who will be expected to deliver on the ideas generated from above. This is a mis-reading of the form of society that we now occupy. The social revolution that Jones was intent on naming, describing and analysing acts like a firestorm within the context of everyday life, breaking in many directions at once and producing a vast array of unintended consequences. Contemporary society produces many complex forms of relationship and, at the same time, a heightened sense of personal autonomy that is not easy to control. It is to the credit of the writers of 'Teacher knowledge in action' that their study at least registers something of the nature of these changed circumstances. Their study clearly demonstrates the complex way that research is produced, generated and experienced within the context of the everyday lives of those who occupy contemporary classrooms. In this final section of the paper I will explore these issues a little further in order to set out some implications of the work that has been documented in this study.

Recently prominent social theorists have written about contemporary social change through the use of alternative and suggestive metaphors. Friedman (1999) has argued that the world of traditional, vertically ordered, social divisions is quickly disappearing. Societies with a clear line of authority from top to bottom are being remade in more 'horizontal' arrangements. In a similar vein, Bauman (2000) has argued that we are witnessing a movement away from societies made up of institutions that are 'heavy' and 'solid' and towards institutions that are 'light', 'liquid' and 'mobile'. Ready access to ideas and information is a central characteristic of the forms of societies that both Friedman and Bauman are describing. Accordingly, the findings of 'Teacher knowledge in action' are consistent with Friedman's and Bauman's theses. The participants of the study had many different forms of information and had developed their personal and professional knowledge from multiple sources. Understood this way, this study can be interpreted as describing, but not fully analysing, a form of identity construction that applies not just to a specialised cohort of professional educators but to each and every one of us who is subject to the influences of the sorts of changes that both Bauman and Friedman describe. At this point I will draw these observations to a conclusion with what I understand to be the major implications of these changes. Here I will refer again to the recent work of Zygmunt Bauman, who argues that 'deutreo', or tertiary, learning is essential for successful participation within a society that is liquid and individualised.

> '[T]ertiary learning' – learning how to break the regularity, how to get free from habit and prevent habitualization, how to re-arrange fragmentary experiences into heretofore unfamiliar patterns while treating all patterns as acceptable solely 'until further notice' – far from being a distortion of the educational process and deviation from its true purpose, acquires a supreme adaptational value and fast becomes central to what is indispensable 'equipment for life'. (Bauman 2001, p. 125)

As a result of these changing conditions universities no longer have a primary mortgage on research-generated knowledge, and have to compete and interact with the media and the information superhighway as ready sources of information in such circumstances. At the level of the individual person, ready access to these varied sources is needed in order to make independent and prudent judgements. According to Bauman (2001, p. 138):

> 'Preparing for life' – that perennial, invariable task of education – must mean first and foremost cultivating the ability to live daily and at peace with uncertainty and ambivalence, with a variety of standpoints and the absence of unerring and trustworthy authorities; must mean instilling tolerance of difference and the will to respect the right to be different; must mean fortifying critical and self-critical faculties and the courage needed to assume responsibility for one's choices and their consequences; must mean training the capacity for 'changing the frames' and for resisting the temptation to escape from freedom, with the anxiety of indecision it brings alongside the joys of the new and the unexplored.

There is little doubt that this is a demanding agenda for contemporary education and will challenge the sensibilities of many traditional educators, administrators and bureaucrats. On the other hand, if my reading of 'Teacher knowledge in action' is correct, we should take heart that there are teachers in our education system with the capacities, skills and motivation that Bauman is arguing for.

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