The Role of the 'Teacher' Coming of Age?

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Contents

Introduction 1

Teaching: Registration and Issues of Professionalism, Standards and Status 5

Teaching: The 'New Pedagogies' and Enhanced Research Underpinnings 11

The Challenges for Teaching 15

Conclusion 31

References 33

The Role of the 'Teacher': Coming of Age?

Introduction

The world of the twenty-first century is characterized by the development of 'knowledge economies' wherein nations' social prosperity and economic viability are premised upon skilled and knowledgeable citizens. It is also characterized by change and uncertainty. A diverse array of educational commentaries and research are therefore concerned with the effects of this uncertainty and the need for types of knowledge and skills to be developed. It is in this context that the role of the teacher and education generally needs to be considered. In what amounts largely to a process of adaptation to these new circumstances, the role of educators will need to be reconceptualized and teacher education will need to broaden its focus (ACDE 2001). The Australian Council of Deans of Education (ACDE) vision recognises education as the key to economic prosperity, social cohesion and the promise of democracy. It also recognises that the major challenge for the teaching profession in the twenty-first century is to prepare young people to live and work in a world characterised by constant change and uncertainty.

Developing teacher education programs that effectively prepare teachers for the knowledge economy and the challenges posed by unparalleled classroom complexity will require a steely determination to devise programs that produce teachers of the highest quality. Thus, this paper advocates a fundamental reconceptualization of teaching and teacher education, a seismic shift in the way education and teaching is commonly understood. To this end, it proposes not a series of segmented and atomised policy initiatives but rather a holistic and fully-integrated approach to reform. In short, the objective is to enhance the professional status of teaching, to transform teaching into a mature profession, one on par with medicine, law, engineering and social work, a modern profession. This is not to suggest that we are now living in a policy vacuum, for there are some important initiatives already underway. Rather, it means we should see them as a point of commencement, the genesis of a wide-ranging reform agenda.

This paper begins with an overview of those initiatives already underway. It considers the national professional standards movement, professional standards that make clear the knowledge and skills necessary for accomplished teaching and which, among other purposes, may help to determine how quality teaching can be identified, acknowledged and rewarded. They should open the way for teachers to be entrusted with greater autonomy to undertake deeper diagnostic and prescriptive work as well as to design educational programs and curriculum according to their own professional judgement. The paper also discusses the

proposition of a code of practice similar to those by which professionals in other fields are guided, a code of ethics that directs teachers when discharging their responsibilities.

The development of national standards has also been underpinned and partly driven by recent educational research which demonstrates that teacher quality is a key determinant of student learning. The paper considers educational research that demonstrates how teacher quality is the single greatest factor in explaining student achievement, more important than classroom-related issues such as resources, curriculum guidelines, and assessment practices, or the broader school environment such as school culture and organisation. These new pedagogical understandings are serving as a guide for developing teaching standards and for decision-making about the sorts of skills with which teachers should be equipped.

As well as discussing current activities, this paper explores some of the challenges that face the teaching profession. It argues that, if left unaddressed, these challenges have the potential to slow the advancement of the profession generally and impair the quality of teaching and learning in schools, in particular. The challenges include ensuring there is an adequate supply of teachers, particularly teachers of certain subjects such as languages other than English, mathematics, science, information technology and physics, as well as enough teachers to service schools in rural areas. A further and related issue is that of remuneration. It is proffered that, because they earn significantly less than other professionals, teachers can be lured to work in other countries where they are paid more generously. Moreover, comparatively low salaries arguably deter the most competent and talented individuals from embarking on a career in teaching. Thus, there is a strong case for an increase in teacher salaries, particularly for teachers once they reach the top end of the salary scale. The paper also draws attention to a specific matter related to the drive for professional standards discussed above. While applauding the move towards standards for the profession, the paper cautions that teachers themselves must have significant input to their design and implementation. Teachers need to have a strong sense of ownership.

A further and undoubtedly more formidable challenge than those described above will be to reconceptualize and reform current methods of initial teacher education. Notwithstanding a few cases of innovative practice, most stakeholders are currently segregated, atomised and operating in isolation of each other. Thus, any reconceptualization of teacher education needs to be underpinned with a commitment to collaboration. Strategies that facilitate communication, the sharing of ideas and enable the movement of personnel between schools and teacher education institutions need to be considered. This paper argues for the development of strong functional relationships between schools and teacher education institutions, particularly in respect of teacher education and the professional experience component of teacher education programs.

The paper also addresses issues regarding a number of other critical areas: the professional development of teachers; educational research; tertiary teaching and the resourcing of the education sector. It argues that professional development needs to be understood in terms much broader than is presently the case; it needs to be considered in terms that befit the status of

teaching as a profession. Like initial teacher education, professional development needs rethinking. It must be ongoing rather than intermittent and serve the individual needs and interests of teachers, sufficiently funded, openly and actively encouraged by employers, systematically structured to open up career pathways and be of the highest possible quality. Educational research is also discussed in the context of the need to ensure that teaching and learning in Australia is of the highest quality. Curriculum development, approaches to the education of teachers and pedagogical methods need to be fortified by educational research. The case is made that research and evidence should be used to consistently reiterate, inform and modify teacher education programs in reflection of the lived experiences of teachers. In line with the collaborative philosophy described above, educational research needs to be collaborative in nature. School-based practitioners and academic educational researchers need to work together.

The paper pays particular attention to teaching in higher education and argues that, if quality of teaching is the key determinant of student learning, there is no reason why tertiary teachers should not be required to undertake some form of teacher education. And, finally, the paper considers the resourcing of preschool, school, TAFE and tertiary education. A particular emphasis is placed on preschool education. It looks at some of the problems peculiar to this sector, arguing that most are the result of inadequate and diminishing public investment.

This paper seeks not to make a series of dogmatic proclamations about the state of the teaching profession in Australian nor to develop a set of policy prescriptions. On the contrary, its principal aim is to make some observations about the teaching profession and raise a number of possibilities for future action. It is intended to develop some ideas about how to enhance teaching as a profession, improve the quality of teaching and learning and give individuals the best possible opportunity to reach their full potential and grow into confident, socially productive citizens. In a world increasingly characterised by change, instability and uncertainty the role of educators has never been more vital.

Teaching: Registration and Issues of Professionalism, Standards and Status

A principal means of preparing teachers for the twenty-first century is already underway in Australia; the registration of teachers, a move as symbolic as it is expedient. Naturally, there are expediencies to do with proper qualifications, accreditation of training programs, probity checks, and the like. However, beyond these, the shift towards registration has come with such force and determination that it seems to have taken on symbolic power beyond itself. It may well be indicative of a moment in the evolution of the role of 'teacher' in our society. The Federal Senate Report (1998), *A Class Act*, said of it:

> *Registration serves an important purpose as gatekeeper for entry into employment in schools, and registration standards are a vital consideration. Without standards, a professional body is defenceless. A demonstrated ability to articulate standards for high quality practice is an essential credential if a professional body wishes to be taken seriously by the public and policy makers (Senate 1998, ch 2. 16).*

Hence, registration comes to be seen as a natural consequence of the acceptance of teaching as a profession. So, what is this professional status, and which guiding standards might possess genuine capacity both to martial the energies of teachers and convince a sceptical public that teaching truly is a profession, in at least some important senses? In turn, how do these perceptions assist us in addressing the issues which surround teachers and teaching in our time?

Establishing the appropriate means of professionalising the field of teaching has dominated the minds of the education policy community and education academics over the last decade (Boston 2002). In this sense, identifying the characteristics of professionalism is essential to the task of setting standards. Again, the views put by the 1998 Senate Report might be helpful to guide our thoughts. It describes the characteristics of professionalism as including:

(i) a strong motivation or calling

In the many statements through to treatises which have tried to capture the essential nature of the teacher role, few have not acknowledged the vital *sine qua non* of commitment, both to the business of learning and to its subjects, the students or pupils. The much-heralded National Board of Professional Teaching Standards (NBPTS 1999) from the United States has, as its first of five essential propositions of Accomplished Teaching, that "Teachers are committed to students and their learning." It goes on to say:

> *Accomplished teachers … treat students equitably. … They .. adjust their practice based on observation and knowledge of their students' interests, abilities, skills, knowledge, family circumstances and peer relationships. … they foster students' self-esteem, motivation, character, civic responsibility and their respect for individual, cultural, religious and racial differences (NBPTS 1999, 3-4)*

(ii) possession of a specialized body of knowledge and skills acquired during a long period of education and training

In terms of a specialized body of knowledge, both history and research have a role to play in developing and refining that knowledge. The role of educational research in this process is discussed in detail later in the paper, while the history and development of teaching, and teacher education is revised here. In the history that stands behind the 'teacher' in modern idiom, there is an element that speaks of 'high knowledge', as well as 'special powers of communication'. In ancient Aboriginal folklore, the 'elder' held knowledge of the secrets of the dreamtime, while in ancient Hinduism, the 'guru' had knowledge of the wheel of life. In ancient Confucianism, the 'instructor' possessed knowledge of the all-important practical wisdom, and in ancient Greek civilization, according to Plato, the 'philosopher king' (the practical philosopher and teacher of the day) was the one who should know and be able to communicate the knowledge of the gods. In early Christendom, the bishop was deemed to be the 'first teacher among teachers', whose credentials rested on the clarity with which he could communicate his knowledge of the truth contained within the Scriptures. The high status, recognition and power of the bishop was tied to this essential knowledge and the capacity to teach it to others. With the politicisation of the bishop's role in the fourth century, the mantle of teaching passed in all but a formal sense to the religious orders, and the monasteries of Europe effectively became its first schools and universities. It was among people such as Roger Bacon, the Franciscan friar, and Thomas Aquinas, The Dominican Monk, that modern science first prospered in the West.

In all of this potted history, the common feature of teaching was that it was not in any real sense directed to a universal audience, but rather to a more selective, 'children of the establishment' audience. Truly comprehensive education, in which the teacher's role was to communicate the important store of knowledge to everyone in a given population, is a recent phenomenon, being only about a century and a half old. In Australia, the beginnings of this phenomenon date to the mid-1800s, and were only formalized with the various public instruction acts of the 1870s and 1880s. By this move to universalize education, the traditional role of teacher was naturally challenged. For a start, what had been an exclusive role for a chosen few became increasingly a role which society needed to convince many to undertake. Establishing recognition of specialized knowledge while communicating with a far wider audience, as well as maintaining the same status in this wider setting that had come more easily in the select setting, were just a couple of the features of the challenge.

From the earliest days of public education, the need for a formal training period was recognized as essential if the credibility of the modern teacher was to match the tradition from which it had grown. After all, even in the ancient and medieval periods, the roles of elders, gurus, instructors, philosopher kings, bishops and monks were all associated with stringent pre-service training and it was this mandatory rite of passage that contributed vitally to the status enjoyed by those who fulfilled these roles. From the time that the State first became involved in education in Australia, a form of pre-service training became the normal expectation. While at first this was in the form of an apprenticeship, by the time of the first instruction act, a 'training school' component had been added. With a mandatory requirement of something

between 3 to 6 months, this formal training period paled in comparison with the equivalent in both medicine and engineering, both of which, by then, were minimally four year university courses. In the early twentieth century, the first designated teachers colleges were established and, by the 1960s, these were providing, typically, post-school pre-service courses for primary teaching (2 years) and post-graduate courses for secondary teaching (1 year).

The Martin Report on Higher Education (1965) represented a watershed in higher education generally. Among its many important predictions and recommendations was one dedicated to teacher education and the profession of teaching in general. Noting that the status of teaching, like its training arm, was lagging well behind that of its professional counterparts in medicine, law, engineering, etc., Martin recommended that, among the many challenges for higher education in providing for appropriate professional education, it should include "*…provision of the best possible facilities for the training of teachers.*"

While clearly it was Martin's first choice that this provision be offered by a re-vamped and bold new university system, the resistance to his vision, combined with resignation to its realities, left the system divided, with the so-called 'colleges of advanced education' (CAEs) picking up the mantle for teacher education. While this still left teacher education largely associated with the poor relation of the binary system, nonetheless, the CAEs became degree-granting and, by the late 1980s, most new teachers were receiving four-year, degree-endowed, pre-service training. As the distinction blurred increasingly between the universities and the CAEs, it became more common to find teacher education of all forms being offered within the university system and, with the final amalgamation of the two sides of the sector into one 'unified national system' in 1989, teacher education was finally where medicine and engineering had begun 100 years or so before, and where Martin had clearly wished it to be, namely, as a fully-fledged part of the course profile of the university system.

(iii) control of standards, admission, career paths and disciplinary issues

The combined ACE, ACSA & AARE National Discussion Paper (2000) titled, *Standards of Professional Practice for Accomplished Teaching in Australian Classrooms,* begins with Ingvarson's 1998 challenge:

> *the (teaching) profession has yet to build its own infrastructure for defining high quality teaching standards, promoting development towards those standards and providing recognition for those who reach them; in other words, teaching has yet to build a professional development system based on profession-defined teaching standards (Ingvarson 1998, 3 cited in ACE 2000).*

If the above represents accurately the state of play in 1998, it was not for want of trying to rectify the situation, both in the preceding and subsequent years. Beyond the combined paper noted above, there have been Standards papers released, internationally, by the OECD (1994), the USA National Board of Professional Teaching Standards (1999) and the Ontario College of Teachers (1999), and, nationally, by the NSW Ministerial Advisory Committee on the Quality

of Teaching (1997), the Australian Council of Deans of Education (1998), the NSW Department of Education and Training (1998), and the Australian Science Teachers Association (2000), to name but a few.

Among these papers, lies a predictable consistency in the issues raised and the attempted categories and definitions. The combined ACE/ACSA/AARE paper attempts to pull the strands together with the fundamental question: *What constitutes accomplished teaching?* and, in light of the answer, which standards precisely would most adequately define and protect the essential character of teaching? It also attempts to advocate for the need for standards by addressing explicitly the link between standards and the notion of 'profession' as commonly understood, by clarifying just why it is that the teaching profession requires explicit standards, and by identifying the benefits to be derived for all stakeholders, teachers and prospective teachers, systems, students, teacher educators and the community. The paper is at pains to ensure that the premises and principles around which these standards might be based include: 'ownership' of such standards by the profession as a whole; the avowed belief that accomplished teachers make a difference; firm grounding in an accurate and comprehensive understanding of the complex nature of teachers' work; conformity with the reality that teaching incorporates a career-long continuum; and, sufficient flexibility to allow for celebration of individuality.

Concern with standards leads naturally to thoughts of regulation, both of entry and career development. It is not surprising, therefore, to find an increasing tendency for teaching legislatures to establish bodies which have as their prime duty the guardianship of entry to the profession and career development within it. In Australia, the forebear of these was the Queensland Board of Teacher Registration. Its duties include the provision of accreditation for teacher education courses and the setting up and quality assurance of processes for individual teacher registration. In Victoria, an Institute for Teaching has recently been established, with similar duties, and, in NSW, an Interim Committee has been established with the brief to advise the Minister on the setting up of its own Institute for Teachers, such as recommended by the Ramsey Review of Teacher Education (2000).

(iv) autonomy in organizing and carrying out their work and the need for the ongoing exercise of professional judgment

The Tasmanian Report, *The School in Society* (1968), heralded a new era for teacher professionalism in Australia, one suited to the new and more formidable forms of teacher training which were beginning to become common. The report suggested, in so many words, that the teacher should be more than a mere classroom mechanic, taking set curricula and interpreting them for students. It directed thought towards the notion of the teacher as local diagnostician, curriculum designer and developer, decision-maker about public teaching and learning. In effect, it placed the teacher profession closer to, if not alongside, other professions, like medicine, dentistry, engineering and law. Professionals in these fields are trained not merely to accept set prescriptions from on high, but to analyze needs relevant to their own domain and to provide solutions of their own. Naturally, each of these professions is

attached to a tradition, a history, which helps to guide the actions of individuals, as well as having a professional body (the Medical Association, the Law Society, etc.) which also helps to set directions. Nonetheless, society expects a doctor to be able to diagnose and prescribe independently of these agencies, and the same goes for the lawyer, the dentist and the engineer.

So, it can be argued, it should be for the teacher. The teacher should be regarded as, first and foremost, a teaching and learning specialist who possesses skills of diagnosis and remedy prescription in relation to problems in the field. The fact that most teachers are on government payrolls, and tend towards collaborative work through government institutions, is no more pertinent to the argument than the same fact being applied to doctors in hospitals. The fact that a doctor is on government hospital payroll in no way lessens the rightful expectations that she or he possesses autonomous diagnostic and prescriptive skills.

Gradually, all States responded in one fashion or another to the new Tasmanian direction, and teachers quickly became more confident and competent in their capacity for curriculum design and development, as evidenced in the growth industry in school-based curriculum across the State systems, especially in the 1970s through to the late 1980s, and reaching a zenith with Whitlam's establishment of the original Curriculum Development Centre, created explicitly to foster 'situation-based curriculum development' across the country. It might well be argued that some of the developments of the past decade, including moves towards greater centralization of curriculum, have actually disempowered teachers in this regard. Such moves tend to create the impression that teachers cannot be entrusted with real curriculum decision-making power. This is no doubt one of the challenges for teachers and systems, especially as modern pedagogical research makes it so plain that the essential difference in student achievement or non-achievement revolves around the personal qualities and capacities of the individual teacher, far more than around the correctness of curriculum or the precisions to be found in the school structure (Newmann and associates 1996).

(v) members accept and apply a professional code of practice

The theme taken up each year in the annual Yearbook of the Australian College of Educators gives some indication of at least one of the burning issues facing the profession. In 2002, the theme was values in education (Pascoe 2002), covering a range of topics from values education, to the issue of standards and including more than occasional reference to the need for a professional code of practice. In an age of increasing professionalization, it has become common for specialist areas of public service to develop codes of practice by which professionals in a particular field should offer their service. The need for this has increased with the growth of individual-oriented rights legislation in most Western legislatures. These have rendered professionals in service of the public far more liable to civil and legal action if their service is not conducted properly. Codes of practice, and the entire phenomenon of a professional ethics, are therefore protective of the profession as well as offering guidelines for practical action. The best example we have of a fully developed code of practice based on classical ethical principles is that of biomedical ethics. Within biomedical ethics, four age-old

ethical principles have come to be definitive. These are *Autonomy, Justice, Non-maleficence and Beneficence* (Mitchell, Kerridge and Lovat 1996). When these four principles are applied to practices within the medical profession, they are seen to guide proper conduct and action for the profession. It seems a reasonable line of argument to suggest that these principles may also serve to guide the practice of teachers.

Autonomy is a principle that assumes that the individual is responsible for his or her own life. Just as cultural shifts in thinking have elevated the importance of the autonomy of the patient in medical practice, so there are shifts that recognize more keenly the rights of the clients of education, pupils, parents and the community in general. Concerning justice, the Aristotelian notion of 'justice as fairness' establishes that the just person is one who treats all persons as equal. Within the context of education, 'justice as fairness' ushers in the notion of 'due care' to ensure that all students are treated equally, that is, that education be available to all, irrespective of wealth, power, status, religion or other social incidental.

Non-maleficence establishes a duty not to harm or injure others in the conduct of one's profession. Within the Hippocratic medical tradition, the dictum, *primum non nocere* ("above all, do no harm") is regarded as the virtual corner-piece of ethical guidance for the medical practitioner. If Hippocrates' great interest had been education rather than medicine, he might well have uttered the same caution. Though the care rendered by teachers is of a different kind, it has the same capacity to build up or tear down. In bio-medical ethics, beneficent action is considered to be a mandatory minimum in terms of professional duty. Similarly, when applied to teaching, it should be considered as part of one's duty that all efforts be made to advance the good and well-being of the students in one's care.

Consideration of a more highly developed professional ethics for teachers can only assist in the overall growth and enhancement of the profession. The more explicit the endorsement, the greater the signal of a new maturity for the profession, one that will bring it into line with other high status professions, both in terms of its inner practice and in terms of its responsiveness to new ethico-legal parameters in public service. It also denotes the kind of ethical base that should be in place if any effective education for values is to proceed. Ethical training, more than most training, requires consistency of theory and practice, ideas and action. An effective teacher of values should be one who operates out of a profession with an explicit set of values attached and practised.

Teaching: The 'New Pedagogies' and Enhanced Research Underpinnings

The development of national standards and other related measures designed to professionalise teaching have also been underpinned, and partly driven, by recent educational research which demonstrates that teacher quality is a key determinant of student learning. There is an abundance of research which affirms that teacher quality plays a greater role in explaining student achievement than other factors associated with teaching including, classroom environmental factors such as resources, curriculum guidelines, and assessment practices, or the broader school environment such as school culture and organisation.

Much of the twentieth century world of social science research impacted on conceptions of teaching (Lovat & Smith 2003). Not least was the work of developmental and learning theories which illustrated well the complexities of learning and just what a highly crafted activity effective teaching was. Similarly, growing understandings of societies helped the educational world to understand the social impact of schooling and increased the sense of complexity in teaching in the modern school. These theories both confounded any conception of teaching as a simple craft and, at the same time, through the complexities of human development which were identified and the clearly implied difficulty of dealing with these effectively, began to develop in the minds of the profession the conception of teaching as an art and a science of some fortitude. It was the art and the science which emanated from such theories that first began to provide a true theory base for the work of the profession.

The effect was to strengthen the view that teaching was not an incidental craft to follow naturally from mastery of subject content, but a highly complex blend of theoretical understanding and practical skill. The result was to fortify the notion of teacher as a highly developed autonomous professional, with a requisite professional knowledge base and practitioner skills which could stand alongside the equivalent in medicine, law and engineering. Such conceptions of teaching were perhaps expressed first in Australia by the Tasmanian report referred to above. *The School in Society* (1968) outlined effectively the autonomous diagnostic and therapeutic skills of teaching in a way that compared them with those of other professions of significance. It was probably not incidental that it was in the wake of explicit conceptions of teaching of this sort that teacher salaries rose substantially and teacher education programs moved from patterns of one and two years of training to three and four years as the norm.

In keeping with this enhanced understanding of the profession, and a desire to equip students with knowledge and skills appropriate for a knowledge-based, services-intensive economy, there has been a spate of reviews and reports in the past quarter century about how best to train teachers towards proficiency in this complex trade. Beginning with Auchmuty (1980) and Correy (1980) and peaking in recent years with ACDE (1998), Ramsey (2000), and, even as we speak, Kwong (2002-3) and Vinson (2002), each has struggled, and/or will struggle, with the complexity of the teaching task and with identifying optimal ways in which teacher education might prepare for this task. ACDE provided arguably the most comprehensive statement of the

breadth of the challenges before the teacher, and therefore of the standards and guidelines which should determine the shape and form of teacher education, with a particularly challenging notion of '*pedagogical content knowledge*' as denoting one important component of the distinctive knowledge base of teaching.

Pedagogical content knowledge was expounded by Lee Shulman (1987) who defined the concept as 'that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding' (1987, 8). As Shulman outlines, it is essentially an attempt to conjoin the strands of effective teaching, namely, mastery of a body of content and mastery of effective pedagogy. It suggests that effective teaching can emanate neither from sheer knowledge of a subject nor from sheer teaching craft. Moreover, the concept dispels two of the unhelpful myths that have plagued the teaching profession's development: first, that good teaching follows naturally from subject mastery; and, second, that a good teacher can teach anything at all. *Pedagogical content knowledge* asserts that knowing what and knowing how are inseparable in the business of effective teaching. The notion is echoed in the USA National Board of Professional Teaching Standards (1999) report, cited above. One of the five propositions of Accomplished Teaching is that "Teachers know their subjects and how to teach those subjects to students". In the words that elaborate this proposition, it is said:

> *Accomplished teachers have a rich understanding of the subjects they teach and appreciate how knowledge in their subject is created , organized, linked to other disciplines and applied to real-world settings. While faithfully representing the collective wisdom of our culture and upholding the value of disciplinary knowledge, they also develop the critical and analytical capacities of their students.*
>
> *Accomplished teachers command specialized knowledge of how to convey and reveal subject matter to students. They have a '<u>pedagogical content knowledge</u>' command of a wide repertoire of teaching strategies that enable them to organize, adapt, and present the curriculum in ways that take due account of the specific contexts within which they teach and their students learn. They are aware of the preconceptions and background knowledge that students typically bring to each subject and of strategies and instructional materials that can be of assistance. They understand where difficulties are likely to arise and modify their practice accordingly. Their instructional repertoire allows them to create multiple paths to the subjects they teach, and they are adept at teaching students how to pose and solve their own problems. (NBPTS 1999, 3-4)*

The earlier social science research, especially of educational psychology and sociology of education, provided important insights about the contexts of teaching. With the notion of *pedagogical content knowledge*, as defined by ACDE and the NBPTS, however, we come to see that the scope of educational research has broadened to deal with the very nature of teaching itself. This is not just educational research but more properly termed 'teaching research', and it is to be found most sharply in what is broadly referred to as the 'new pedagogies research' of the past decade or so. With this research, the theory base of teaching

has undergone arguably its most elaborate period of development with extensive longitudinal work on the effects of teachers and teaching on student achievement and success. In many ways, this research represents the synthesis of earlier psychosocial and sociocultural work, with a particularly penetrating focus on the notion of pedagogy, both in terms of principle and practice. Each has attempted to identify just what it is about the art and science of teaching that makes a difference in the intellectual and social development of students.

Newmann and associates' (1996) work developed the concept of 'authentic pedagogy', Darling Hammond's (1997) work the notion of 'quality pedagogy' and Education Queensland's School Reform Longitudinal Study (QSRLS 1999) the notion of 'productive pedagogies', all in their own way identifying the essential blend of knowledge and skills required for effective teaching. In each case, the focus has been on the distinctive knowledge base of teaching and, in each case, the acid test has been about demonstrated student achievement as a result of this knowledge base being implemented effectively. In the Productive Pedagogies schema, for instance, the essential conjunction of content and pedagogical mastery clearly underpins the four dimensions which guide the process, namely 'Intellectual Quality', 'Relevance', 'Supportive Classroom Environment', and 'Recognition of Difference'. Just as clearly, and as importantly, the dimensions can be seen to be built largely on the research understandings, old and new, which have been gained over 100 years of educational research. The important and distinctive contribution of this new pedagogical research, however, is in the demonstrated truth that student achievement can only be enhanced when the nature of the pedagogy required is targeted with precision and implemented with rigour, and with assessment for outcomes that is in tune with the entire process. Structural reform of learning contexts (including presumably in teacher education) achieves little or nothing if not accompanied by this 'pedagogical reform'.

In NSW, the Quality Teacher Program (2000) submission, titled *Pedagogy for the Future*, outlines contextual challenges which face schools and teachers today, identifies 'new' and 'effective' pedagogies designed to meet these challenges, and specifies implications for teacher education. Reflecting reliance on the 50 years of educational research referred to above, including the more recent spate of work on pedagogy and its effects, the two key implications for teacher education are spelled out as: (1) the quality of student learning outcomes is directly dependent on the quality of the teacher; and (2) the essential components of effective teaching are command of subject, and knowledge of and capacity to implement effective pedagogical practices. The submission identifies as part of its new and effective pedagogies those which could only result from universities and schools working together on pedagogic issues in schools. The theme of the research and applied dimensions of the profession working more closely together, including in the business of teacher education, is implied in all of the projects which focus on the new pedagogy.

Many of these ideas about the primary impact of the teacher would seem to reflect some of the earlier thinking from the 1960s and 1970s, noted above, about teacher autonomy and teacher professionalism. These are the very ideas which have been arguably under some challenge in the era of the 1980s and 1990s which has interpreted competencies and outcomes as requiring a high degree of standardization and so system, rather than teacher, control (Finn 1991;

Carmichael 1992; Mayer 1992). The emerging concept of teacher professionalism is different, however, from that of the earlier era, and ironically the difference is largely because of the expanded sense of competencies and outcomes that has developed as a result of the trailing of the past decade or so. From this trialling, it has become increasingly recognized that a purely technical and/or vocational approach to competencies and outcomes is limited. The competencies that an individual requires for a full and meaningful life are many and varied, some at the technical end of the knowing spectrum, with some at the other extreme, or more aesthetic end, and with the vast majority in the communicative, or human relations, centre. This fits well with research about learning and ways of knowing that have characterized much epistemic and learning research of the past few decades (cf. Habermas 1972; Biggs and Collis 1982).

Ideas about effective curriculum practice must fit with our expanding understanding of the complexities of knowing and learning, and the multiple contexts in which current students will ultimately have to function. Among the features identified as crucial to teaching which is aimed at understanding is the integration of higher order thinking skills. These are developed during the teaching of content knowledge in contexts that encourage students to align what they are learning with real-life experience by thinking critically or engaging in problem-solving (Brophy 1998). Within this, there is a recognition both of the reality of a range of thinking and knowing (and therefore learning) dimensions and of the many different personal and social realities in which these dimensions will become meaningful. The new NSW Higher School Certificate has been constructed with very explicit recognition of these same realities and, especially in its new mode of criterion referenced assessment, will be gearing its curriculum around this recognition. In a word, new pedagogical research has likely done more than anything before it both to underpin the vast complexity of teachers' work and to specify just what the nature of that work truly is.

The Challenges for Teaching

The registration of teachers, the development of national standards, professional autonomy and a code of conduct are but some of the measures that can be taken to prepare teachers to carry out complex and vital work requiring a diverse range of skills and knowledge in the twenty-first century. These standards will constitute the benchmark by which teachers are prepared for the profession and help to ensure they have the high level of teaching expertise that is necessary to imbue pupils with the skills and capabilities they need to prosper in the knowledge economy. However, while the work on standards over the last decade has served a vital purpose delineating what teachers should know and have the capacity to do, there is work still to be done. There are challenges confronting the profession that can only be met successfully if education policy-makers, teacher education institutions, schools and parents, are prepared to innovate and think boldly, with creativity and imagination. Given their magnitude, nothing short of a total reconceptualization of teaching and education will suffice. These problems will not be resolved by recourse to tinkering at the edges or minimalist refinements of current approaches. Furthermore, while many of the problems facing the profession will require a preparedness to develop entirely new strategies and ways of doing things, there will also need to be, in many cases, an increase in public funding for education.

Supply

It was ACDE, through a succession of analytic reports by Barbara Preston (2000), which first brought the issue of supply (and demand) before a seemingly unaware public, including government. Many of the projections made in the mid-to-late 1990s that supply would dry up in differently configured ways across states and territories, as well as teaching specializations, and particularly in specific subjects such as languages other than English, maths, science, information technology and physics (Bradley 2003; Dunn 2003; Guy 2003). Many of these projections have come to be realized, and now there is a broad acknowledgment of the problem. As this paper goes to press, MCEETYA, the supreme body which brings all state and territory Education Ministers together with their federal counterpart (and funding agent), is discussing mechanisms by which the federal funding arm might more strategically target the teacher supply needs of the states and territories. At the centre of this issue lies the universities of Australia and their relative commitment to teacher education. It is widely estimated that there is only a portion of the places available for teacher education that were present in the total binary system of the 1980s. The NSW MACQT report (1999) on the impact of commonwealth policy on teacher education estimated the figure at about two thirds, and this may be one of the better figures around the country.

With the unified national system came a more competitive drive, for perceived status in some instances and better funding in others, that drove many universities to turn their backs on teacher education in favour of other areas. While the status of teacher education is now much higher, in the early 1990s, it was seen often to be associated with the former college system rather than having the more explicit connection with the university culture of medicine, law,

engineering, etc. For some institutions, this alone was sufficient for the drive away from teacher education. Even where this was not a factor, most universities have struggled one way or another to maintain teacher education because of the shrinkage of federal funding, at one end, and the inordinate cost, especially of practicum, at the other end. With regard to this latter, a national award dictates that teachers be paid for supervision of student teachers on practicum. Even without the shrinkage of funding, this always made teacher education more expensive than most other areas in the university profile, this being especially the case because of the relatively low level of funding determined by the so-called DEET weights developed in the 1980s. However, with the value of federal funding failing to keep up with escalating costs throughout the 1990s, and then with the deliberate withdrawal of 6% of overall higher education funding from 1996 to 1999, the cost of teacher education is barely able to be sustained and will reach crisis proportions over the next few years without some further injection of funding. This is likely to exacerbate the problems of teacher supply, especially as our already inadequate supply is seen as a prime target by USA, UK and Hong Kong recruiting agencies. This 'poaching' of Australian teachers, highly regarded as they are by foreign authorities, can only increase as the international supply of teachers dries up.

Payment

Increasing funding for teacher education programs to ease the financial burden on education faculties, particularly the enormous cost of practicum, is one way of increasing the supply of teachers. However, granted the demonstrated shortage of available supply into the complex and highly skilled profession identified above, there is a real problem with remuneration levels in Australia. Of all of the attractions for new teachers to succumb to the wiles of international recruiting agencies, remuneration is the most attractive. As *New Learning: A Charter for Australian Education* outlined, Australian teachers and academics earn significantly less than professionals who require similar levels of training, such as doctors and lawyers, yet their work is just as professionally challenging, and equally important in social and economic terms. If education is to perform effectively the tasks which it is assigned in the 'knowledge economy', teachers need to be paid much higher salaries and at levels of parity with other professions (ACDE 2001, 112).

Overseas comparisons are also instructive. In the USA, UK and Hong Kong, a first year Australian teacher can receive the salary that would eventually come after 8 to 10 years of teaching in this country. Together with incentives associated with rental assistance and other conditions, this has seen thousands of vitally needed teachers, especially in some of our neediest subject areas, committing at least the first 5 or 6 years of their career to a foreign teaching authority. While their experience will likely recoil to the Australian system at some stage, this trend will most likely exacerbate the current shortage of adequate supply.

If starting salaries are a problem, salaries in the incremental years and especially beyond the top of the scale are more so. Within the Australian context, first year salaries are reasonably competitive with those of other professions like medicine, law and engineering. Within a few short years, these latter salaries pull away at a great rate and, beyond the normal 8 to 10 years of an incremental scale for teachers, other professions' salaries multiply at a rate teachers could

only dream about. This leaves the teacher ten years out, often in only the early 30s, in what can seem like a 'dead end', with only the possibility of an administrative post to turn to. In Australia, a large portion of the teachers who started at the beginning of the scale have left the profession by the time or soon after they reach this point. This, again, is a major factor in the current shortage of supply.

In contrast to the above scenario, in Pennsylvania, teachers beyond the top of the normal scale can move to new salary levels by undertaking a range of professional development options, including further university training. A relevant Masters attainment, for instance, can be worth an extra $15,000 and a doctorate that much again. The result is that a teacher who never leaves the classroom for administration can elevate salary by approximately 60%, so enhancing their personal wealth, lifestyle and early retirement options. In a country that has the worst teacher shortage in history, there are no shortages in Pennsylvania.

Standards

While there is a clear move towards the establishment of standards as a means of fortifying the profession, and a fairly uniform view among professional associations, unions and bureaucrats that this is a positive move, there remain a number of issues that need attention. Prime among these is the issue of ownership by the profession. Within teachers' busy lives, preoccupied by the immediate demands of school life, a campaign for standards can seem fairly remote from their needs. Unless teachers themselves develop a sense of the importance of standards, and indeed come to play an active part in their development, even the best enunciated standards will fail to play any real part in the life of the profession. They will come to be regarded as the rules of a foreign order. Worse still, if these rules come to be seen as exclusively geared towards a disciplining of the profession, they will be rejected and undermined, and so achieve nothing of lasting value to the profession.

In this light, the statement by the Australian College of Educators (2001), formed from a National Summit on Teacher Standards, Quality and Professionalism in 2001, has as its first three tenets that any future work on standards, etc., must:

- be owned and driven by the teaching profession in partnership with key stakeholders;
- be in the interests of the teaching profession as well as the public interest; and,
- be firmly grounded in an accurate and comprehensive understanding of the nature of teachers' work.

In further clarification of the precise nature of, intent behind, and positive profession-orientation of these standards, the statement continues to spell out that they must:

- affirm the status and integrity of teacher qualifications;
- be transparent and accessible to the profession and the wider community;
- be implemented with a view to strengthening the public perception of and regard for teachers and their work;
- promote teaching as a desirable career thus contributing to recruitment;

- focus on high level competencies and be described in terms of professional knowledge, understanding, skills and values; and,
- reflect a continuum of teacher development from pre-service education through to educational leadership, allowing for different points of entry and re-entry.

Developing links between schools and teacher education institutions

Apart from a few isolated cases, strong functional relationships between schools and teacher education institutions are not commonplace in Australia (Bobis 1998). Indeed, developing such partnerships may be difficult for a number of reasons; for example, cultures of collaboration in schools are rare (Hargreaves 1992, 1994) and the differing workplace contexts of schools and universities can make establishing and sustaining fruitful partnerships challenging (Gore and Morrison 2000). It is probably fair to say that, apart from professional experience agreements and informal arrangements whereby schools and teacher education institutions cooperate for recruitment purposes, they really exist in isolation of one another. A debilitating symptom of this is that student teachers do not spend sufficient time in schools, and are therefore unprepared for the rigours of real-world teaching. Despite numerous submissions to the Ramsey Review of Teacher Education in NSW underscoring the vital importance of the professional experience component of teacher education programs, the majority of submissions lamented that beginning teachers were taking up their positions ill-prepared for actual classroom teaching. They were unaware of how to apply their academic studies in classroom settings in order to achieve effective student learning and unfamiliar with the operation of school and classroom cultures (Ramsey 2000, 61). While the Review suggested that 'the present practicum model is no longer appropriate' (2000, 60), it also pointed out that a large body of research and literature about practicum demonstrates:

- the importance which teacher education lecturers and student teachers consistently attach to the practicum;
- the desirability of maximising the amount of time students engage in the practicum;
- the importance of an effective and close partnership between the university and the school; and,
- the importance of the 'whole school' context of the practicum (2000, 61).

Hence, central to the Review's recommendations was the need to maximise the duration of the student teacher's professional experience and the development of strong, collaborative and practical relationships between schools and universities. It argued that 'universities and schools must build a relationship of shared responsibility for professional experience' (2000, 63). Models of teacher education should be developed jointly between schools and universities which place professional experience at the centre:

> *To achieve improved links between schools and universities, teacher preparation must be characterised more strongly by the centrality of professional experience. To do so, the universities and employers will have to develop new structures of teacher education in which university teacher educators are able to engage with schools and the work of the teaching profession, just as much as schools and teachers are able to engage*

> *teaching as a profession, giving teacher education the highest priority in their strategic planning, funding and reporting. Models of teacher education are needed in which accredited practicing teachers are able to exercise responsibility for the professional growth of aspiring and new teachers. Teacher education in New South Wales must be reconnected with schools and other educational settings (Ramsey 2000, 38)*

Establishing strong functional relationships between universities and schools is also central to a recently initiated project by the United States-based Carnegie Corporation (2002). *Teachers for a New Era* aims to establish exemplary teacher education programs at a number of colleges and universities. Along with other funders, the Carnegie Corporation wants teacher education institutions to implement innovative and experimental teacher education programs that require significant change in allocation of resources, academic organization, internal accountability and the development of relationships with practicing schools (Carnegie Corporation 2002, Summary). According to the chair of the Corporation's Education Division and architect of the new initiative, 'Education should be understood as an academically taught clinical practice profession, requiring close cooperation between colleges of education and actual practicing schools' (cited in deCoursy Hinds 2002, 3).

Central to the Carnegie initiative is the view that teacher educators and their students should engage directly with schools more often. Although recognising that a significant proportion of the education of teachers should take place in traditional academic settings, a good deal should also occur in schools so teacher educators, practicing teachers, students, parents, school administrators and communities can interact with each other. The establishment of close functional relationships between faculties of education and schools constitutes a central dimension of the project, relationships which could be actualised by developing residency and internship programs for student teachers like those undertaken by medical graduates. Under such an arrangement beginning teachers in their first and second years would be provided with a range of supports, including regular contact with faculty academics in relevant teaching methods as well as in pedagogy. The Carnegie initiative raises some interesting possibilities for teacher education in Australia since innovative teacher education programs here are somewhat rare. This is not to deny, however, new and exciting ventures such as the *Knowledge Building Communities* project initiated by Wollongong University and the *Newstart in Teacher Education* program at the University of Newcastle (Ballantyne, Blaine and Preston, forthcoming, cited in DEST 2003). An endeavour to build an alternative model of pre-service teacher education, the projects call for greater integration of the practical field-based component of the teacher education program with the theoretical, as well as much stronger partnerships between the universities, schools, government and teachers' union.

Strong functional relationships between schools and faculties of education should also be reflected in reciprocal personnel flows, whereby experienced school teachers are appointed to faculty positions. Perhaps as adjunct professors or academics of one kind or another, they could serve as coaches and mentors for their graduates and inject valuable school-based knowledge, experience and skills into teacher education programs. *Teachers for a New Era* advocates such initiatives. It urges that participating education colleges recognise 'experienced

teachers as faculty colleagues along with teacher educators in higher education' (Carnegie Corporation 2002, Prospectus). The same arrangement could also take place in reverse, whereby education academics are seconded to work inside schools, alongside teachers during the initial years of their first school appointment, perhaps as part of a residency/internship program. Indeed, the Ramsey Review (2000) made a similar recommendation that 'universities and other potential providers of teacher education expand significantly the number of conjoint appointments' (2000, 64).

A residency/internship approach could also help to resolve some of the problems surrounding the induction of beginning teachers. An extensive body of national research and literature shows that teacher induction programs are inadequate. These problems have been considered by recent government education reviews, including the Victorian Department of Education and Training (DEET 2000), the more recent Vinson (2002) inquiry into education in New South Wales and the Ramsey Review. All three highlighted problems with the extent of professional experience and the lack of quality induction programs. This, of course, is not to deny that there exist many high quality and effective induction programs, but rather, that these occur in a sporadic and piecemeal fashion and that some continue to be inadequate in terms of support and mentoring. Nonetheless, it is widely acknowledged, in both Australia (McCormack and Thomas 2001) and overseas (Danielson 1999; Gitomer 1999; Lohr 1999; Tetzlaff and Wagstaff 1999), that beginning teachers' initial experience is one of isolation, of being 'thrown in at the deep end', and rarely with satisfactory advice, mentoring or supervision to help them cope with the demanding first appointment. It has also been suggested that inadequate induction also contributes to high attrition rates in the profession (see McCormack and Thomas 2001). Based on evidence gathered by the Review team, Ramsey (2000) recommended a greater effort to ensure teachers are properly inducted into schools; that the great proportion of responsibility for induction programs be shouldered by employers; and, that aspects of induction which employers appear to believe take place in initial teacher education programs should take place in induction programs (2000, 64). It is actually conceivable that, if a central element of pre-service teacher education programs comprised a residency/internship element, of which a main purpose was to provide student-teachers with extended first-hand experience of working in schools, the need for formal mentoring programs would be diminished and, perhaps in some cases, not be necessary at all.

Professional Development

Ongoing professional development is central to quality teaching and learning and enables teachers to keep abreast of developments in a world of rapid change and instability (Guskey 1995; Hawley and Valli 1999). If teachers have neither the necessary subject knowledge or appropriate skills to impart that knowledge then students themselves will be ill-equipped to negotiate their way in the world and reach their full potential. In addition to maintaining currency of knowledge, professional development is a means for educational professionals to access the expertise of peers and to share resources (Elmore and Burney 1999).

In the knowledge economy teacher education will need to be an ongoing process. Just as students will need to continue learning long after they have left school (BHERT 2001; OECD

1996), teachers will also need to upgrade their skills and subject knowledge throughout their careers Professional development for teachers, like the continuous learning in which persons employed in other professions and vocations are engaged, needs to be understood in the context of lifelong learning. The profession, through a collaborative effort involving employers, unions, teachers and universities, needs to be instilled with a culture and acceptance of the intrinsic value of ongoing teacher education, of lifelong learning and continuous innovation (General Teaching Council for England 2000; Hargreaves 1997; Hodges 1996).

Much literature and many recent government reviews and reports have identified serious weaknesses in the provision of professional development for teachers. For instance, the 1998 Senate Report, *A Class Act*, found that, although all concerned recognise the importance of professional development, 'the reality is quite different' (1998, ch 7. 49). The Senate Committee discovered that the type, quality and availability of professional development in Australia varied enormously between jurisdictions, systems and schools and that many programs were ad hoc, piecemeal in nature and lacked intellectual rigour. Evidence collected also indicated there was not enough input by teachers into the design and implementation of professional development programs, a key finding also of the Victorian government report, *Public Education: The Next Generation* (2000). The Victorian Report found broad support for professional development to be delivered at the level of the school rather than centrally. This is so that the special needs and priorities of the school and its students can be addressed in light of recognition that professional development for teachers is most effective when teachers can learn from each other. Another major criticism was the scarcity of resources allocated by employers to professional development activities. On this issue Vinson (2002), in his review of public education in NSW, also identified serious problems. He concluded that, 'there can hardly be a more obvious shortcoming within the public education system than the absence of more than token professional development funding for teaching staff' (2002, 12).

Despite the problems described above, there is a great deal of evidence that indicates teachers value opportunities to participate in professional development activities. Indeed, the Victorian report into public education found clear and undisputed support for increased State funding for the professional development needs of teachers. The Working Party wrote that it 'found virtually unanimous support for an increased commitment by Government to the professional development of its teachers in public schools…especially in the context of an ageing profession working in an environment of rapid and constant change' (DEET 2000, 45; see also Ramsey 2000, 85). Consequently, Ramsey also counselled that employers need to value more highly the professional development of teachers and their continual and lifelong learning (Ramsey 2000, 83), noting there 'is generally only limited support, by the larger employers in particular, for teachers to continue their courses or attend courses other than those required by the employer' (2000, 84). Ramsey also argued that clear professional development pathways need to be devised so there develops in the profession a culture of continual learning. Structures need to be put in place that allow teachers to undertake professional development in an integrated and systematic way throughout their careers and which recognise and reward teachers who demonstrate professional improvement.

Encapsulated in any vision for continuous teacher education should be the receipt of non-monetary awards. Paid sabbaticals (full-time or part-time), including study tours, structured community-based learning, and teacher exchange with other countries, in which travel and other expenses are supported, would all be worthy pursuits. At a relatively small cost this would expand the global horizons of education, bringing many international teachers to work on exchange in Australian schools, as well as providing invaluable international experiences for Australian teachers. Secondments of teachers into community organisations, businesses and government in order to broaden their experience base and to expand the school's networks would also break down the arbitrary boundaries separating education and various other social institutions (ACDE 2001). In particular, opening up teachers' careers in such a way provides opportunities to build more effective and sustainable partnerships between schools and universities by bringing teacher's and academics' working lives closer together. While there has been some tentative progress in England and other nations towards promoting sabbaticals, secondments and international exchanges (General Teaching Council for England 2000; Adams 2001), such initiatives have not been considered in any substantive way in Australia.

Finally, it is widely recognised that graduate studies for teachers represent a major form of professional development, particularly for those who have the potential to be leaders in schools. Such studies are a means by which teachers can keep abreast of developments in their respective fields and be cognisant of advancements in pedagogical methods. Moreover, when graduate teacher education students embark upon studies which include a significant research component, particularly research projects directly related to school-based issues, valuable knowledge is transferred to the school and used to resolve problems and induce change. Current policy settings, however, do not provide incentives for teachers to take up graduate studies. The advent of up-front fee-paying course work masters programs acts as a considerable disincentive and removes from the profession and schools valuable skills and knowledge. Despite the need for teachers with graduate-level competencies, the evidence is that education systems as employers neither provide an adequate system of incentives (such as paid time off to do courses – part time or full time) nor encourage teachers to undertake graduate studies (see ACDE 2001; DETYA 2000, 197-98; Ramsey 2000, 82).

An important first step in alleviating these problems, developing a culture of continuous learning and improving the quality of teaching and learning is a significant increase in funding to the sector. Although expensive, high quality, continuous, integrated and teacher-informed professional development will be crucial for teachers in effectively carrying out their vital work and preparing students for the knowledge economy and society.

Educational Research

Ongoing educational research is crucial if the status of teaching is to be truly enhanced, become fully professionalized and teaching itself is to be of the highest quality. Like other professions, teaching practice and teacher education programs need constant monitoring for purposes of evaluation and improvement. This is particularly germane to the current historical juncture which, as Kress (2000, cited in Reid and O'Donoghue 2002, 3) maintains, calls for an 'education for instability'. By this he means an education that prepares students for a world of

change, instability and difference, one which equips them with the ability to create, imagine, innovate and adapt. Curriculum configurations that deliver such skills, and teacher education programs that equip teachers with knowledge of appropriate pedagogical practices, must be underpinned by solid, evidence-based educational research.

Educational research, then, is vital to help determine the shape of the curriculum into the future and for university education faculties and schools to design programs in accordance with the requirements of a post-modern, post-industrial society. Moreover, there is clear and unambiguous evidence that educational research does have a valuable and positive impact upon policy maker and teaching practices. In *The Impact of Educational Research* (2000), DETYA gathered results from five distinct though related studies on education research. This report found 'compelling evidence that Australian educational research is respected internationally and makes a difference in the worlds of schools, and policy development' (DETYA 2000, 4). It also found, however, that research 'accounts for less than one per cent of the total personnel resources devoted to education and training in Australia'. Of these resources, university-based research accounts for about 90 per cent' (DETYA 2000, 5). In other words, the report demonstrates that Commonwealth Government investment in educational research has a significant positive impact on the ground in schools and at the policy level in education department's across the country.

The DETYA report clearly vindicates calls for additional funding and policy support for educational research. The case seems all the more powerful when education is becoming increasingly vital both to national economic prosperity and to social cohesion (ACDE 2001; Bush 2001; Chubb 2001; OECD 1996) and when the education sector in leading economies around the world is growing, as education itself becomes a 'lead industry' in the new economy. One would also expect that, in advanced post-industrial economies where the sectors of most significant economic growth are knowledge intensive (see also Dunlop and Sheehan 1998; Cope and Kalantzis 2000), funding for education would be increasing rather than decreasing. However, despite a mass of evidence attesting to the centrality of education in the knowledge economy public investment in education has been trending downwards. As Considine, Marginson and Sheehan (2001) have reported: 'Unfortunately education in Australia, once relatively strong, is falling off the pace set by competitor countries'. The authors concluded that 'Australia's education policies are disappointing: still focused on cost-cutting with little regard to the creative potential of education and research in a knowledge economy' (2001, 13).

If the current policy settings in relation to educational research were to change, an area worth pursuing would be research into teaching practices, curriculum design and pedagogy with a particular emphasis on research of a collaborative nature (Beck and Humphries 2000). Collaborative research between teacher educators and practicing teachers where, as Lingard (2001, 6) argues, teachers themselves are seen as researchers rather than as 'mere translators of research done elsewhere', needs to be supported as a matter of urgency if gains in curriculum development, pedagogy, teaching and learning are to be achieved. A collaborative

approach would also facilitate the establishment of stronger functional relationships between schools and teacher education institutions as discussed above.

In the 2000 Radford Lecture, Kemmis (2001, 14) argued that Australian educational researchers now, more than ever, understand that their research efforts must be increasingly directed towards the classroom experiences of teachers; that past practices of educational research contributed to the creation of a 'perceived "gap" between theory and practice, and between the work and concerns of universities and schools'. Others (Sachs 1998) argue that, even though there is a clear distinction between the nature of practitioner and academic research – the former concerned with issues immediate to specific classroom and learning environments and the latter with generalization and theory-building – 'they can enrich each other, and should do so' (1998, 8). Sachs avers that, when teacher educators and school-based teachers engage in collaborative research they develop a better understanding of the conditions under which each party works. Teacher educators recognize that 'the differences and the continuities in the work practices between academics and their school-based colleagues will facilitate a clear articulation of expectations and possibilities' (1998, 6).

Past initiatives designed to close the gap described by Kemmis and Sachs and promote school-based, collaborative research include the Innovative Links project and the National Schools Network – both of which were funded by the Commonwealth Department of Employment, Education, Training and Youth Affairs in the late 1980s and early 1990s. These are glowing examples of what is possible when decision-makers buttress creative thought and action with adequate funding and other support. Many of the networks which developed from these government sponsored teacher-academic researcher collaborations still exist today and operate without funding. According to Kemmis (2001, 15), they have proven 'a powerful resource for educational research. They produce new knowledge for the profession and the field of education and continue to produce improved practice in curriculum, pedagogy and school organization'. Nonetheless, these networks are under enormous pressure:

> *In tough times like the present, however, it is hard to give these networks the support they deserve. It is hard to sustain the communications that permit the sharing and exchange of knowledge, experience and research findings beyond these groups. The ANSN tries to support the exchange, but has few resources for a task that has become very large indeed. Most universities try to sustain it through their work of partnership building and maintenance. Professional associations try to support the effort where they can (Kemmis, 2001, 15)*

To revitalize these networks, give due recognition to the quality and utility of the research they produce and generally increase the level of practitioner-research and its dissemination, it is necessary that Commonwealth and State governments recommit their support to such projects (see Senate Report 1998; Kemmis 2001).

Tertiary Teaching

One of the issues raised in the opening paper of the 2002 Higher Education Review (Nelson 2002) concerns the quality of teaching in the tertiary sector. If the central findings from the 'new pedagogies' research that the quality of teaching lying at the heart of student achievement is so relevant to the school sector, one of the issues for debate concerns its relevance to tertiary teaching as well.

Some will wish to argue that there is an inherent difference between the two worlds and that tertiary learning relies more on the quality of the conceptual and/or research worlds constructed for the student than on the personal pedagogical (or andragogical) qualities of the teaching academic. One wonders, however, if this might not be missing the whole point about the findings coming from the new pedagogies research, and especially about the kind of teaching that it proposes as so effective.

For one thing, the results of the new pedagogies research are proposing that, similar to the effective world of tertiary learning, it is the total world of learning constructed by the teacher (and the learner) that makes the difference in student achievement at school. True to the constructivist thesis sweeping modern educational research (cf. Phillips 2000; Walker and Debus 2002), it is through a total learning environment being constructed, one which is in concert with the needs of the student and in tune with the conceptual and investigative worlds of the teacher, that the most effective learning is likely to occur. In a word, the insight about the impacting power of quality teaching is not one that should be trivialized by suggesting that good teaching is merely constituted by a set of performative skills and, as such, may have relevance to schools but not to the greater sophistication of university learning. Properly understood, the insight would seem to be as relevant to one sector as to the other.

Allied to the above assertion, is the finding that it is very much within the bounds of teacher initiative that the effective learning environment is constructed. While not dismissing earlier educational research findings related to individual and societal 'blocks' to learning readiness, the findings of recent pedagogical research have built on them in demonstrating more conclusively than ever before that, whatever the readiness conditions of the students in one's care, it is within the power of the teacher to make a difference. It is scarcely conceivable that such a truth, in such evidence, would apply to the last year of high school but have no validity to the first year of university.

Far from denying the thesis that university learning should progressively be geared towards autonomous learning, the thesis of constructivism is that the best learning in any sector will be striving for the same end and, within whichever sector, the role of the teacher in helping the learner to construct an environment towards autonomous learning is a vital one. In other words, at any level, it is part of the teacher's role to construct and facilitate a conceptual and investigative world in which learners can increasingly take responsibility for their own learning. The goal of autonomous learning should never be misconstrued as giving licence for poor teacher practice, any more than the quest for patient autonomy in health care implies or justifies a withdrawal of active care and health education on the part of the health professions.

The Higher Education Review paper (Nelson 2002) suggested that the kind of teaching required in universities necessitated some form of training for university academics. While bound to be unpopular with many, the alternative view that the evidentially complex world of teachers' work, so vital to achieving learning goals, can be left to chance or is somehow assured through discipline and/or research expertise becomes less and less sustainable as the evidence mounts.

Pre-school educators

Pre-school education is probably the sector most in need of help in Australia. While declines in the school and university sectors are frequently remarked (though less frequently acted) upon, the pre-school sector remains seriously under funded. Australia spends just 0.1% of GDP on pre-school education compared with the OECD country average of 0.4%, and our pre-school participation rate is around half that of the OECD average, and falling. Despite evidence that clearly demonstrates the early years of education are critical for success, academic development and future learning, funding has decreased (CESCEO 2000; Hill and Russell 1994; McCain and Mustard 1999; Pascal and Bertram 2000; Andersson 1992; Senate 1996; Kirby 2001). Assuming the 'teaching profession' includes preschool and early childhood educators, and well it should, then a range of issues need to be addressed. If the profession is to enhance its status and children are to develop into well-rounded, competent, productive and socially responsible citizens, a significant and collaborative program of reform is necessary.

In the workplace preschool teachers face a range of unenviable challenges, many of which are a consequence of inadequate funding. The Kirby Report (2001) into preschool education in Victoria found that the conditions under which preschool teachers worked had the effect of forcing many of them to leave the profession and prompting others to decide against pursuing a career as a preschool teacher. Preschool teachers are subjected to debilitating workloads and burdened with a diverse range of roles and responsibilities, many of which should be carried out by preschool management committees (see Press and Hayes 2000, 45). Teachers are responsible for a range of administrative tasks, record-keeping, the welfare and safety of the children in their charge, the supply of material and equipment, information collection for accountability purposes, liaison with parents and the planning of fundraising activities. To these pressures can be added children with special needs and increasing staff/child ratios.

Remuneration for preschool teachers needs to clearly reflect not only the nature of preschool teaching but also the workloads with which teachers are burdened. There are also enormous discrepancies between rates of pay for newly qualified and experienced teachers and between the wages of preschool teachers and their counterparts at the primary and secondary level (Press and Hayes 2000, 45). Furthermore, because preschools are operating under increasing financial pressure, teachers paid hours are being reduced, they are employed on low rates of pay or increasingly being employed on a part-time basis. Indeed, according to Kirby (2001, 21) almost 70 per cent of teachers are employed part-time. Combined, these conditions do not auger well for teachers wanting clear career pathways. In fact, it precludes any form of career planning. Importantly too, these realities serve as clear disincentives to pursuing a career in preschool education and contributes significantly to high attrition rates in the profession. This

is reflected in the difficulties of recruiting suitably qualified preschool teachers and the 'near impossibility' of finding relief staff to cover short-term absences.

Preschool teachers must also be considered within the context of lifelong learning and continuous education that is emphasised in this paper. In terms of professional renewal and knowledge building, professional development programs are of the utmost importance. It is probably also the most effective means of improving the quality of teaching and learning in preschools. In addition, it also provides peer support for teachers and opportunities for them to develop supportive collegiate networks. In a profession that is solitary by nature regular and ongoing professional development is a must. Unfortunately, however, such opportunities are not commonplace. Any strategy to improve the overall state of preschool education needs to consider the provision of paid and regular professional development for preschool teachers.

The role of preschool educators is becoming increasingly complex and demanding, and pay structures need to more clearly reflect this reality. A significant funding increase is a necessity. And, given the federal division of powers and the national scale of the problems in preschool education, a nationally coordinated approach would ensure that successful reforms in individual states could be reproduced at a national level, and that preschool education policy was both consistent and visionary. Above all, spending on pre-school education can, and indeed must, be seen as an investment. A long-term view must replace the more narrow concern with market forces if Australia is truly to become a knowledge nation (Considine, Marginson and Sheehan 2001).

Resourcing the education sector

In the primary school, the issue of class size has recently been revived with the NSW Vinson Report (2002) suggesting that, beyond the hard evidence (see MacNaughton and Davis 1999), or lack of it, regarding learning effect, there is a commonsense view that suggests that reduced class size in the infants grades, and consequent greater pupil attention by teacher, must be a good worth striving for. The estimated budget to do just this much for a relatively small portion of the school population runs to some hundreds of millions of dollars per year, with many issues of serious physical infrastructure costs still to be determined. To run the principle across all schools in the country would clearly be an extremely expensive exercise. Within schools generally, there are endless issues related to physical refurbishment and enhancement, through to greater curriculum choice and the addressing of special needs through support programs and personnel. Across the whole sector, public and private, lies the issue of remuneration, mentioned above. To provide a scheme of remuneration of the Pennsylvania type across all school sectors would entail some billions of dollars a year.

Then there are the post-school issues, whether concerned with enhanced pathways from school to TAFE and university, or concerned with the strengthening and reinvigoration of the run-down and struggling post-school sectors of TAFE and universities themselves. The Federal Review of Higher Education (Nelson 2002) has identified the starkness of some of the issues associated with this latter. Among these are those that affect the future viability of teaching and the teacher role. The inadequate funding for teacher education provided at the birth of the

unified national system, combined with the shrinking value of the DEST dollar, the ongoing impact of the national award for payment of teachers for practicum supervision, and finally the Vanstone 6% cut to the sector, have all combined to issue in an era which sees a dire teacher shortage looming with hopelessly inadequate funded places in the system to address seriously the shortage. Again, the only answer is for extra funded places to be provided and, as ever, this implies more money being found for education. Granted the relative fragility of the resources base of the country, illustrated well by the proposed 'East Timor levy' or, more recently, the public liability insurance scare and 'war' scenarios, it is fanciful to believe that all of this extra money can be found easily, if at all. If it is to be found, the likelihood is extremely slim that it will be found solely in the purse containing public dollars, unless, of course, there were to be a new education tax, or 'medicare-type levy' imposed by government. While not to be rejected out of hand, the potential political fall-out for a government imposing such a tax will most likely see it continue to be mused upon, rather than acted upon.

Within this context, it is worth considering the issue of public versus private funding. Australian education, like that of the USA, is built around the twin pillars of public and private establishment and resourcing. This has been the case since the beginnings of education in the country and it is even truer now. In fact, the mix of public and private monies has probably never been more obvious as, on the one hand, private schools are receiving more generous portions of public monies than ever before while, on the other hand, public schools are relying increasingly on private monies under the guise of 'subject fees', 'levies' and the like. Granted that all schools, public or private, follow a public curriculum and are, for the most part, financed by public monies, it may be as well to conceive of Australian education as being one large public education phenomenon, with a mix of public and private funding sources. If this were the base conception, the strategic way forward, one would suspect, would be to encourage and open up ways in which the most generous mix of public and private monies could be elicited in order to further the very important but expensive goals for pre-school, school and post-school education identified above. At the same time, such a strategy of conjoining the forces of education might lead to greater conformity between public and private systems in matters of registration, employment practices and access. While such ideas would no doubt have vociferous opponents from both the public and private sectors, it may be best for Australians to put away their unhelpful sectarian educational history, re-think the implications of the public and private reality, and so go on to maximize the common goals, minimize the differences and work towards the true common good of enhanced educational access and opportunities for all Australians, however funded.

Another issue that makes the challenge of reform in teaching and teacher education even more problematic is the number of reforms that have *already occurred.* The pace of change in education internationally has been described as hectic and "white hot" (Kenway and Epstein 1996; Simola, 1998). In Australia, teachers have faced new curricula after new curricula, and have had to constantly respond to many new reforms (e.g., Child Protection legislation, outcomes based education, the new HSC in NSW; curriculum reform in WA); the constant need to change practice has lead to a 'reform fatigue'. Constant change in professional requirements and practice is exhausting. One possible strategy for future reforms is to build

into them periods of consolidation where as part of the reform, teachers and schools have 1-2 years where they can settle into new practices instigated by the reform, rest and evaluate the first reform before being required to respond to another new initiative. This recognises that reform takes time to implement successfully and may, in part, help to reduce the stress in teachers' lives.

Conclusion

Recent developments in teaching and education have been timely in contributing positively towards enhancing the status of the teaching profession, improving the quality of teaching and learning and providing opportunities for individuals to reach their full potential. Thus, it may well be that moves towards fortifying the teaching profession and the role of the teacher through registration and the establishment of standards represents a coming of age. The registration of teachers and the development of standards for the profession will improve the status of the profession and make it mature, confident, unified and respected. Teachers will be accomplished professionals in the same vein as doctors, engineers and other professionals. Having spent much of its recent history being perceived as a more-or-less respected apprenticeship-into-trade, the accumulation of educational research, and especially teaching research (the 'new pedagogies'), has finally confirmed what teachers themselves always knew; that teaching is a highly skilled and complex art and science that requires a rare grasp of content knowledge conjoined with an even rarer skill of disseminating that knowledge within the limitations and constraints of bulk learning in the average, not overly-conducive classroom.

Despite a number of advances, a range of challenges also face the profession, education authorities, teacher education institutions, parents and other stakeholders. Meeting these challenges will require vast reserves of creativity, innovation, determination, political will and political leadership. There is, for instance, the issue of teacher supply and the related matter of teachers' salaries as well as ensuring that the development and implementation of professional standards is genuinely informed by teachers and that teachers themselves maintain ownership. There are issues associated directly with teacher education which, if they are to be resolved, will require increased levels of collaboration between stakeholders and a willingness to innovate and experiment. The support of education authorities will be of particular importance. Similarly, a new approach to professional development will need to be adopted to ensure teachers are involved in continual education. Further educational research will be necessary to ensure effective teaching and learning and relevant curricula. Training for university academics will have to be considered if indeed, as the research shows, teacher quality is the main determinant of educational achievement. Preschool education will also need to be examined to ensure that preschool teachers are adequately remunerated and working conditions improved. Furthermore, there are complex issues associated with school, TAFE and the higher education sectors, all of which will require not only greater public investment but cooperation between the State and Commonwealth governments as well as the application of considerable creativity and innovation. It is advancement in these areas that will help to transform teaching into a true profession, one that complies with the highest standards of teaching and learning and aid the development of a world-class education system.

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