

**The Future of National Curriculum Collaboration in Australia: An  
Analysis of Policies and Possibilities**

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## **Preface**

The inspiration to write this paper arose from a desire to review key reports released by policy makers on the initiative to develop national standards. It is evident from the wide circulation that these reports gained in the education community that they should be regarded as the critical documents for shaping work to be undertaken on this initiative. This paper represents an attempt to identify the strengths and weaknesses in the arguments put forward in these reports for establishing a national framework for ensuring what students are taught.

The author wishes to acknowledge the contribution made by the following person relating to a particular report reviewed in this paper. Monika Sheppard, senior research officer for the Senate Employment, Workplace Relations and Education Committee reviewed the section in the paper referring to the committee's report, and circulated copies of the draft paper to committee members.

## **Biographical note**

Michael Watt taught in several secondary schools in Tasmania, and worked as an education officer in the Tasmania Department of Education. He holds masters' degrees in educational studies and education from the University of Tasmania, and a doctorate in education from the University of Canberra. He currently works as an education consultant.

# **The Future of National Curriculum Collaboration in Australia: An Analysis of Policies and Possibilities**

## **Abstract**

The purpose of this study was to review policies and inquiries on national curriculum reform, initiated during the federal election campaign in 2007, to identify whether a new phase of national curriculum collaboration, characterised as standards-based reform, is likely to be initiated. A set of ten criteria, defining key features of standards-based education, was applied to analyse the contents of two policy documents and a report from an inquiry. The results showed that the documents reflected increasing refinement of the concept of standards-based education, but were only clear and comprehensive in their descriptions for four criteria. The conclusion recommended that policy making should be conceptualised in greater detail as a process of planned change, which a decision making body could apply to design a standards-based education system in a setting involving large change supported by a low level of knowledge.

## **The Future of National Curriculum Collaboration in Australia: An Analysis of Policies and Possibilities**

Following Kevin Rudd's appointment as Labor leader in December 2006, opinion polls showed consistently over the course of the campaign sufficient electoral support for the Australian Labor Party to win a federal election in 2007. Launched in January 2007, Labor's 'Education Revolution' proved to be one of the party's key policies, ensuring the importance of education as an election issue. As the campaign proceeded, politicians from the major parties released detailed policies indicating a consensus had been reached on establishing a national framework for ensuring what students are taught. In February 2007, the Australian Labor Party proposed that a national curriculum board should set national standards for English, history, mathematics and science by 2010. In May 2007, the Australian Government's budget for 2007-2008 included a Realising our Potential schooling package, which proposed establishing national standards for English, Australian history, mathematics and science in year 10. Prime Minister John Howard called the federal election in October 2007, allowing for a six-week campaign. In November 2007, the Australian Labor Party was elected to office in the House of Representatives with 83 seats, the conservative coalition Liberal and National parties were reduced to 65 seats with independents retaining two seats. Late in January 2008, Prime Minister Rudd and the Minister for Education, Julia Gillard, appointed Professor Barry McGaw, director of the Melbourne Education Research Institute in the University of Melbourne, to chair a national curriculum board charged with developing a national curriculum for kindergarten to year 12. Early in February 2008, Minister Gillard appointed Tony Mackay, director of the Centre for Strategic Education based in Melbourne, as deputy chair, and invited state and territory ministers, the National Catholic Education Commission and the Independent Schools Council of Australia to nominate representatives for the National Curriculum Board.

These developments formed a precursory step for a new phase in national curriculum collaboration focusing on defining the components of a standards-based education system. The purpose of this paper is to examine these policies in greater depth and to identify the extent to which they are congruent with a set of ten criteria defining characteristic features of standards-based education. The paper concludes by outlining a planned change model, which a decision making body could choose to apply, to design a standards-based education system in a setting involving large change supported by a low level of knowledge.

### **Methodology**

The first step in this study involved identifying policy documents and reports of inquiries referring to national curriculum reform released during the course of the federal election campaign in 2007. The search identified two policy documents, one released by the Australian Labor Party (2007b) and the other published by the Council for the Australian Federation (2007), and a report on an inquiry conducted by the Senate Standing Committee on Employment, Workplace Relations and Education (2007).

The second step involved defining a set of criteria to specify characteristic features of standards-based education. In the USA, Achieve has published a series of reports benchmarking state academic standards, analysing their alignment to state assessments, and reviewing systemic reform policies, and the American Federation of Teachers has published successive reports on the quality of state academic standards. A set of ten criteria, expressed in the following questions, was developed from reviewing and synthesising criteria in these reports. What research evidence supports the need for national standards? Which curriculum documents will provide the basis for the national standards, and how will they be selected? What is the intended scope and sequence of the national standards? How will the national standards be developed, reviewed and adopted? Will state-level curricula be aligned to the national standards? To what extent will the national standards and state-level curricula guide the selection of curriculum materials and teaching approaches? To what extent will programs for teacher preparation and professional development be modified to provide teachers with the knowledge and skills to present more demanding content to students? Will assessments be aligned to the national standards to measure student performance and identify when additional help is needed? What accountability systems will be designed to provide incentives for success and intervention to support failing schools? What financial and physical resources will be provided to support improvement with flexibility to meet local needs?

The third step involved applying content analysis method to judge the extent, to which policy statements in the three documents were 'clear and comprehensive', 'clear' or 'ambiguous' for each criterion. Reporting and discussing results involved reviewing the content of each document and preparing a summary, judging policy statements on these benchmarks against each criterion, and drawing implications from these judgments based on research findings about the potential impact of various factors on the innovation with reference to each criterion.

## **Results**

### ***Australian Labor Party***

In January 2007, federal opposition Labor leader, Kevin Rudd released a New Directions paper at the Melbourne Education Research Institute. In the paper, the Australian Labor Party (2007a) contended that investment in human capital to provide Australia with a competitive, innovative and knowledge-based economy offers the best opportunity to meet the challenge of globalisation. However, the shift to private funding led to a fall in public funding of education, which is constraining productivity growth. It is argued that this anomaly in funding education is affecting students' performances. There is a low level of participation of under-five-year-olds in early childhood education. Although the increasing retention of students in the secondary level has reached a peak, this level is low compared to countries with leading economies. The shortage in skilled workers in many occupations is an outcome of reduced funding for vocational education and training. Reduction in public funding of universities has led to increase in student fees, dependence on income from fees levied on international students, and decrease in the quality of teaching. Lack of investment in developing the research capacity of universities has led to their failure to drive innovation. Evidence from studies supports a strong relationship between the level of investment in education and productivity growth.

There is increasing recognition that people with a better education participate in the workforce for longer, adapt to change, and benefit from more satisfying work. Education will become one of three priorities for a federal Labor government, which will provide leadership in working cooperatively with the states and territories, and the independent sector.

Following the launch of the New Directions paper, the Australian Labor Party released a series of detailed policies. Early childhood education will provide universal access to early learning for four-year-old children. Young Australians will be encouraged to study and teach mathematics and science. A national curriculum board will set national standards. Public and private schools will be funded to share resources by working together locally on a voluntary basis. A national action plan will be implemented to improve students' literacy and numeracy skills. Conditions for Aboriginal children will be improved by providing an equal start in life.

In February, the Australian Labor Party (2007b) released its policy for setting a national curriculum, arguing that rigorous academic standards are necessary for students to perform in more demanding employment, and consistency is necessary to meet the needs of interstate migration. Data from a report by the Australian Council for Educational Research (2007), indicating varying degrees of consistency across mathematics, chemistry, physics, English and Australian history at the senior secondary level, were used to support the rationale for greater consistency in the school curriculum. International comparisons in the Organisation for Economic Cooperation and Development's Program for International Student Assessment (PISA) and the International Association for the Evaluation of Educational Achievement's Trends in International Mathematics and Science Study (TIMSS) showed Australian students performed well. However, students' performances varied across the states and territories and declined over time. A strong case was made for a national curriculum in mathematics and science, where a high level of consistency already exists across the states and territories, but the case for regional, state and local variations was stronger in English and history. The extensive range of groups, involved in curriculum planning at the federal and state levels, has led to a high level of expertise, but also a lack of coherence. The statements of learning and the National Goals for Schooling in the Twenty-First Century are viewed as forming the foundations for a national curriculum. It is argued that the present debate about curriculum reform is focused on subject matter, not skills and capabilities. Students need a combination of knowledge and skills within the core disciplines to contribute to the workforce. In cross-disciplinary studies, students should build on the knowledge and skills characteristic of particular disciplines. The core disciplines of mathematics, the sciences, English and history should form the basis for delivering the curriculum, but varying approaches need to be applied at different levels of schooling. The states and territories should be given scope to identify additional elements of knowledge, which may also be valuable, but do not form part of the core curriculum. An eminent educator will lead a national curriculum board consisting of representatives from the states, territories and the independent sector. The Curriculum Corporation and the Australian Council for Educational Research will assist the National Curriculum Board in its work. In spite of the need to complete its work by 2010, the National Curriculum Board will be required to submit drafts of its work to teachers and parents for review. Implementation of the national curriculum will depend on its adoption by the states, territories and the independent sector. Work on the national curriculum will be guided by the criteria of building on current curricula of high quality, reaching a national consensus,

representing quality, providing conciseness, consulting practitioners and parents, balancing mandatory knowledge and skills with local variations, providing flexibility for instructional methods, and balancing academic and vocational aspects.

### ***Council for the Australian Federation***

In October, the Council for the Australian Federation, formed earlier in 2006 by the premiers and chief ministers of the states and territories to improve the delivery of services, established a committee of education officials to review cooperative federalism since the Adelaide Declaration on Schooling was adopted in April 1999. In April 2007, the Council for the Australian Federation released the report of the review for consultation. Following review by organisations within the education community, the revised report was released at a one-day conference held in Melbourne in September 2007. At the conference, 300 politicians, education officials and stakeholders heard presentations by speakers, participated in a panel discussion on the report, and examined practices used in the states and territories. In the report, the Council for the Australian Federation (2007) reviewed education reforms, reported student performances in international assessments, examined key challenges and priorities for a new statement on the future of schooling, outlined commitments for a new statement on the future of schooling, and proposed an action plan.

Collaboration between the federal and state levels had led to the statements of learning, a national assessment program, a framework for key performance measures, principles for funding schools to meet national goals, an annual report on schooling, international recognition of Australian curricula, and the foundation of a national curriculum agency.

International comparisons in PISA indicated that 15-year-old Australian students ranked second in reading with eight other countries, fifth in mathematics with eight other countries, fifth in science with seven other countries, and fifth in problem solving with seven other countries. Although these results represented high performance in such comparisons, they were relatively inequitable measured in terms of students' social backgrounds. Furthermore, longitudinal studies showed that differences in student performances due to their social backgrounds had not been ameliorated. Participation rates of students in senior secondary education, which rose rapidly between 1980 and 1992, have scarcely risen since 1992. The relatively high proportion of individuals failing to complete senior secondary education, when compared to other developed countries, was also characterised by a high rate of unemployment in this group.

Six important developments have emerged since the Adelaide Declaration was adopted in April 1999. Education has become more important in securing future economic prosperity and meeting changing workforce demands. Young people need appropriate knowledge and skills to perform in the information age. Education is critical to understand and address environmental challenges. Education promotes social cohesion by enabling students to relate their own values to those in other societies. Education plays a critical role in delivering equality of opportunity to different groups in society. Education remains an important contributor to the spiritual, moral, cultural and physical development of young people. A new statement on schooling in Australia should recognise seven priorities. The quality of



teaching needs to be improved by recruiting, training and rewarding high performing teachers and their professional development requires strong school leadership. Early childhood education needs to be recognised as a key element in the learning process. Senior secondary education needs to retain students and provide the means of transition from school to work or post-secondary education. The school curriculum needs to achieve three objectives. First, it must provide a solid foundation in knowledge and skills, in which further learning can be built. Second, it must develop problem solving within particular disciplines. Third, it must develop competencies to create new expertise. Collaboration between the federal and state levels has established agreement to provide a foundation for a national curriculum. Research findings, indicating similarities between the states and territories in their curricula in the core disciplines, suggest development of a national curriculum is feasible. However, a national curriculum must be capable of responding to change and adapting to local needs. It is argued that setting rigorous national standards offers the best approach to meeting these requirements. Furthermore, the eight learning areas, agreed in the 1990s, need to be modified to match recognised disciplines or encompass new areas of knowledge and skills. Accountability needs to be based on measures to provide data on the performances of individual students, schools and state-level systems. The educational outcomes of Aboriginal students need to be improved by providing equality of opportunities. New ways need to be found to form partnerships between schools, parents, local communities and businesses.

A statement on the future of schooling should be based on seven commitments. High quality education is crucial to deliver equality of opportunity, meet changing workforce demands, deliver knowledge and skills for an information age, address environmental challenges, promote social cohesion, and prepare for global citizenship. Governments and education agencies must build partnerships with parents, communities and businesses. Students will need to progress from focusing on literacy and numeracy in the early years to the core disciplines through secondary school, and then onto skills to synthesise, create and apply new information across disciplines and a range of electives. The curriculum must be based on rigorous standards in the learning areas of English, mathematics and science, languages, humanities and social sciences, the arts, health and physical education, and cross-disciplinary learning areas. Governments and education agencies must provide professional standards, pre-service training and ongoing professional development, performance reviews and career opportunities for teachers. Governments and education agencies must develop policies to provide equality of opportunities for different groups in society, improve transition through the levels of schooling, and provide the conditions necessary in schools to offer high quality education. Governments at the federal and state levels must collaborate to encourage and share best practices in education.

The 14-point action plan focused on eight areas of work. The states and territories will collaborate in setting content standards in the core disciplines, provide flexibility for states, territories and local systems to implement the standards, and broaden options in emerging areas of knowledge. The states and territories will develop a plan to assist schools assess students' performances and diagnose students' strengths and weaknesses in relation to national standards, ensure high quality national tests and sample-based surveys are administered, and apply targeted intervention strategies for schools, in which students are not meeting benchmarks. The states and territories will develop a plan to assist schools report clearly

students' performances on national standards, establish three benchmark levels for national tests, and develop a schedule for public reporting of school performance. The states and territories will review school leadership programs across Australia and overseas to develop guidelines to promote best practices, and develop policies for rewarding high performing principals and teachers. The states and territories will cooperate in aligning teacher registration requirements with national professional standards, and develop a national approach for accrediting pre-service teacher education courses. The states and territories will identify impediments caused to schools by regulations, and shift funding agreements towards a performance focus. The states and territories will convene a biennial national forum to showcase innovative and excellent practices at the local level, and feature internationally recognised reforms. This report will be presented to the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) with a view to a successive statement to the Adelaide Declaration being adopted and the first national forum being held concurrently in 2008.

### ***Senate Standing Committee on Employment, Workplace Relations and Education***

In February 2007, the Senate of the Parliament of Australia referred an inquiry into the current level of academic standards of school education initiated by Liberal Senator Judith Troeth to the Senate Standing Committee on Employment, Workplace Relations and Education. In particular, the committee was asked to inquire into how well schools prepare students for further education, training and employment at each level in terms of core knowledge and skills. The committee was also asked to examine the standards of academic achievement expected of students qualifying for the senior secondary school certificate, and how these standards compare between the states and territories, and with those from other countries. Seventy-three submissions were received from education agencies, professional and subject associations, teacher unions, schools, academics, teachers, parents and individuals during the course of the inquiry. Chaired by Senator Troeth, the eight-member committee convened hearings in Sydney, Brisbane, Melbourne, Canberra and Perth in June and July of 2007, at which witnesses presented evidence to elaborate on their submissions.

In its report, the Senate Standing Committee on Employment, Workplace Relations and Education (2007) focused on the two issues of the quality of teaching and the quality of the curriculum. The quality of teaching was considered to be the most important determinant of learning outcomes. Teacher quality is linked to the quality of teacher training, which is diminished by three shortcomings. There is no system for national accreditation of teacher training courses. The poor quality of teacher training courses in education faculties of universities has been identified in a large number of inquiries. Professional development programs for practising teachers are often piecemeal, lack a conceptual framework, and are of poor intellectual quality. Although the work of good teachers is the crucial factor in improving student performance, there is also a need for high quality curriculum to set and maintain standards. Since collaborative activities to develop a national curriculum in the 1990s failed, there is a need to find an appropriate process to set national standards. Identification of essential content in an overcrowded curriculum is a pressing issue facing the primary level, whilst problems teachers experience implementing outcomes-based approaches remain a key challenge. Although many

stakeholders agreed that work towards a national curriculum could be advanced, a rationale for its development needs to be agreed, its scope needs to be defined, and a broad-based process for its development needs to be applied. The committee agreed with policies outlined in the Australian Government's budget for 2007-2008 to set national standards. However, it will be more difficult for the states and territories to agree on comparable assessments. The committee attributed under-achievement among disadvantaged students in public schools to many parents with high aspirations choosing to send their children to private schools. As most submissions gave little priority to reaching agreement on a national curriculum, the committee believed the Australian Government will need to work assiduously to bring the states and territories around to an agreed approach.

The committee reviewed evidence relating to assessment of student performance. The view presented in many submissions of a general decline in academic standards was supported by low secondary school completion rates, but other submissions held that there was no decline based on results in national and international assessments. However, the committee found that the National Assessment Program does not provide evidence, on which to base judgments about an increase or decline in academic standards, since assessments have not been extended across all levels or have been introduced only recently. International comparisons on PISA showed Australian students performed well. However, international comparisons on TIMSS showed that whilst Australian students performed well, few students' performances were in the highest category and there was a large proportion of under-achievers. The results from TIMSS were considered to be a more valid indication of student performance, since the measures were linked to curricula and a large number of countries participated in TIMSS. The committee supported the key concepts of standards-based education, but also endorsed benchmark tests intended to identify minimum proficiency of student performance in spite of many submissions criticising this approach. To address these criticisms, the committee recommended that efforts should be made to give national benchmark tests more credibility and usefulness as teaching instruments. Furthermore, the committee believed there was some merit in ranking schools' performances and publishing league tables. Since submissions from parents raised concerns about the adequacy of reporting procedures, the committee believed reports should explain students' performances clearly, and where students are achieving relative to other students.

The committee examined key factors affecting the quality of teaching. Pre-service teacher training, usually offered through a four-year bachelor of education degree, drew criticism for failing to provide trainee teachers with sufficient grounding in academic disciplines. The committee recommended that teacher-training courses should be restructured to require trainees to commence their studies in relevant disciplines. The failure to provide trainees with adequate pre-service training on how children learn to read was an important consequence of this trend. In considering the competing claims of the whole language and phonics approaches to teaching reading, the committee drew on the recommendations of the National Inquiry into the Teaching of Literacy as providing the best means to remedy reading difficulties faced by 20 percent of children. The Australian Government Department of Education, Science and Training (2005) recommended using evidence-based approaches to teach reading, supporting parents in teaching reading, designing a whole-school literacy plan, specifying literacy teaching standards, administering diagnostic assessments, improving teacher training in teaching reading, and

providing on-going professional development for teachers in teaching reading. The inadequate treatment of mathematics content in teacher training courses was another consequence of this trend. This failure was compounded by the lack of a strong background in mathematics among teacher trainees, particularly those choosing the primary level. Furthermore, mathematics educators were divided between those, who believed mathematics should be taught in traditional ways and those, who believed mathematics should focus on real-life contexts. The committee recommended that universities should encourage more rigorous approaches in preparing teacher trainees and draw on expertise in other faculties to give them specialist tuition in particular disciplines.

The committee considered key issues affecting curriculum reform. Discussion of outcomes-based education figured prominently in submissions, sometimes in disparaging terms, although constructivist theory was still supported by educators in some quarters. The committee believed that unsatisfactory experience with outcomes-based education has prompted a shift to standards-based education. The committee supported the view, argued in some submissions, that the curriculum should focus on the core disciplines of English and mathematics in the early years. The committee believed increasing numbers of students at the primary level presenting learning and behavioural problems and a cluttered curriculum could be managed more effectively by specialist teachers taking responsibility for particular learning areas, and by employing local community members as teachers' assistants. The committee supported the view that studies of society and environment should be separated into its component disciplines in the secondary school curriculum. Australian history should be taught as a mandatory subject in years 9 and 10, but the committee recognised there would be difficulties in providing a sufficient number of qualified teachers and allocating the necessary time. Most submissions supported a view that geography should also be taught as a separate subject at the secondary level. The failure of mathematics to instil numeracy skills at the primary level and encourage the required degree of rigour at the senior secondary level was attributed to weaknesses in the curriculum. However, divisions were evident among mathematics educators about whether the mathematics curriculum should emphasise real-life contexts or present concepts to be mastered at particular developmental stages to allow higher order understandings of more advanced concepts to be acquired.

The committee examined key issues relating to academic standards at the senior secondary level. At present, curriculum and assessment procedures vary between the states and territories, and there are no nationally agreed standards for a certificate of attainment at the end of year 12. The proportion of school-based assessment and external examinations vary with New South Wales, Northern Territory, South Australia, Tasmania, Victoria and Western Australia using different combinations, but there are no external examinations in the Australian Capital Territory and Queensland. Several aspects of the curriculum were criticised in the core subjects. The study of literature in English has been weakened by post-modern approaches, and there is no agreed position on the teaching of literacy skills. Submissions attributed the decrease in the proportion of year 12 students studying mathematics to various factors, but evidence varied about the consistency of content in courses offered by the states and territories. Similar factors, but not to the same extent as in mathematics, affected the study of science. The committee believed there was a strong case for a common senior secondary certificate at the end of year 12 to be issued across Australia. However, it would be essential for

external examinations, using a moderation procedure across the states and territories, to be administered by all state-level jurisdictions as a prerequisite for a common senior secondary certificate to be introduced. The committee agreed with the proposition presented by the Australian Council for Educational Research (2007) that nationally agreed standards should be developed for those subjects for which a common curriculum is identified. In this report, it was also proposed that a national standards body should set standards for the common certificate in consultation with academics, subject associations, professional bodies, and community and parent groups. The committee recommended that the Australian Government and MCEETYA should negotiate a common curriculum for year 12 based on national standards of content and assessment, including external examinations.

The committee examined factors affecting the recruitment and remuneration of teachers. Evidence indicated that the quality of teaching is affected by high rates of attrition and out-of-field teaching. The committee believed raising the professional status of teachers, improving teacher accreditation, and increasing remuneration over a longer span of a teacher's career could ameliorate these problems. The committee concluded that remuneration based on a teacher's performance could not be introduced until credible measures of a teacher's knowledge and skill could be determined. The committee recommended that the Australian Government should improve remuneration of teachers in order to raise entry standards and retention rates for the teaching profession.

Members of the committee from the opposition Australian Labor Party presented a minority report. In this report, they considered the inquiry was too ambitious and lacked sufficient resources and time. They believed the sampling of stakeholders was restricted, and too much reliance was placed on their evidence. Whilst opposition senators supported the intent of the inquiry, they expressed reservations about its timing in view of the political agenda of the Australian Government. They were also sceptical about whether the Australian Government would act on the committee's recommendations, given that numerous previous reports had failed to engender any actions. Opposition senators believed that the main report failed to give sufficient emphasis to the relationship between students' poor academic performance and social disadvantage. They also criticised the proposition that remuneration based on a teacher's performance would be effective in improving the quality of teaching. They believed in giving priority to developing a high quality national curriculum, rather than setting national assessments. Opposition senators recommended that the committee should review previous inquiries into the school curriculum, additional funds should be provided to schools to address inequity, a program should be developed to reward outstanding teachers, and a national curriculum board should be appointed to develop a national curriculum.

### ***Comparative Analysis of the Documents***

The results of a comparative analysis of the three documents against the ten criteria, discussed in detail below, are summarised in Table 1. Table 1 presents a matrix showing ten characteristic features of standards-based education in the rows and the documents in the columns. The results show that the Council for the Australian Federation's report is clear and comprehensive about more characteristic features of standards-based education than the other two documents.

**Table 1**

**Summary of Analysis of Documents against the Characteristic Features of Standards-Based Education**

<b>Criterion</b>	<b>Australian Labor Party</b>	<b>Council for the Australian Federation</b>	<b>Senate Standing Committee</b>
1. research evidence	clear and comprehensive	clear and comprehensive	clear and comprehensive
2. documentary base	clear	not specified	not specified
3. scope and sequence	clear and comprehensive	clear and comprehensive	clear
4. development, review and adoption	clear	not specified	not specified
5. alignment of curricula	ambiguous	ambiguous	not specified
6. resource selection and teaching approaches	clear (teaching approaches only)	not specified	not specified
7. teacher preparation and professional development	not specified	clear and comprehensive	clear and comprehensive
8. alignment of assessments	not specified	clear and comprehensive	clear and comprehensive
9. accountability systems	not specified	clear	not specified
10. financial and physical resources	not specified	not specified	not specified

**Discussion**

In spite of the increasing clarity of policy statements in these documents, the present state of policy development poses important questions in relation to inventing, producing and diffusing practical solutions for standards-based education. The following discussion of issues, relating to ten characteristic features of standards-based education, is based on an analysis of the three documents.

The three documents present clear and comprehensive statements about research evidence supporting the need for national standards. Considerable weight in defining a rationale for the proposed innovation is given in the three documents to data from international studies of educational achievement. In each document, these data are interpreted in a similar vein as reflecting a generally high level of achievement with a substantial proportion of under-achievement among students from poorer socioeconomic backgrounds. The analysis of the documents shows

that these research findings have been given extensive attention, whilst other areas of research have been neglected. The focus on some key issues, such as the emphasis on research findings into consistency between content in curriculum documents at the expense of attention to research into the quality of standards in these documents, may reflect too narrow a base of evidence on which to make policy decisions. Although these accounts of research evidence are characterised by reiteration, there is also evidence of cumulative growth in research evidence supporting policy statements, reflecting an increasing refinement in the definition of a system for standards-based education derived from American practices. This system receives its clearest definition in the Council for the Australian Federation's action plan.

One document presents a clear statement about which curriculum documents will provide the foundation for national standards. The Australian Labor Party's policy specifies that the statements of learning and the National Goals for Schooling in the Twenty-First Century will form the basis for a national curriculum. Since no justification is offered for their selection, it must be inferred that these documents were chosen because they represent a nationally agreed position on the curriculum rather than for the intrinsic quality of the standards presented in them. The lack of valid and reliable criteria to assess the quality of standards in curriculum documents means that policy makers and educators can only judge these documents on the basis of an intuitive understanding of their quality. This shortcoming may limit the possibility of those charged with initiating the innovation from identifying excellent standards within a wide range of curriculum documents. Policy makers should consider commissioning a study to specify criteria to assess the quality of standards, and contract independent evaluators with expertise in particular disciplines to apply the criteria to evaluate a comprehensive range of curriculum documents. The methodology applied in the study could incorporate criteria and take account of procedures used by organisations, such as the American Federation of Teachers and the Thomas B. Fordham Foundation, which have conducted successive studies on state academic standards in the USA. Reports, issued as a consequence of such work, are likely to be viewed by stakeholders and educators as offering credibility and endorsement of particular standards for their excellence.

Two documents present clear and comprehensive statements, whilst the other document presents a clear statement about the likely scope and sequence of the national standards. The Australian Labor Party's policy states that the core disciplines of mathematics, the sciences, English and history should form the basis for delivering the curriculum, but varying approaches need to be applied at different levels of schooling. Students need a combination of knowledge and skills within the core disciplines, but in cross-disciplinary studies they should build on the knowledge and skills characteristic of particular disciplines. In its priorities for a new statement, the Council for the Australian Federation's report states that the curriculum should be based on rigorous standards in the learning areas of English, mathematics and science, languages, humanities and social sciences, the arts, health and physical education, and cross-disciplinary learning areas. Students will need to progress from focusing on literacy and numeracy in the early years to the core disciplines through secondary school, and then onto skills to synthesise, create and apply new information across disciplines and a range of electives. The Senate Standing Committee on Employment, Workplace Relations and Education's report states that the curriculum should focus on the core disciplines of English and mathematics in the early years, and studies of society and environment should be separated into its

component disciplines in the secondary school curriculum. These statements are sufficiently explicit for the National Curriculum Board to consult a wide range of stakeholders about various relationships national standards could have with the statements of learning, state and territory curricula, and other curriculum initiatives. For instance, policy makers and education officials should be consulted about issues relating to the statements of learning, and state and territory curricula. The Curriculum Standing Committee of National Education Professional Associations should be consulted about its work on defining a school curriculum for the twenty-first century. Once agreement on these issues have been reached, subject associations should be consulted about assigning nationally recognised groups with expertise in key disciplines to draft content and performance standards through a broad-based process. Content and performance standards should be rigorous and based on widely held agreement about the educational goals of the system. They should balance educators' and scholars' professional judgments about what constitutes challenging, important content with the views of parents, the business community, and the public about what young people need to learn.

One document presents a clear statement about how national standards are to be developed, reviewed and adopted. The Australian Labor Party's policy specifies that the National Curriculum Board will be required to submit drafts of its work to teachers and parents for review. The complexity of this work is likely to require the National Curriculum Board to assume a leadership role of coordination and oversight. In conducting this role, the National Curriculum Board should take account of research finding that a range of factors, affecting the decision-making process in developing standards, influences their quality. In the USA, Finn, Petrilli and Julian (2006) identified that visionary leadership rather than consensus building, political bipartisanship, willingness to overcome contests between competing interests, real expertise in academic disciplines, and an inclination to draw on excellent standards are key factors affecting the development of rigorous standards. The National Curriculum Board needs to ensure that politicians work across party lines to set the stage, nationally recognised groups take strong leadership roles, and the business community and teacher unions support rigorous standards. Once strong political leadership has set the stage, the National Curriculum Board needs to establish a sound decision-making process by bringing opposing parties on committees around to accepting the importance of detailed and explicit standards instead of developing standards by establishing consensus between opposing groups. The process of developing rigorous standards should involve consulting benchmarking experts, referring to exemplary standards, and including academics with expertise in academic disciplines on committees. The National Curriculum Board needs to disseminate draft standards to the education community, parents, the business community and the public for review. Multiple opportunities should be given to these groups to submit input to revised drafts. Completed drafts of national standards should be submitted to an independent, cross-sectoral group authorised to certify and adopt them. Modelled on the National Education Standards and Improvement Council, proposed under the Goals 2000 Educate America Act, such a group could be charged with identifying areas in which national standards need to be developed, establishing criteria for certifying standards, and certifying national standards, state-level curricula, and assessment systems.

Two documents present ambiguous statements about whether state-level curricula will be aligned to national standards. The Australian Labor Party's policy argues that there is a strong case for a national curriculum in mathematics and science, but the



case for regional, state and local variations is stronger in English and history. In its action plan, the Council for the Australian Federation's report proposes that the states and territories should collaborate to set national standards in the core disciplines, but provide flexibility for states, territories and local systems to implement the standards. Both statements are too vague for an interpretation to be offered on whether state-level curricula will be aligned to national standards. The essential question to resolve this issue is for policy makers to strike a balance between the advantages of uniformity afforded by a national curriculum and the promotion of state and local initiatives offered through decentralisation of curriculum planning. The realities of a federal system of government, however, mean that the existing balance between the federal and state levels has the greatest probability of prevailing in a collaborative process. Therefore, a need to design a procedure for aligning state-level curricula to national standards is likely to arise in this circumstance. Certification of state-level curricula could play an important part in strengthening their alignment to national standards, as well as ensuring they provide a curriculum of high quality.

One document presents a clear statement about whether national standards and state-level curricula will guide teaching approaches, but says nothing about the selection of curriculum materials. The Australian Labor Party's policy states that a national curriculum would provide flexibility for instructional methods. In proposing national standards, education leaders should improve procedures applied to select curriculum resources, so materials will be better aligned to national standards and state-level curricula. A model for improving selection procedures should enhance the composition and training of selection committees, provide guidelines for the selection process, involve publishers, interest groups and citizens in the selection process, appoint adopting authorities, disseminate information on materials, and provide strategies to implement materials in classrooms. Similarly, education leaders should provide guidelines to assist teachers develop appropriate teaching approaches. Such guidelines should focus on the role of professional development in improving teachers' capability to develop appropriate teaching approaches and their use of the Internet to create networks for organising, peer reviewing and sharing lesson plans, curriculum resources and assessment techniques.

Two documents present clear and comprehensive statements about whether programs for teacher preparation and professional development should be modified to provide teachers with the knowledge and skills to present more demanding content to students. The Council for the Australian Federation's report supports improving the quality of teaching and school leadership to increase student performance in the sections of its report on priorities for a new statement, commitments for a new statement, and in the action plan. The Senate Standing Committee on Employment, Workplace Relations and Education's report recommends restructuring teacher-training courses to improve instruction in relevant disciplines. In the USA, Achieve identified in its procedure for benchmarking states' systemic reform policies that issues of capacity building form the greatest challenge facing states as they move from developing standards and curricula to implementing them in classrooms. The issue of capacity building centres on the extent to which teachers are provided with knowledge and skills to teach a new curriculum, and schools are supported to develop the capacity to become high performance organisations focused on improving student learning. Therefore, policy makers should consider ensuring that the states and territories develop plans to integrate capacity building and professional development of teachers to support

implementation of national standards, state-level curricula and assessments. Plans, formulated for this purpose, should address a comprehensive range of key issues aligned with national standards, illustrated by the following examples. Education agencies and universities could form partnerships to design coordinated strategies focusing on assisting pre-service and practising teachers understand the concepts underlying national standards and state-level curricula, and equipping them with a range of skills to assist students to master the concepts. The creation of statewide networks of subject-based professional development academies, sponsored by public and private sources, could assist subject departments in schools to align their teaching to national standards and state-level curricula. Education agencies could initiate projects to attract the most experienced principals and teachers to schools experiencing disadvantages or demonstrating under-performance.

One document presents a clear and comprehensive statement about whether assessments should be aligned to national standards to measure student performance and identify when additional help is needed. The action plan in the Council for the Australian Federation's report specifies that the states and territories will assist schools assess students' performances and diagnose students' strengths and weaknesses in relation to national standards, ensure high quality national tests are administered, and apply targeted intervention strategies for low performing schools. Following adoption of the National Goals for Schooling in the Twenty-First Century in April 1999, MCEETYA designed a measurement framework for reporting progress towards achieving the goals. A National Assessment Program of key performance measures, incorporating benchmarking against TIMSS and PISA, is being implemented progressively over a cycle during the period from 2004 and 2012. The National Assessment Program consists of tests in literacy and numeracy administered to years 3, 5, 7 and 9, scientific literacy administered to samples in year 6, and civics and citizenship, and information and communication technology administered to samples in years 6 and 10. Following adoption of the national standards, the tests of the National Assessment Program will need to be aligned to them. The complexity of this task may lead the National Curriculum Board to commission an organisation, such as the Australian Council for Educational Research, which specialises in educational measurement and testing, to align the assessments to the national standards.

One document presents a clear statement about whether a comprehensive accountability system should be designed to provide incentives for success and intervention to support failing schools. The Council for the Australian Federation's report discusses this issue in its section on the priorities for a new statement, specifying that accountability needs to be based on measures to provide data on the performances of individual students, schools and state-level systems. In the USA, Achieve identified six elements essential for a comprehensive accountability system. Achievement and other data about individual schools need to be provided. Schools should be rated on their performances. Assistance should be provided to low-performing schools to improve performance. Rewards should be given to highly successful schools. Chronically failing schools should be provided with school improvement strategies. Incentives should be offered to students in the form of graduation examinations and scholarships tied to performance. In addition to the key performance measures, the measurement framework for reporting progress to achieving the National Goals for Schooling in the Twenty-First Century includes collection of data on student participation in vocational education and training in schools, and student attainment. Passed by the Parliament of Australia in

December 2004, the Schools Assistance (Learning Together – Achievement through Choice and Opportunity) Act requires the measurement framework to be extended to enhance accountability. Data on student attendance will be collected and reported in a way that will allow information to be compared across the states and territories. As these data provide accountability on only the first two elements of Achieve’s model, existing measures will not provide the education system with a comprehensive accountability system. Since design of such an accountability system is not an immediate priority, this issue could be addressed by a feasibility study. Such a study could ascertain whether accountability systems in the states and territories provide appropriate measures for collecting student achievement and other data for rating schools, and identifying strategies to provide assistance to low-performing schools, rewards for successful schools, school improvement strategies for failing schools, and incentives for students.

The three documents say nothing about what financial and physical resources will be provided to support improvement with flexibility to meet local needs. However, allocation of public funds to employ personnel, provide equipment and resources, and rent facilities will be a critical factor in determining the quality of the innovation. Appropriate financial and physical resources need to be identified as the innovation progresses through a process of planned change. The states and territories could address this issue by conducting a series of feasibility studies to identify appropriate financial and physical resources to meet local needs.

## **Conclusion**

Content analysis of the documents, identifying lack of detail or specification in statements for some of the characteristic features of standards-based education, suggests that decision making should be conceptualised in greater detail using a planned change model (Stufflebeam, Foley, Gephart, Guba, Hammond, Merriman and Provus, 1971). Designing the components of a standards-based education system will involve making a large, innovative change for inventing, testing and diffusing new solutions consisting of many steps over a relatively long span of time based on conceptualisation, heuristic investigation, and structured inquiry. Since this change is supported by little extant knowledge in the Australian context, this process should involve investigation in the initial stage based on exploratory research studies to uncover possibilities for producing the theoretical bases for change. Rigorous engineering and market research activities should be applied to transform the later stages of development, diffusion and adoption, so the change is completed successfully.

Exploratory research studies should be directed to identifying relevant research findings from Australian and foreign geographical settings, and consulting relevant agencies responsible for these findings. These studies should focus on identifying research findings relating to the characteristic features of standards-based education. Whilst giving attention to identifying research findings showing possible relationships between these factors in countries performing at the highest levels in international comparisons on student performances is valuable, research findings relating to these factors are also likely to be identified from other sources. For example, several education organisations have conducted research in the USA into identifying relationships between these factors with reference to standards-based education. Attention should be given to reviewing projects conducted and research

literature published by Achieve, the American Federation of Teachers, Mid-Continent Research for Education and Learning, StandardsWork, and the Thomas B. Fordham Foundation.

Development consists of the four phases of invention, design, construction and assembly. The objective of invention is to formulate a new solution to an operating problem. Initially, the problem to be solved needs to be delineated before invention can commence. In this case, the problem is to design the components of a standards-based education system. The proposed invention needs to satisfy the criteria of appropriateness for solving the problem and contribution to meeting practitioners' needs before design can commence. If the proposed invention satisfies these criteria, the next activity is design. The objective of design is to draft a plan for constructing a standards-based education system. The plan needs to satisfy the criteria of feasibility in terms of production and economy, and tractability in terms of control and ease in training practitioners to use the proposed invention. Once the plan has been accepted, construction can commence. The objective of construction is to build the components of a standards-based education system. Construction of the components can be undertaken by incorporating elements from the findings identified in the exploratory research studies and engaging practitioners in conceptualising the elements. Each component needs to satisfy the criteria of meeting the specifications of the plan and working in practice. Once each component has met these criteria, the components are assembled. The objective of assembly is to integrate the components into an operating system. The standards-based education system needs to satisfy the criteria of meeting the specifications of the plan, working in practice, being maintained effectively and being cost efficient.

Diffusion consists of the two phases of dissemination and demonstration. The objective of dissemination is to inform practitioners of the standards-based education system. This function is most likely to be performed by government agencies. The criteria for evaluating dissemination are the intelligibility of the innovation, and fidelity, pervasiveness and impact of the dissemination process. Potential users should be given an opportunity to view standards-based education under operating conditions in schools. Demonstration will let teachers examine standards-based education and gain confidence in its effectiveness. The criteria for evaluating such a demonstration are its credibility, convenience, and range and depth of information and experience. Once these criteria have been met, the diffusion process is complete, but theory needs to be assimilated into practice through adoption.

Adoption consists of the four phases of training, trial, installation and institutionalisation. The objective of training is to prepare personnel to use and service the innovation. The criteria for evaluating the training activity are the sufficiency in numbers of personnel, a continuing supply of trained personnel, and the quality of training. Once the training criteria have been satisfied, schools adopting standards-based education will be ready to trial it in terms of coverage and flexibility. The objective of the trial is to build familiarity with standards-based education, and to test its quality, value, fit and utility in schools. Adaptability, cost and operation of the innovation are the criteria for determining the effectiveness of the trial. Once these criteria have been met, schools are ready to install the innovation. The objective of installation is to put standards-based education into operation by determining the appropriate components to use, and their sequence and schedule. The criteria for evaluating installation are effectiveness and efficiency of the innovation. Once these criteria are satisfied, the final activity of

institutionalising standards-based education as an integral and accepted element of curriculum reform can commence. Institutionalisation of standards-based education would involve establishing its use as a routine part of each school's educational program and orientating new teachers in its use.

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