

**New Zealand's
National Certificate
of Educational
Achievement (NCEA)**

An International Perspective

Prepared by Dr Kevin Donnelly
Executive Director, Education Strategies, Melbourne
for the Education Forum

EDUCATION FORUM
August 2000

First published in 2000 by the Education Forum,
PO Box 38-218, Auckland 1730, New Zealand

ISBN 0-9582133-0-5

© Edition: Education Forum

Production by *Daphne Brasell Associates Ltd, Wellington*

Printed by *Astra Print Ltd, Wellington*

AUTHOR AND ACKNOWLEDGEMENTS

Dr Kevin Donnelly BArts, DipEd, MEd, PhD (Education) is Executive Director of a Melbourne-based consultancy group, Education Strategies. During his 12 years as a secondary teacher in both government and non-government schools Dr Donnelly taught English and humanities and was a subject coordinator. He has also lectured and tutored in education at La Trobe University. His experience includes being a Year 12 examiner in both English and English literature and a member of a number of state and national curriculum committees. Dr Donnelly's doctoral thesis deals with developments in school curriculum over the last 25 years both in Australia and overseas. Dr Donnelly has published over 150 articles in the daily media and professional journals, writes regularly for the Melbourne daily newspaper *The Herald Sun* and appears on radio both state and national.

Since establishing Education Strategies, in 1994, Dr Donnelly has:

- completed a 'benchmarking' exercise comparing the Victorian Curriculum and Standards Framework in maths, science and English with a range of overseas curriculum frameworks and syllabuses (1998–1999);
- been appointed as a consultant to the federally funded Discovering Democracy, Civics and Citizenship Education programme (1997–2000);
- acted as director of a multimedia CD ROM curriculum initiative the Understanding Australia project for the Victorian Directorate of School Education (1995–1997), and been appointed as an executive member to the Board of the Victorian Board of Studies (1997);
- offered policy advice to the Office of the Victorian Minister for Education and the Office of the Director within the Victorian Directorate of School Education. Areas covered include the senior school curriculum, the implementation of the national curriculum and Victoria's Curriculum and Standards Framework, and benchmarking against the South East Asian 'tiger' economies, (1994–1999); and
- undertaken a strategic review of the Queensland Education Department for Mr Bob Quinn, the Minister for Education, focusing on management, organisation and curriculum at the senior policy level (1996).

Dr Donnelly is grateful to Sam Ball, Michael Irwin, Terry Locke and Alan Smithers for many valuable comments on drafts of this report. However, the views expressed in it are solely those of the author and should not be ascribed to any of those whose assistance is acknowledged above.

CONTENTS

	Page
SUMMARY	vii
Chapter 1 INTRODUCTION	1
Chapter 2 AN INTERNATIONAL PERSPECTIVE	3
Chapter 3 SOME RESULTS FROM INTERNATIONAL TESTS AND COMPARATIVE STUDIES	5
3.1 The Third International Mathematics and Science Study 1995 (TIMSS)	5
3.2 The Asian Education Research Project	6
Chapter 4 THE NATIONAL CERTIFICATE OF EDUCATIONAL ACHIEVEMENT (NCEA) FROM AN INTERNATIONAL PERSPECTIVE	9
4.1 Different approaches to student diversity	9
4.1.1 <i>The NCEA's 'cafeteria' approach</i>	10
4.1.2 <i>Continental European and Asian 'pathways' approaches</i>	11
4.2 The question of assessment	13
4.3 Syllabuses, outcomes or standards?	16
4.4 Defining and specifying the 'standards'	18
4.5 Evaluating 'standards'	21
Chapter 5 CONCLUSION	25
APPENDICES	
A Definitions	28
B Education Forum	31
C Members of the Education Forum	32
REFERENCES	33

SUMMARY

This report provides a brief comparison of New Zealand's National Certificate of Educational Achievement (NCEA) with arrangements for end-of-school qualifications in several countries that perform well in international surveys of educational achievement. Attention is also drawn to experience with various forms of 'standards' and 'outcomes' specification of what students are expected to achieve in the United States and Australia. The report necessarily considers senior school curriculum and assessment issues which are intimately related to those of qualifications. It assumes some familiarity with New Zealand's present school qualification system and of the main features of its proposed replacement, the NCEA.¹

The official view is that the NCEA is both evolutionary and representative of 'best practice':

NCEA is a sensible evolution of the current [school qualifications] system, not a major overhaul. The new assessment and reporting system will not change what students need to be taught or to learn. ...

The NCEA combines the best assessment practices, here and overseas, of the last 20 years ...

(Ministry of Education and New Zealand
Qualifications Authority (NZQA), 2000)

This report comes to the opposite conclusions to that of the official view. The new assessment and reporting system will undoubtedly change what is taught and learnt. Further, not only does the NCEA represent a revolutionary change to the current school qualifications system but the new certificate is also based on an inherently flawed and, from an international perspective, sub-standard form of assessment.

The NCEA:

- introduces major changes to the existing system of certification, in particular, by reducing the emphasis on competitive, end-of-school examinations and increasing the importance of internal assessment and school-based moderation;²

¹ A companion report being published by the Education Forum provides more details of both the present system and the NCEA – see Education Forum (2000) in the References.

² At the time of drafting this report the moderation scheme had not been announced. The net increase in internal assessment overall is uncertain – it will probably increase at years 11 and 13 but decrease at year 12. However, the Ministry of Education has advised its minister that the increase of "high-stakes internal assessment" will be "significant" (Ministry of Education report dated 17 February, 2000).

- represents an experimental form of mainstream post-compulsory certification in that it has not been trialled in New Zealand (and no trials are proposed) and no known overseas counterpart exists that might provide relevant empirical data;
- represents a radical form of post-compulsory certification in that it incorporates features for the main school exit qualification that have not been tried with any success by any comparative system of education (such features include dividing subjects into between five and eight components for separate assessment and reporting, without cross-moderation and without any overall subject mark or grade);
- uncritically promotes a so-called 'standards' approach to assessment that ignores international experience and 'best practice'; and
- fails to recognise and learn from the mistakes of other attempts at system-wide assessment based on 'standards', sometimes confused with 'outcomes', such as the original version of Victoria's Victorian Certificate of Education (VCE).

The report ends with some overall reflections and a call for reconsideration of current proposals. An outline is offered of key issues and of suitable future policy directions that might be included in any such reconsideration.

CHAPTER 1

INTRODUCTION

The New Zealand Government has embarked on a dramatic and far-reaching reform of the senior secondary school qualifications system with the development and planned introduction of the National Certificate of Educational Achievement (NCEA).³

The official documents refer to the NCEA as a qualification yet it is more of a framework designed to bring together various component qualifications. The new Achievement Standards are seen as the main components of the NCEA, while some unit standards and other (unspecified) exams or qualifications may also be awarded credits towards it (Ministry of Education and NZQA, 2000, p 5).

This report focuses only on Achievement Standards that are to be the main qualifications towards which senior school students will work. Each Achievement Standard represents on average about a sixth of a subject and, being assessed and reported separately, are qualifications in their own right and are not to be aggregated into overall subject scores. References to the NCEA hereinafter are only to the Achievement Standards component of the NCEA.

Contrary to official claims that the NCEA simply builds on existing certification (eg Ministry of Education and NZQA, 2000), this certificate represents a dramatic change to the existing school qualifications system. It incorporates a number of untested innovations such as using 'achievement' standards as a basis for mainstream senior school curriculum and assessment.

The following analysis places this New Zealand initiative within the context of what is happening in a number of other education systems around the world. It is based on the premise that education systems need to measure local initiatives against international 'best practice', in part because, as argued by the American Federation of Teachers (AFT) when commenting on curriculum reform in the United States:

If standards truly are rigorous and world class, they should stand up to some tough but sensible questions:

³ This report does not examine New Zealand's new curriculum framework and individual curricula. However, it is to be noted that the new curricula specify what are called "learning outcomes". The Ministry of Education claims that these outcomes, like the Achievement Standards, are so clear that students' achievements can be assessed against them (Ministry of Education, 1993). For a critical view of this claim and the curriculum framework generally, see Irwin (1994 and 1999).

- do they reflect various levels of knowledge and skills comparable to what students in high-achieving countries are expected to master?
- which countries did the standard-setters use as a basis for comparison, and what documents from these countries did they look at to determine their standards?
- will the standards lead to a core curriculum for all students – those headed for college and those headed for work – as demanding as those in France or Japan?

(AFT, 1993)

An annex to this report provides definitions of various terms used in it. It will be noted that some terms have different meanings in different educational jurisdictions.

AN INTERNATIONAL PERSPECTIVE

Curriculum reform and change are not unique to New Zealand. The majority of countries associated with the Organisation for Economic Co-operation and Development (OECD) and the Asia-Pacific Economic Cooperation forum (APEC) have recently undergone, or are undergoing, significant reform of their school education systems. Examples include the 'standards' movement in the United States, implementation of new post-compulsory certificates in Australia (New South Wales and Victoria), the introduction of the Republic of Korea's 7th school curriculum, and the recent reports of the literacy and numeracy taskforces in England.

In part, such activity is a result of:

- the advent of the 'digital' age and the changing nature of education and work;
- the increasing interdependent and competitive nature of the global economy; and
- the impact of international testing programmes such as the Third International Mathematics and Science Study 1995 (TIMSS) and the desire of governments and education systems to 'benchmark' against 'best practice'.

Internationally, governments and education systems are responding to such new imperatives and challenges in a number of ways. This is evidenced by:

- the establishment of organisations to undertake a comparative analysis of different education systems;⁴
- funding research to analyse what can be learned as a result of international tests such as the TIMSS;⁵ and

⁴ Examples include the International Association for the Evaluation of Educational Achievement <http://www.iea.nl/>, the European based Information Network on Education in Europe <http://www.eurydice.org/>, the European Network for Educational Research on Assessment, Effectiveness and Innovation <http://www.to.utwente.nl/prj/euai/summary.htm>, the United Kingdom's International Review of Curriculum and Assessment Framework Project <http://www.inca.org.uk/> and the New Standards Project. <http://www.ncrel.org/sdrs/areas/issues/methods/assment/as7nsp.htm>.

⁵ Examples include Boston College's TIMSS International Study Centre <http://timss.bc.edu/>, the TIMSS National Research Centre in Sweden <http://www.umu.se/edmeas/eng/timss.html> and publications such as Mathematics and Science Achievement in the Final Year of Secondary Schooling <http://timss.bc.edu/TIMSS1/MathScienceC.html>.

- international conferences such as this year's United Nations Educational, Scientific, and Cultural Organisation (UNESCO) World Education Forum⁶ and the Fifteenth Meeting of the APEC Education Forum held in Japan.⁷

Common to these initiatives is the desire of governments and education systems to look globally when addressing the question of curriculum renewal and change. For several governments this has meant focusing on countries like Korea, Singapore and Japan in order to identify what it is about those education systems that allows them to perform so well in international tests such as the TIMSS. A recently published report by the Education Review Office compares maths and science school education in New Zealand with that in Korea, Singapore, the Netherlands and Ireland because all four have strong economies and the first three "performed significantly better than New Zealand in the Third International Mathematics and Science Study (TIMSS)" (Education Review Office, 2000).

⁶ See <http://www2.unesco.org/wef/en-leadup/findings.shtm>.

⁷ See <http://www.apec.edu.tw/sum-0001.html>.

SOME RESULTS FROM INTERNATIONAL TESTS AND COMPARATIVE STUDIES

As noted above, the widespread interest in 'benchmarking' performance against international best practice has led education systems and governments to see what might be learnt from international tests and comparative studies. The New Zealand educational authorities are also concerned to incorporate best practice and claim to have done so in designing the NCEA. Unfortunately neither the Ministry of Education nor the NZQA – the joint designers of the NCEA – have reduced their analyses of local and overseas 'best practice' to the discipline of written form that might be submitted to expert peer review and public examination.

3.1 The Third International Mathematics and Science Study 1995 (TIMSS)

The TIMSS tests involved testing mathematics and science education at the middle primary, lower secondary and final year of secondary school. At the first two levels, students in Singapore, Korea, Japan, the Netherlands and the Czech Republic performed consistently at the top of the table. The results for New Zealand students placed them in the middle range.

Results for the last year of secondary school in science and mathematics literacy (which excluded Asian nations) placed New Zealand students specialising in maths third in a list of 14 countries, and for science literacy New Zealand students came fifth equal in a list of 21 countries.⁸ In both tests, New Zealand satisfied both sample and participation rate requirements while several other countries did not. Thus for the final year of schooling New Zealand students appear to have performed comparatively much better than for earlier years, but the absence of the Asian nations that performed so well at earlier stages of schooling makes any such judgment problematical.⁹ To the extent that the results indicate that New Zealand students are doing well in the later years of schooling it would be an argument for strengthening existing arrangements rather than abandoning them and implementing an experimental and untried system as is proposed.

In addition to tests such as TIMSS, many countries are also undertaking comparative studies to improve their understanding of the relative strengths and weaknesses of various education systems. The United Kingdom's International Review of Curriculum and Assessment Framework Project provides one example of this

⁸ See <http://nces.ed.gov/timss/> for an outline of TIMSS.

⁹ See <http://nces.ed.gov/timss/> for an outline of TIMSS.

approach. The Project's Internet site¹⁰ provides an extensive and detailed analysis of various education systems, including a description of assessment arrangements and how curriculum is organised across the levels of primary and secondary schooling.

3.2 The Asian Education Research Project

The 'Asian Education Research Project', undertaken by the author of this report at the request of the Victorian Department of Education, sought to identify the reasons why several Asian education systems rank consistently at the top of international tests such as TIMSS. In analysing the reasons for Asian students' superior academic performance, the report highlighted:

- The competitive, examination-based nature of the assessment systems.

The majority of the Asian nations surveyed, unlike Australian states, have a strong regime of public examinations that combine both incentives for working hard and consequences for failure. APEC members, including Hong Kong, Japan and Singapore, decide which secondary schools students will attend by having examinations at the end of elementary and junior high school. Such examinations and aptitude tests are 'high stakes', and there is strong competition to gain admission to the more prestigious schools (see Department of Education (United States), October, 1992).

- The nature of classroom teaching and learning.

Compared with teachers in schools in Australia, New Zealand, the United States and England, teachers in Asian countries generally rely more on examinations and tests, rote learning, and teacher-directed lessons. Teachers in Asian schools may also rely more on extrinsic factors, like the need to conform with group expectations, to motivate students; this is unlike Australian schools where, from the earliest age, children are taught to rely on intrinsic motivation.

Another important difference is that Japan and Singapore have a highly centralised system compared with Australia, and there is less emphasis on school-based curriculum development. Rather than teachers spending their time designing their own curricula, the curriculum is designed centrally with textbooks provided that relate directly to what should be taught. As a result, teachers have more time to focus on improving the quality of teaching and learning in the classroom. Also, American research undertaken in conjunction with TIMSS shows that Japanese students, compared with American, are more willing to learn, there is less disruption in the classroom and 'time on task' is therefore more focused. Discussions with Jan Lokan, from the Australian Council for Educational Research and responsible for the Australian chapter of

¹⁰ See <http://www.inca.org.uk/>

the TIMSS, suggest that Asian teachers, compared with Australian, have a higher expectation of what their students can achieve.

Cochrane¹¹ notes from recent observations in several Asian countries that teachers are themselves well educated, their lessons are well organised and well paced, and the students are fully informed about what they are expected to learn. Teachers in Korea, for example, demonstrated a wide variety of teaching methods and their lessons always had a conclusion. In Singapore and Korea there is increasing stress on such skills as logical reasoning and critical and creative thinking. He notes that Koreans and Singaporeans are, nonetheless, highly critical of their own education delivery. Korea, for example, is concerned about excessive stress on rote learning and memorisation in preparation for university admission and is seeking to develop a more flexible approach to university/college entrance.

- The influence of the Confucian tradition.

Confucian teachings promote respect for learning and for teachers, high motivation to succeed, the assumption that success can be achieved by all, commitment to a work ethic, and the need to be diligent.

- The influence of parents and the home background.

Asian parents, in particular those from Japan and Singapore, show a very strong commitment to their children's education. This commitment shows itself by the amount of time and money parents are willing to give to their children's education, by parents instilling in children a belief in the value and benefits that stem from educational success, and by the way in which the home environment supports fully what happens in the classroom and the school.

Research carried out by Professor David Reynolds (1996), Professor Harold Stevenson and Professor James Stigler (1992), and Professor Stigler (1999) confirms that Asian education systems have a strong syllabus-approach to curriculum development involving regular 'high-risk' testing. Classroom pedagogy, in comparison with classrooms in America, Australia, England and New Zealand, is more teacher-directed with a greater emphasis on whole class work and memorisation, especially during the early years.

¹¹ Personal communication dated 14 July, 2000. See also Education Review Office, 2000.

THE NATIONAL CERTIFICATE OF EDUCATIONAL ACHIEVEMENT (NCEA) FROM AN INTERNATIONAL PERSPECTIVE

The NCEA represents a dramatic change to the current post-compulsory qualifications system in New Zealand. Moving to an 'outcomes' approach to defining what is to be achieved, reducing the emphasis on external examinations, abolishing all statistical scaling and increasing the reliance on school-based moderation for assessment purposes, and blurring the distinction between academic and vocational studies, represents significant change to current practice.

The division of subjects into between five and eight components, each to be assessed either internally *or* externally and reported separately without aggregation into an overall subject score, can be expected to have very significant and adverse effects on pedagogy, workload and the reliability of assessment (see Hall, 2000). Contrary to the official view, this arrangement can be expected to have profound effects on what is taught and learnt. Fragmentation of subjects will result in the loss of any concept of a unified structure for the various disciplines and of the importance of an overall understanding of the ways in which aspects of a subject cohere. Ironically, one of the most used adjectives in the official reports to describe the new school qualifications system is "coherent". But a casualty of the attempt to create a bureaucratically neat and "coherent" system, in terms of a common currency of Achievement Standards, is the coherence of subject disciplines.

The following comments view particular aspects of the NCEA from this international perspective and in an international climate where governments and education departments are increasingly seeking to test local initiatives against 'best practice'.

4.1 Different approaches to student diversity

In all of the developed countries, a growing proportion of students has been staying on to the end of secondary schooling. How education systems accommodate the broadening population of students in the final years of schooling varies. Some have separate streams for students of different types. Others have sought to build comprehensive systems to accommodate all students in a common curriculum structure.

(McGaw, 1996, p 29)

Research associated with TIMSS categorises senior school courses as being academic, technical, vocational or general in nature. Across the countries involved in TIMSS it is also possible to identify different approaches to streaming students and to designing pathways that best suit students' abilities, interests and post-school destinations.

4.1.1 *The NCEA's 'cafeteria' approach*

New Zealand intends to offer one certificate, the NCEA, which will be made up of individual qualifications. Most of the qualifications will be Achievement Standards linked to the outcomes of a single set of curricula that apply to all senior school students whatever their abilities, levels of attainment or post-school aspirations. There will only be one set of Achievement Standards for each subject.

In theory, students will be able in theory to pick and choose from a very considerable range of Achievement Standards, on average about six for each of, say, 30 subjects. Further, each Achievement Standard will consist of sets of standards for each of four levels (Years 11, 12 and 13 plus scholarship) and at three grades (credit, merit and excellence) for each level. At least half of the Achievement Standards in any subject are to be externally assessed with the remainder internally assessed. Results will be reported in terms of four grades – the above three plus 'no-credit' – and externally assessed Achievement Standards will also be reported by marks and percentiles.

The number of possible combinations of Achievement Standards and levels that students may accumulate over three years in the senior school is in theory enormous, though practicalities of timetabling, limits on resources and other factors will greatly reduce it. The NCEAs will discriminate between students' performances in a vast number of ways (the individual Achievement Standards chosen, their levels and grades, and, for externally assessed standards, marks and percentiles). Even assuming the Achievement Standards enjoy public credibility (which Hall, 2000, doubts), it is highly questionable whether users will be able to compare students' performances without difficulty. Because the NCEAs will vary greatly between students they will not provide the simple, clear *and discriminating* information that most users look for in school qualifications. The decision to abolish inter-subject scaling will make it hard to ensure similar levels of difficulty between subjects. Likewise, the abolition of inter-year scaling means that one cannot readily assume that Achievement Standards acquired in different years are comparable even when they are at the same level and grade. It looks as if inter-student comparisons could, in fact, be difficult.

While great play has been made in official information about the NCEA to the effect that the new system will provide much greater information to users about what students know and can do, the opposite seems more likely. NCEAs will be supported by transcripts with so much detail about performance in small bits of the various subjects that it may well be difficult to "comprehend what the student is supposed to have achieved" (Austin, 2000). In any case most of the 'standards' are far too vague to

be of much use to those seeking to work out from an NCEA transcript what 'standards' the holder is certified as having reached. Recourse will have to be had to exemplars and other supporting material and even they may not suffice.

Also, while students will be able to select learning elements from a vast range of Achievement Standards and some Unit Standards, and can 'mix and match' academic and vocational standards, the selections will be individual and may make little overall educational sense. The notion of a coherent programme or course of learning is largely lost. Thus the educational incoherence produced by the fragmentation of subjects may well be exacerbated by the particular combinations of subject 'bits' chosen. This 'cafeteria' approach is not at all like the 'pathways' approach usually employed by educationally successful continental European and Asian countries.

4.1.2 Continental European and Asian 'pathways' approaches

Whereas New Zealand is in the process of adopting a 'one curriculum and one certificate fits all' approach to senior school curriculum and certification, albeit one that offers a large number of possible combinations of small subject bits, those countries that performed best in the three sets of TIMSS results, generally speaking, differentiate clearly between academic and vocational streams and employ different curricula. In other words, instead of combining a range of subjects, courses or units under the one umbrella, such systems design a number of distinct and separate certificates for particular groups of students.

School systems in Switzerland, Singapore, the Netherlands and Korea provide well constructed, widely understood and distinct pathways with separate courses and certificates for students with different abilities and interests. Such systems also incorporate 'high-risk' examinations to help decide which pathways students should take. In a survey report, Dr Joanne Le Métais has noted that:

In Singapore, however, as in Germany, the Netherlands and Switzerland, achievement at the end of primary education determines the student's suitability for, and access to, differentiated secondary school courses, which in turn lead to different secondary school leaving examinations.

(Le Métais, 1997)

One example of this differentiated approach is in the Netherlands¹² where post-compulsory students can choose between the following four tracks:

- VBO – a certificate that grants access to upper secondary vocational education (MBO) or employment;

¹² Education Review Office (2000, pp 120–121) provides further information on the Netherlands' system.

- MAVO – a certificate that grants access to Year 4 of HAVO or upper secondary vocational education (MBO) apprenticeship or employment;
- HAVO – a certificate that grants access to Year 5 of VWO or direct to higher vocational education (HBO), upper secondary vocational education (MBO) or employment;
- VWO – a certificate that grants access to university, higher vocational education (HBO) or employment.

The success of some continental European countries appears to reside in clear academic, applied and occupational pathways often taught in different kinds of secondary schools, clear curricula backed up by particular textbooks, explicit assessment methods which command confidence, and informative qualifications recognised by employers and often an entry requirement for employment. These countries tend to have a core curriculum including mother tongue, maths, science and English with different emphases – including academic, applied and occupational – beyond the core.

One benefit of this approach is that courses can be designed so that they are most likely to meet the specific needs and post-school destinations of students. While there are risks in early curricular and institutional differentiation, it also appears that the retention rates for post-compulsory students for those countries, and the numbers of students involved in vocational education and training, in comparison with countries such as Australia and New Zealand, are quite high. As stated in the TIMSS report on the final year maths and science results (1998):

In particular, in Australia, Canada, France, Iceland, Slovenia, and the United States, fewer than one-fifth of final-year secondary students covered by the TIMSS testing were enrolled in vocational programs. In contrast, a well-developed vocational sector is a feature of many of the education systems of continental Europe. Between half and three-fourths of the students in Austria, the Czech Republic, Germany, the Netherlands, and Switzerland were in vocational programs or tracks.

(IEA, 1998, p 82)

The difficulties associated with designing the one certificate to meet the needs of all students are highlighted by the fate of the Victorian Certificate of Education (VCE) when it was first introduced. The VCE was designed to be a common senior school certificate that subsumed existing courses such as the Tertiary Orientation Program (TOP), Schools Year 12 Tertiary Entrance Certificate (STC) and Higher School Certificate (HSC) Group 2. Instead of diversity, all students were made to complete the same general certificate and, as a result, academically minded students, as well as those interested in vocational education and training, suffered. As stated in the Interim

Report of the Ministerial Review of Post Compulsory Education and Training Pathways in Victoria:

The weight of responses that have been received by the panel, however, suggest that the current set of programs and the rules for their delivery need to be examined. There is a view that the current rules for delivery of programs, especially in schools, lack flexibility. As the VCE now covers 75 percent of young people significant stresses are emerging. The VCE cannot be expected to do everything.

(Department of Education, Employment and Training (DEET), Victoria, 2000)

4.2 The question of assessment

In the reporting of results, there are two broad approaches. One approach is concerned with primarily ranking students, and thus judging them in relation to one another (norm-referenced). The other approach is concerned with establishing what students can know and do in terms of standards of performance expected of them (standards-referenced).

(McGaw, 1996, p 41)

Most education systems across OECD and APEC countries, especially those with clearly identified academic streams leading to tertiary studies, rely on system-wide, externally set and marked examinations. Examples include the English General Certificate of Education (GCE) 'A' Levels and the Singapore Cambridge GCE 'A' Levels. Exceptions to this rule include Japan, where the Certificate of Upper Secondary Education is based on teacher assessment, and Sweden, where the norm-referenced system of assessment is being replaced by what is termed a criterion-referenced approach. It should be noted that where national externally set and norm-referenced examinations are absent (for example, Korea, Japan and Sweden) tertiary institutions usually rely either on some kind of system-wide aptitude test or set their own examinations to select students.

Those systems that have reduced the emphasis on external norm-referenced examinations, such as the majority of Australian states, ensure both the credibility and reliability of the internal marks by moderating them against the results of external system-wide assessment. This is done either by a process of statistical moderation based on the results of an external examination (implemented as a result of the review of Victoria's VCE in 1998) or by a general test such as the Australian Scaling Test (Queensland). New South Wales and Victoria also incorporate a process of scaling marks when arriving at an aggregate used to decide tertiary selection.

For an example of a system that has experimented with replacing norm-referenced system-wide examinations with school-based assessment of student performance plus moderation, we can again look to the state of Victoria. The VCE, introduced over the years 1990–1991 by the then Labor Government, pioneered radical changes to the existing range of certificates. Part of the rationale for introducing the VCE was a critique developed at the time of the Higher School Certificate (HSC). Some argued that the HSC's reliance on norm-referenced assessment was inequitable in that it advantaged particular groups of students and promoted an elitist, academic view of the curriculum. Of relevance to New Zealand is the fact that the VCE, as it was originally designed, failed and that subsequent changes to the certificate have reinstated norm-referenced assessment and statistical moderation. Many of the characteristics of the originally introduced VCE appear to be the same as, or similar to, features of the proposed NCEA. Both certificates seek or, in the case of the VCE, sought to:

- reduce the emphasis on external, end-of-year examinations;¹³
- blur the distinction between academic studies and those associated with vocational education and training. This is an explicit aim of the NCEA;
- lessen the impact of competition and academic excellence by reducing the assessment scale. In Victoria the assessment scale moved from a 100 points to a five points scale under the VCE, while in New Zealand it will reduce from 100 points to four under the NCEA (no-credit, credit, merit and excellence); and
- introduce a system of untested and untried moderation and abolish all forms of statistical scaling. Moderation was largely school-based in Victoria. Details of the moderation system for the NCEA are yet to be announced, but may also be largely school-based and will, in any case, like other aspects of the new scheme, be untried.

Of interest, given the planned introduction of the NCEA, is that the VCE very quickly encountered problems in relation to authenticity of students' work, comparability of results, inflated grades and complaints about unmanageable student/teacher workload and stress. Such was the public uncertainty and disquiet over such matters that an inquiry into the VCE was commissioned soon after it had been fully implemented. The inquiry's report concluded, amongst other things, that:

- Verification Panel Chairpersons, as a group, are not sufficiently reliable or accurate in their gradings to give complete confidence in the information they provide;

¹³ This will be the case for the NCEA at the end of Years 11 and 13 (Forms 5 and 7). The present Year 12 qualification, the Sixth Form Certificate, is entirely internally assessed though 'moderated' against the previous year's School Certificate results. Thus the introduction of externally assessed Achievement Standards in Year 12 will introduce an element of external assessment that is presently entirely lacking.

- there is evidence of possible bias in the grades of some schools and in the grades provided by some Verification Panel Chairpersons;
- one cannot have full confidence that the verified grades of students on the current VCE are as valid or reliable as they might be if procedures were to change;
- as one would expect from a reading of the research literature, a considerable percentage of students use unfair practices in completing school-assessed Common Assessment Tasks (CATs);
- a minority of teachers are involved in unfair practices regarding their VCE students' assessments;
- the criteria on which verification is based are not always sufficiently clear;
- some of the CATs provide a bias in favour of students from affluent backgrounds;
- the cost to schools (resources, teacher time) of the verification process is considerable;
- the cost to students (workload, learning time) can also be a problem;
- the cost to the Victorian Curriculum and Assessment Board (VCAB) (the body responsible for the certificate) is large and involves a great outlay of attention and resources that could be put to a range of other important educational activities; and
- lack of standardisation in the marks can be readily misinterpreted. (In 1992, close to 50 percent of students received A+ for some of the CATs, while in other CATs the percentage was less than 10 percent.)

(Brown and Ball, 1992)

Changes made to the VCE as a result of the inquiry included completing more assessment tasks under examination conditions and moderating school-based assessment of CATs against an externally set and marked General Achievement Test (GAT).

The most recent review of the VCE, undertaken in 1998, resulted in further strengthening of the place of external, system-wide examinations by recommending that statistical moderation be reintroduced to deal with the type of problems outlined above. The review also recommended that the undertaking of assessment tasks outside the classroom over an extended period of time be replaced by formal tests supervised by teachers in the classroom. This change was considered essential to reduce cheating and the onerous and time-consuming demands associated with verifying and moderating student assessment tasks.

Given the acknowledged flaws in the approach to assessment embedded in the original VCE, it is astonishing that the New Zealand authorities are embarking on a very similar development with the NCEA.

It has already been noted that the NCEA incorporates a feature that distinguishes it clearly from the VCE and this is the proposed breakdown of subjects into between five and eight components to be assessed without cross-moderation and reported separately. This is likely to exacerbate for the NCEA the problems encountered by the original VCE (see Hall, 2000).

The reduction in discrimination between students is also going to be a serious problem. Far too many performance levels are to be lumped into one of four categories (no-credit, credit, merit and excellence). This will not discriminate enough between students for entry into highly competitive tertiary programmes and will be unfair on the really high achievers. It will also cause egregious errors and gross unfairness when a student misses out on one gross level for another gross level (for example just misses merit by a small amount) and when the performance is within the range of measurement error.

4.3 Syllabuses, outcomes or standards?

Traditionally, school curriculum has been based on a 'syllabus' approach to teaching and learning. While this is still the case in countries like Singapore, Japan and, to a lesser degree, England, a number of other education systems have adopted either an 'outcomes' or a 'standards' approach.

The NCEA, together with the New Zealand Curriculum Framework to which it is linked, represent a dramatic departure from a 'syllabus' approach to what this report describes as an 'outcomes' approach to curriculum design and implementation.

The different approaches can be categorised as follows in terms corresponding to their current usage in the United States:

Syllabus	Outcomes	Standards
focus on what students should be taught/expected to learn	focus on what students should achieve or be able to do	identify what students should know and be able to do
based on established disciplines/categories of knowledge	mixture of established disciplines and a multidisciplinary approach	based on established disciplines/categories of knowledge
relate to specific grades/year levels	address levels which incorporate a number of grades/year levels	generally focus on specific year/grade levels

expectation that essential knowledge, understanding and skills are mastered at key stages (high risk tests and streaming)	developmental approach to learning	expectation that essential knowledge, understanding and skills are mastered at key stages
emphasis on formal teaching and learning	a constructivist, child-centred approach to teaching and learning	emphasis on formal teaching and learning
common curriculum or within distinct and separate curricular pathways based on a core plus electives where a pathways approach is employed	common curriculum	core/elective curriculum
discrete areas of study and topics	particular topics (such as literature or geometry) often dispersed across strands	discrete topics
mandated number of hours	number of hours not stipulated	number of hours not stipulated

Those countries that perform well consistently in international tests such as TIMSS, including Singapore, Korea and Japan, adopt a 'syllabus' approach to curriculum development and assessment. New Zealand's NCEA represents a dramatic change from a 'syllabus' approach to an approach represented by what is termed 'Achievement Standards'. These 'Achievement Standards' are defined as statements about what students "need to know and do to be credited with meeting the standard" (Ministry of Education and NZQA, 2000).

While the New Zealand authorities view the NCEA as implementing 'Achievement Standards', the 'standards' are in fact more like 'outcomes' as defined in the United States. The US 'outcomes' have been criticised for being "nebulous, hard to measure and focus(ing) on affective matters ... values, beliefs, and emotions rather than academic achievement" (Manno, 1994).

The literature search undertaken in relation to this report failed to identify any other educational system that has implemented a system-wide approach to senior school certification based on what New Zealand terms "Achievement Standards". Sweden is one system that is moving away from a norm-referenced approach to assessment to a criterion-referenced assessment regime, but this one example seems to be the exception. It should also be noted that even in those countries where the 'standards'

movement is in the ascendancy, such as Australia and the United States, 'standards' are restricted to the compulsory years of schooling. The Australian national statements and profiles, for example, and Victoria's Curriculum and Standards Framework (CSF), both of which embrace an 'outcomes' type approach similar to the NCEA, do not deal with the post-compulsory years of schooling.

Finally, while it is true that some systems, such as Scotland and England, have introduced a 'standards' type approach in the vocational education and training area (eg National Vocational Qualifications (NVQs) and General National Vocational Qualifications (GNVQs)), these countries maintain an academic, examination-based system associated with the mainstream, post-compulsory system.

4.4 Defining and specifying the 'standards'

Notwithstanding the fact that no other education system has implemented a so-called 'standards' system across the whole post-compulsory level, and on the assumption that an 'Achievement Standards' approach to senior school certification is the best option, it still has to be decided how the 'standards' should be defined and specified.

The history of the 'standards movement' in the United States demonstrates that the process of establishing 'standards', or what students need to know and do, is far from easy. As a result of the *Nation at Risk Report* of 1983 and the education goals endorsed by the 1989 Education Summit involving the US President and state Governors, education systems across the United States began to change from an 'input' model of school and system effectiveness to one based on measuring 'outcomes'. The term 'outcomes-based education' (OBE) gained widespread currency as systems focused on defining teaching and learning in terms of what students should know or be able to do at the end of a set period.

Traditional educational practices centre on 'inputs'. Students are exposed to a segment of curriculum over a specified time. At the end of the unit, an examination is usually given, and grades are assigned regardless of whether all students have achieved mastery of the material. In contrast to a content and time-based method OBE specifies the 'outcomes' students should be able to demonstrate upon leaving the system.

(McNeir, 1993)

Attempts to define learning in terms of 'outcomes', or what later became known as 'standards', met with a number of criticisms. Many argued that the learning standards developed as a result of OBE were vague, imprecise, lacking in academic rigour and too cumbersome to be implemented in the classroom (see Shanker, 1993, 1994; Manno, 1994). Indeed, such was the intense nature of the critique against OBE that Marzano and Kendall, while arguing that not all was lost, concluded:

In summary, the once bright promise of subject area standards born from the desire to improve the rigour and effectiveness of American education, has faded under a wide array of criticisms, and the movement itself has become bogged down under its own weight.

(Marzano and Kendall, 1996)

The height of the public attack on OBE was reached when both the History Standards Project and the Standards Project for the English Language Arts were condemned for being nebulous, ideologically biased and focusing on the process of learning to the detriment of worthwhile content (see Kendall and Marzano, 1997, pp 1–17).

Notwithstanding many of the criticisms of OBE, the belief that educational effectiveness should be measured in terms of student learning outcomes gathered force within the United States. In the mid-to-late 1990s the OBE movement was superseded by what is now termed the 'standards movement'. Similar to OBE, a focus on 'standards' represents a fundamental shift from an 'input' model of educational effectiveness to one based on 'outcomes'. As stated by one observer:

When judging educational quality, either we focus on what schools spend – or one of its many substitutes – or we focus on what students achieve, what they know and can do. Those who advocate a focus on outcomes in judging educational quality hold one common belief: we must specify what we expect children to learn, and we must test them to determine whether they have learned it.

(Manno, 1994, p 2)

Where 'standards' are different from the type of learning statements associated with OBE is that 'standards' are meant to represent a more academically rigorous and clearly defined approach to identifying learning outcomes. The American Federation of Teachers (1999) argues that effective and worthwhile standards must:

- be based on the academic disciplines,
- be specific and easily understood,
- be measurable,
- be related to grade (year) levels,
- be assessed on a state wide basis,
- clearly define the essential knowledge, understanding and skills unique to each core discipline, and
- provide a proper balance between content and skills.

The Fordham Institute,¹⁴ a conservative think tank, defines the best standards documents as being:

- clear and specific,
- measurable,
- comprehensive,
- demanding,
- based on essential knowledge, and
- based on a definition of relevance not restricted to the world of the student.

As highlighted by the following quotation, the best 'standards' are those based on a more traditional, discipline-based approach to teaching and learning.

It is not enough for state standards to simply touch upon or reference the disciplines. Each discipline represents a body of knowledge and a 'disciplined' way of thinking that have evolved over centuries. To be complete, a set of standards must embody the knowledge and habits of mind essential to each of the core subjects, and in our opinion, this cannot be accomplished by trying to fit disciplinary knowledge into broad over-arching categories such as 'critical thinking' and 'problem solving'. If standards setters ignore or significantly blur disciplinary boundaries, there is a real danger that the integrity of the disciplines – the essential knowledge, skills, and habits of mind that make each subject unique – will get lost.

(AFT, 1999)

In the United States, not only must good standards be based on the established disciplines of knowledge and be measurable, but many states are also suggesting that 'standards' should equate with individual year levels and that students should only progress after demonstrating mastery of the set 'standards'.

It should be noted that this approach to curricular design and pedagogical practice is very different from that embodied in New Zealand's new curriculum framework (Ministry of Education, 1993) and curricula (for critical review see Irwin, 1999). Moreover the NCEA, rather than upholding the disciplinary approach, dismembers the disciplines.

¹⁴ The Fordham Institute's website is <<http://www.edexcellence.net>>.

4.5 Evaluating 'standards'

Based on the previously detailed criteria, both the AFT and the Fordham Institute regularly rank 'standards' documents. Similar to OBE, the majority of the 'standards' produced by various US state education authorities and national organisations are criticised for being vague, imprecise and lacking in academic rigour. Since 1995 the AFT has published an annual report entitled *Making Standards Matter*. The 1995 report concluded that 13 of the 50 states' standards were acceptable. By 1999 that figure had grown to 22, with the majority of states' standards still missing the mark.

The problems associated with setting 'standards' can readily be seen by examining the draft NCEA Achievement Standards in English. At Level 2 students are expected to:

Write in a range of genres	2.1 Produce developed creative writing 2.2 Produce developed formal writing
Explore the language of and think critically about a variety of oral, written and visual texts	2.3 Read and analyse written texts 2.4 Analyse oral and visual texts 2.5 Read and analyse unfamiliar texts
Speak with confidence Media and drama production	2.6 Deliver an oral or visual presentation
Conduct research	2.7 Investigate a language or text based topic

These 'standards' beg various questions. For example, what kind of written texts and what kind of textual difficulty levels are envisaged? These standards, intended for Year 12 students, or about 16 years, could as easily be standards for 11-year-olds – which is ludicrous. The same problem was encountered with Unit Standards (see Irwin *et al*, 1995) but is being repeated in the NCEA; one is prompted to ask what aspect of 'best New Zealand practice' this represents.

Based on the criteria established by the AFT and the Fordham Institute, such 'Achievement Standards' are more like the types of learning outcomes associated with the much discredited OBE movement. By comparison, the 'standards' associated with the American *New Standards, Performance Standards* English Language Arts document (National Centre on Education and the Economy and the University of Pittsburgh, 1997) are detailed, more explicit and rigorous. In reading and writing, for example, the New Standards document states, for High School students:

<p>Reading</p> <p>The student reads and comprehends at least four books (or book equivalents) about one issue or subject, or four books by a single writer, or four books in one genre, and produces evidence of reading that:</p> <ul style="list-style-type: none"> • makes and supports warranted and responsible assertions about the texts; • supports assertions with elaborated and convincing evidence; • draws the texts together to compare and contrast themes, characters, and ideas; • makes perceptive and well developed connections; • evaluates writing strategies and elements of the author's craft. 	<p>Writing</p> <p>The student produces a report that:</p> <ul style="list-style-type: none"> • engages the reader by establishing a context, creating a persona, and otherwise developing reader interest; • develops a controlling idea that conveys a perspective on the subject; • creates an organising structure appropriate to purpose, audience, and context; • includes appropriate facts and details; • excludes extraneous and inappropriate information; • uses a range of appropriate strategies, such as providing facts and details, describing or analysing the subject, narrating a relevant anecdote, comparing and contrasting, naming, explaining benefits or limitations, demonstrating claims or assertions, and providing a scenario to illustrate; • provides a sense of closure to the writing.
---	---

These standards still require interpretation, but they are much more explicit and seek to bed the various 'standards' in content. In the conventional subjects, there is usually no such thing as completely unambiguous standards – markers still need to be socialised into a common understanding as how they should be interpreted. But rigorous standards can greatly assist the task of securing a high level of consistency in assessment as well as encouraging sound, discipline-based, pedagogy.

A second problem with the NCEA's 'Achievement Standards', as highlighted by the draft NCEA Achievement Standards in English, is the way the question of measuring student performance is managed. For '2.3 Read and analyse written texts', the assessment criteria are as follows:

Credit	Merit	Excellence
6. Read, respond to, and analyse two written texts using supporting evidence.	Read, respond to, and analyse convincingly two written texts using supporting evidence.	Read, respond to, and analyse with insight, two written texts, using supporting evidence.

The inclusion of words and phrases such as "convincingly" and "with insight" does little to distinguish between the levels and to pin down the standards to be achieved. By contrast, a norm-referenced approach to assessment allows students to be compared against one another and ranked in order of how well they complete a particular task.

The NCEA seeks to identify levels of performance across students not by ranking students as such, but instead by matching students' performance against the agreed 'Achievement Standards'. The difficulty is that if the 'Achievement Standards' and supporting material are too general and vague it becomes extremely difficult, if not impossible, to grade students with the required degree of fairness, reliability and consistency. This will compound the problem, to which reference has already been made (see 4.2), of too few levels of differentiation between student performance and the probability of egregious errors at the margins between grades. As demonstrated by the failure of the VCE, as originally designed, such an approach to assessment appears flawed both in design and in practice.

CONCLUSION

At a time when education authorities around the world are seeking to strengthen their systems by identifying and drawing on international 'best practice', it appears that those responsible for the NCEA have concluded that there is little or nothing to be gained either from New Zealand's own recent and continuing experience of Unit Standards or from other educational jurisdictions.

While the official view is that the NCEA is based on "best assessment practices, here and overseas, of the last 20 years ..." (Ministry of Education and NZQA 2000, p 7), the conclusion to be drawn from the research undertaken for this report is that those responsible for the NCEA are proceeding in a direction that is quite different in several important respects to that indicated by educationally successful overseas countries.

The NCEA represents an experimental form of senior school certification that appears to have little, if any, widespread currency overseas. Unlike New Zealand, those countries that perform best in international tests, such as TIMSS, embrace a 'syllabus' approach to curriculum development, as opposed to an 'outcomes' or 'standards' approach, and make use of system-wide, external examinations.

Those countries that have attempted to implement a 'standards' approach restrict it to the compulsory years and, in the case of the United States, have yet to implement fully 'standards' considered academically rigorous and educationally sound. It should be noted particularly that when the state of Victoria introduced a post-compulsory certification system (the VCE, similar in several material respects to the NCEA) major flaws, both in design and practice, were revealed leading to major disruption and disquiet and requiring extensive repair.

With the planned introduction of the NCEA beginning in 2002, the New Zealand authorities still have time to reconsider their proposals in the light of New Zealand's own experience of Unit Standards and the international evidence. The main points and suggestions that emerge from this study and recommend themselves to this researcher¹⁵ and which could well come to the fore in any such reconsideration are as follows:

- It is essential not to enter new territory where there is not even international precedent without at least some testing for practicality. A new qualifications

¹⁵ I am indebted to Professor Sam Ball for several of the following comments and reflections on the NCEA and on the directions the New Zealand authorities might usefully follow in any reconsideration.

system is not something to introduce first and then tune into a practical system later.

- It is educationally unproductive to have teachers work to vague statements of intent no matter what they are called (Achievement Standards, standards, outcomes, objectives etc).
- The NCEA lacks subject-wide coherence in that subject components, the Achievement Standards, are assessed by a single method and reported separately without aggregation.
- The NCEA appears to be a re-run of New Zealand's view, expressed in its National Qualifications Framework, but now widely discredited elsewhere, that the accumulation of a large number of units or credits is a sensible means of obtaining a higher qualification.
- What is required is an approach to curriculum and assessment in the post-compulsory level that is psychometrically sound¹⁶ and that caters for a wide range of students. The approach should produce levels of achievement that are excellent in that they:
 - describe the kind of performance desired, including content and skills, at each particular level with exemplars to assist in achieving consistency and clarity of interpretation;
 - can be reliably used by those responsible for teaching and evaluating;
 - ensure that those graduating from the course have the knowledge and skills that the course requires;
 - have diverse curricula that extend students of all abilities and aptitudes; and
 - differentiate sufficiently between students for the purposes the levels are used for. In some cases this might involve pass/fail and, in other cases, such as for entry to highly competitive tertiary courses, discriminating among the top performing 15 percent of students.
- The School Certificate seems to serve a recognised purpose and status but could be revised. Similarly the Bursary examinations clearly serve a purpose but could be extended to serve a wider range of students. Entry requirements for university and other academic tertiary courses could take account of the wider range of Bursary subjects by including prerequisites or using scaling devices so as to avoid the unfair granting of entry credits to inappropriate courses.

¹⁶ Psychometrics is the measurement of human attributes, mainly of the psyche. Essentially, soundness in this context means reliability, or consistency and freedom from random error; and validity, or measuring the attribute intended.

- For students leaving school between School Certificate and Bursary there is need for a statement of achievement using a national template and providing information on a variety of achievements. This could include Year 12 examinations, especially if the School Certificate were reduced somewhat in significance. Alternatively School Certificate could remain and be improved to 'anchor' the academic achievement level with the Year 12 exit certificate describing subsequent school work and other achievements.

APPENDIX A

Definitions

Achievement	<p>The US New Standards Project uses the term 'performance levels' when discussing achievement. 'Performance levels' are defined as the levels of performance that constitute mastery of standards. The National Assessment Governing Board publication <i>NAEP Civics</i> (1998), uses the term 'Achievement Level Descriptions' which are to indicate "... how well students should perform on the knowledge and skills measured by the assessment" (p xii). The English National Curriculum uses the term 'Attainment Targets' when discussing "expected standards of pupils' performance"; these are described as: "the types and range of performance that pupils working at a particular level should characteristically demonstrate". The NAEP document (1998) also defines achievement at a particular grade level as 'basic', 'proficient' and 'advanced'.</p>
Basic academic skills	<p>These mean those skills in subject areas including, but not limited to, reading, spelling, written expression and mathematics that provide the necessary foundation for mastery of more complex intellectual abilities, including the synthesis and application of knowledge.</p>
Content standards	<p>These mean the specific academic knowledge, skills, and abilities that all schools are expected to teach and all pupils are expected to learn in each of the core curriculum areas at each grade level tested.</p> <p style="text-align: right;">California Academic Standards Commission</p>
Frameworks	<p>Curriculum documents, generally speaking, can be described as embodying a syllabus, outcomes or standards approach. So-called 'Frameworks' documents, such as Victoria's CSF, seek to detail what students will or should be able to do at key stages in terms of learning outcomes, often expressed as a developmental continuum across a range of age groups or year levels. Frameworks are generally flexible and give room for school-based curriculum decision making.</p>

Indicators	The New South Wales (NSW) English K-6 syllabus defines indicators as a statement of the behaviour that students might display as they work towards achievement of outcomes and are to be considered as examples. Victoria's CSF documents also illustrate particular outcomes with a list of what are termed "examples".
Moderation	Moderation is the process of achieving comparable standards across the system and typically involves the qualitative comparison of student work and a statistical procedure such as standardising to a given mean and standard deviation. <i>Australian Curriculum, Assessment and Certification Authorities (ACACA)</i>
Outcomes	What Australians term 'outcomes', US educators call 'standards'. Both focus on what students should know and be able to do at particular stages of their schooling. The Victorian CSF outcomes detail what "students will be able to do" at the completion of particular levels. The NSW definition is that "outcomes are statements of the knowledge, understanding and skills expected to be gained by most students ... by the end of a stage". Within the US context, the term 'outcomes' is often used pejoratively as signifying vague and overly generalised curriculum statements restricted to attitudes, dispositions and sentiments (see Manno, 1994).
Performance standards	These are the standards that define various levels of competence at each grade level in each of the curriculum areas for which content standards are established. Performance standards gauge the degree to which a student has met the content standards and the degree to which a school or school district has met the content standards. <i>California Academic Standards Commission</i>
Performance descriptions	The <i>New Standards, Performance Standards</i> describes these as: "descriptions of what students should know and the ways they should demonstrate the knowledge and skills they have acquired in the four areas assessed by the New Standards". <i>New Standards, Performance Standards, Introduction</i>

Standards	<p>Different education systems interpret the term 'standards' in different ways. The US New Standards Project defines 'standards' as: "what students should know and be able to do". This definition is also used by the American Federation of Teachers (see AFT, 1999). Victoria's CSF, on the other hand, uses 'standards' as a synonym for 'learning outcomes', which are described as: "benchmarks or standards against which student achievement can be measured". Within the US context 'standards' refer to core knowledge, understanding and skills. A distinction is made between 'content standards' – what students should know and be able to do – and performance standards – achievement levels that specify what depth of knowledge, understanding and skills is considered good enough.</p>
Syllabus	<p>Curriculum documents can be described as adopting a syllabus, an outcomes or a standards approach. Syllabuses detail the knowledge, understanding and skills associated with particular subjects and give teachers and students a clear and succinct understanding of what is to be taught (similar to the CSF's curriculum focus). The Japanese, Singaporean and English National Curricula adopt a syllabus approach. Syllabuses are often mandated, as is the English curriculum, involve high-risk, summative assessment, as shown by the testing regime in Singapore and, generally, address specific year levels.</p>
Scaling	<p>Inter-subject scaling is a process used to ensure comparability of results across subjects. In relation to Australia, McGaw (1996) writes: "... attention was given early to the problems of aggregating normative marks, where it was easier to gain high marks against easier competition in some subjects and courses. The solution involved adjusting the marks in each course on the basis of a measure of the general strength of the candidates in the course". This was achieved either by using the Australian Scholastic Aptitude Test or by measuring the students' average performances in their other courses. There are other forms of scaling including inter-marker scaling to adjust for differences in marker toughness and inter-year scaling to adjust for differences in the difficulty of assessment tasks between years.</p>

APPENDIX B

Education Forum

The Education Forum has been formed to contribute to education policy through research and debate on the current issues, structures, and expectations at all levels of New Zealand education.

The Forum believes that New Zealand education requires an approach to learning and achieving which encourages all individuals to reach their full potential, and which will take New Zealand to the leading edge of international performance and achievement.

The Forum is an association of individuals who have a common concern for the future direction of New Zealand education. The membership is drawn from primary, secondary and tertiary sectors of education, together with leaders of industry and commerce.

The principles incorporated in the above statements include the following:

- A commitment to excellence and high expectation in all human endeavour, based on a lifelong desire for learning.
- The belief that the community/government should ensure that all young New Zealanders have access to quality education.
- The teaching of values and life skills which will preserve the dignity of the individual and the integrity of the family.
- The acceptance of healthy competition for both individuals and the education sector.
- The encouragement of cooperation, creativity, adaptability and enterprise.
- The encouragement and recognition of personal responsibility, goal setting and achievement in all endeavours, through self discipline and hard work.
- The acceptance of a compulsory core curriculum in primary and secondary schools.
- The necessity for high standards of assessment of student performance and of accountability of teachers and institutions.
- The promotion of a New Zealand cultural identity.
- The key involvement and responsibility of parents in their children's education.
- The emphasis on the value of parental choice and the self-management of education institutions.
- The development of closer links between education institutions and industry.

PO Box 38–218 Auckland 1730

Telephone: 09–273–1860 Facsimile: 09–273–1861

APPENDIX C

Members of the Education Forum

Mr Byron Bentley
Principal
Macleans College

Mr Simon Carlaw
Chief Executive
New Zealand Manufacturers Federation

Mr John Fleming
Principal
Pt Chevalier School

Mrs Alison Gernhoefer
Principal
Westlake Girls' High School

Dr John Hinchcliff
Vice-Chancellor
Auckland University of Technology

Mr Roger Kerr
Executive Director
New Zealand Business Roundtable

Mr Allen McDonald
Retired Secondary School Principal

Mr John Morris
Headmaster
Auckland Grammar School

Mr Roger Moses
Headmaster
Wellington College

Mr Phil Raffills
Principal
Avondale College

Mr John Taylor
Headmaster
King's College

REFERENCES

American Federation of Teachers (AFT) (1993), *AFT Criteria for High-Quality Standards*, American Federation of Teachers, Washington.

<http://www.aft.org/research/reports/charter/csweb/c.htm>

American Federation of Teachers (AFT) (1999), *Making Standards Matter 1999*, American Federation of Teachers, Washington.

<http://www.aft.org/edissues/standards99/judging.htm>

Austin, L (2000), "Shades of 19th Century in Using Overseas Exams", *New Zealand Herald*, 29 June.

Australian Curriculum, Assessment and Certification Authorities (ACACA) (undated), *Mapping the Curriculum in the Final Year of Secondary Schooling Across Australia*, (the MCFYSSA Report), Board of Studies, Melbourne.

Brown, T and Ball, S (1992), *A Report on the VCE Verification Process*, The Victorian Board of Studies, Melbourne.

Department of Education (United States), (1992) *Education Standards in the Asia-Pacific Region*, Office of Policy and Planning, US Department of Education, Washington DC.

Department of Education, Employment and Training (DEET) (Victoria) (2000), *Ministerial Review of Post Compulsory Education and Training Pathways in Victoria*, Interim Report April 2000, Department of Education, Employment and Training, Australia, April. <http://www.eduvic.vic.gov.au/>

Donnelly, K (1997), *The Asian Education Research Project*, Victorian Department of Education, Employment and Training, Melbourne.

Education Forum (2000), *Policy Directions for School Qualifications – A Report on the National Certificate of Educational Achievement*, Education Forum, Auckland.

Education Review Office (2000), *In Time for the Future – A Comparative Study of Mathematics and Science Education*, Education Review Office, Wellington.

Hall, C (2000), "National Certificate of Educational Achievement: Issues Related to Reliability, Validity and Manageability", Victoria University of Wellington, Wellington, publication pending.

International Association for the Evaluation of Educational Achievement (IEA), (1998), *Mathematics and Science Achievement in the Final Year of Secondary School: IEA's Third International Mathematics and Science Study 1995 (TIMSS)*.

[<http://timss.bc.edu/TIMSS1/MathScienceC.html>]

Irwin, MDR (1994), *Curriculum Qualifications and Assessment – An Evaluation of Current Reforms*, Education Forum, Auckland, May.

Irwin, MDR, Elley, WB and Hall, C (1995), *Unit Standards in the National Qualifications Framework*, Education Forum, Auckland, May.

Irwin, MDR (1999), "A Decade of Curricular Reforms", in Thrupp, M (ed), *A Decade of Reform in New Zealand Education: Where to Now?*, School of Education, University of Waikato, Hamilton.

Kendall, J and Marzano, R (1997), *Content Knowledge. A Compendium of Standards and Benchmarks for K-12 Education*, Mid-continent Regional Educational Library, USA.

Le Métais, J (1997), *Why Different Countries Do Better: Evidence From Examining Curriculum and Assessment Frameworks in 16 Countries*.

[http://www.acs.ucalgary.ca/~iejll/volume1/lemetais_v1n3.html]

Manno, B (1994), *Outcomes-Based Education: Miracle Cure or Plague?*, Hudson Institute Briefing Paper Number 165, June.

Marzano, R and Kendall, J (1996), *The Fall and Rise of Standards-Based Education*, The National Association of State Boards of Education (NASBE), Washington DC.

<http://www.nasbe.org/catalog.html#ISSUESINBRIEF>

McGaw, B (1996), *Their Future: Options for Reform of the Higher School Certificate*, Department of Training and Education Co-ordination, Sydney.

McNeir, G (1993), *Outcomes-Based Education*, ERIC Digest 85, November, United States Department of Education, Washington DC.

Ministry of Education (1993), *The New Zealand Curriculum Framework*, Ministry of Education, Wellington.

Ministry of Education (2000), *NCEA Consultation for English, Draft Matrix English Levels 2 and 3*, Ministry of Education, Wellington.

Ministry of Education and the New Zealand Qualifications Authority (NZQA), (2000), *The National Certificate of Educational Achievement: An Introduction for Parents and Students*, booklet published by the Ministry of Education and the New Zealand Qualifications Authority, Wellington. This booklet is undated but is thought to have been released in early 2000.

National Assessment Governing Board (1998), *NAEP Civics*, National Assessment Governing Board, Washington DC. <http://www.nagb.org>

National Centre on Education and the Economy and the University of Pittsburgh, (1997), *New Standards, Performance Standards*, Volume 3 High School, National Centre on Education and the Economy and the University of Pittsburgh.

<http://www.ncee.org/OurPrograms/nsPage.html>

Reynolds, D (1996), *Worlds Apart? A Review of International Surveys of Education Achievement Involving England*, HMSO, London.

Shanker, Albert (1993), *Outrageous Outcomes*, American Federation of Teachers.
<http://www.aft.org/stand/previous/1993/091293.html>

Shanker, Albert (1994), *A Do-it-Yourself Kit*, American Federation of Teachers.
<http://www.aft.org/stand/previous/1994/100994.html>

Stevenson, H and Stigler, J W (1992), *The Learning Gap*, Summit Books, New York.

Stigler, J (1999), *The Teaching Gap*, The Free Press, New York.

The Fordham Institute (1998), *The State of State Standards*.
<http://www.edexcellence.net/library/soss2000/standards2000.html>