Course innovation in the senior secondary curriculum

A snapshot taken in July 2007

Report prepared for the Ministry of Education

Rosemary Hipkins

New Zealand Council for Educational Research

2007

Acknowledgements

Table of Contents

Tables

Executive summary

This report provides evidence of the extent of course innovation in the senior secondary school, as at July 2007. This evidence has been gathered to inform the work of the Ministry of Education (MOE) as they make wider policy decisions about education at the senior secondary school level.

The report documents the findings of a Web-based survey used to take a snapshot of the extent of subject and assessment innovation in the senior secondary school in mid-2007. Principals were contacted by email and a password specific to their school allowed access to the survey, to be completed by one person with a good overview of the school curriculum. The survey remained live on the Internet for 10 days. During this time, 141 schools visited the site and 124 schools completed and submitted their survey. These schools were a good representation of the full diversity of settings in which secondary school students learn.

The survey addressed the following questions:

1. To what extent are schools providing courses assessed by AS from across traditional subject boundaries, either within one learning area or across several learning areas? What are their main reasons for doing this?
2. To what extent are schools mixing and matching achievement and unit standards to create innovative courses? What are their main reasons for doing this?
3. To what extent are courses assessed by achievement standards from different levels in the same subject? What are the main reasons for doing this?
4. How aware are schools of the achievement standards for sustainability? If they know about them, do they intend to use them?

Key findings

Of the 124 schools completing the survey, just eight did not give examples of some sort of innovation—that is, 94 percent of responding schools had at least one of the four types of innovation to report. Innovative *assessment* design was reported more often than innovative *subject* design:

• Most schools (89 percent) indicated that they assessed some courses with mixes of achievement standards (AS) and unit standards (US). Examples were most commonly given for English, mathematics, and sciences, were more common at Levels 1 and 2, and the standards used were most likely to be the National Qualifications Framework (NQF)-registered "academic" US, not Industry Training Organisation (ITO)-registered standards.

- The greatest reported use of Industry Training Organisation (ITO) standards was in the technology learning area, where innovative courses were reported to be offered at all three NQF levels.
- As schools were restricted to three examples we cannot be sure of the extent to which innovative assessment with combinations of AS and US was also happening in other curriculum areas.
- Three-quarters of the schools (75 percent) reported offering at least one course that was assessed by standards from more than one level of the NQF. Such courses were most common in English and mathematics (but not at Level 3 in mathematics).

Two-thirds of schools also reported innovative *subject* design. The open comments, and responses to questions about the new sustainability AS gave indications that some schools are actively considering more such changes:

- Two-thirds (67 percent) of the responding schools described at least one type of innovative subject that was assessed with a combination of AS from *within* a learning area. This was happening at all levels of the curriculum, in many schools at two or even all three levels. Examples of innovation were reported for every learning area across the full breadth of the curriculum.
- Subjects assessed with a combination of AS drawn from *different* learning areas were the least common type of innovation, with 11 percent of schools reporting at least one such course.

Issues arising

Three key issues emerged from this snapshot.

The status of unit standards

Because US are not currently assessed for merit or excellence, the finding that most schools are offering courses that are assessed by AS/US combinations poses challenges for the policy of endorsement with merit or excellence. Students taking such courses will be disadvantaged when some or all of the course credits they gain cannot be considered part of the total from which endorsement is determined.

It is important not to assume that such course innovation is only for "less able" students. This snapshot provides evidence that the needs of high achievers are also being catered for in many instances of course innovation, and the (unintended) implication that courses with US are only for the lower achievers provoked angry responses from some schools.

Schools that have invested time and creativity in innovation that opens courses up to the full potential of the NQF could be seen as bringing to fruition the promise of the framework

reforms—to better meet the learning needs of all students. Their perspective is an important one to take into account when thinking about awarding merit or excellence to subjects.

The contested nature of a "subject"

If endorsement of subjects or courses is regulated for traditional subjects, as defined by the "suites" of AS developed in the initial stages of National Certificate in Educational Achievement (NCEA) implementation, then students at schools that have been leading innovation in designing courses that are assessed by AS from different subjects within the same learning area, or from different learning areas, will be disadvantaged. The most commonly cited reason for designing these courses, right across the curriculum, was to create a coherent course for a chosen focus. Designing context-rich courses often means a degree of curriculum integration because the real world does not conform neatly to historical subject divisions. For example, a course called "Writing for Publication", outlined in Section 3, models the integration of AS from different learning areas to combine aspects of traditional subjects that logically come together in a highly relevant context with strong links to real-world settings. Given that the revised curriculum identifies key competencies to be integrated into every learning area of the revised curriculum, more of these sorts of courses will be needed to realise the intent of the curriculum, not fewer.

Aligning NCEA with the revised curriculum

Careful consideration needs to be given to the curriculum "message" that regulations for awarding merit and excellence could give. Reinforcing traditional examination-related subject boundaries would send schools mixed messages as they begin to implement the new national curriculum due for release in October this year. This curriculum has an emphasis on designing programmes of learning aligned with students' actual learning needs. In this snapshot, the reasons given for course innovation provide strong indications that students' learning needs are being taken into account when shaping many such courses in the senior secondary school, and that collectively these courses address the full spectrum of learning needs, including those of the most able students.

Many respondents saw interesting potential in the draft "sustainability" AS. Their comments suggest that subject innovation could blossom if more of these integrating standards are developed. Since sustainability is just one of five future-focused themes in the new curriculum it may be that there will be a demand for similar standards for the other four themes. Such cross-curriculum AS could play a key role in helping align NCEA and the curriculum at the senior secondary school level.

Providing a counter to these observations, some of the comments from schools that said they would not use the cross-curriculum sustainability standards show that there is still a significant element of more traditional curriculum thinking in the sector. Some of these schools are already turning away from NCEA to more traditional alternatives. The MOE and New Zealand Qualifications Authority (NZQA) will need to decide where the balance lies between encouraging

moves towards the revised curriculum which is more suited to 21st century learning challenges and the reassuring semblance of greater coherence in familiar subject boundaries.

1. Introduction

As preparation for the proposed implementation of NCEA excellence and merit awards for individual subjects, the MOE and NZQA need to know the extent and nature of course innovation in the senior secondary school. This research provides evidence for that policy work by describing the situation in July 2007.

It was a specific intention of the NCEA reforms, within the wider ambit of the NQF reforms, that assessment for qualifications should allow schools to credential a wider range of learning outcomes in order to better meet the more diverse learning needs of the students who now stay on in the senior secondary school. Research during the NCEA implementation years (2002–2004) documented the early and willing adoption of some aspects of this flexibility. Despite issues such as increased workload and uncertainty about standards, teachers in the six Learning Curves schools supported this aspect of NCEA right from the start (Hipkins & Vaughan, 2002; Hipkins, Vaughan, Beals, & Ferral, 2004; Hipkins, Vaughan, Beals, Ferral, & Gardiner, 2005). Innovation during the initial implementation years tended to centre on the design of different versions of core subjects to better match courses to different learning needs, and so could be seen as rather conservative compared to some aspects of innovation discussed in this report.

More recent survey research confirms this trend to course innovation within the bounds of somewhat traditional curriculum thinking. That survey found such innovation in just under half the surveyed schools (n=140) (Pilcher & Phillips, 2007). Pilcher and Phillips also reported the cautious emergence of "nontraditional courses" in areas beyond the core curriculum and they suggested their 2005 snapshot should be updated to determine if change continued. This report seeks to do so, and to address their challenge that no data existed in 2005 concerning the extent of multi-levelling of courses in the senior secondary school.

Broadly, four main forms of course innovation are possible within the NQF/NCEA qualifications regime. The first two relate to the content of the course and its intended outcomes. The second two relate to flexible ways the course may be assessed:

1. Components from different traditional subjects within one of the eight curriculum learning areas may be combined to create a nontraditional course which nevertheless retains its discipline affiliation. Examples are particularly common in the sciences, where a broad range of available standards in science, biology, chemistry, physics, and human biology (Level 1 only) can be recombined to create courses with names such as "physical science" or "biological science" or "earth science".

2. Components from different traditional subjects, in different traditional learning areas, can be combined to create a nontraditional course that integrates content across discipline boundaries

to address a specific theme or learning purpose. For example components of the sciences and social sciences may be combined in environmental education courses, where a consideration of ethics and values requires modes of analysis that are not part of the epistemic tradition of science *per se* (Donnelly, 2006).

3. More traditional courses can be enriched and broadened by the purposeful selection of AS and US that assess a wider range of outcomes of learning. Such enhancements could supplement a perceived gap in the outcomes assessed by AS, as in the widespread adoption of the US for "wide reading" in many English courses. Another reason for innovating in this way could be to create a better balance between practical and more theoretical components of a course.

4. A broader range of student learning needs may be met by offering assessment at more than one level of the NQF within one course—either of the traditional or nontraditional type. For example, many English teachers will assess a common outcome such as creative writing using the relevant standard from either Level 1, 2, or 3—whichever they consider to be appropriate to each student's progress and achievement to that point.

Another type of innovation will be possible from next year with the registration of cross-curriculum Level 2 AS that address the future-focused theme of sustainability in the revised curriculum (Ministry of Education, 2006, p. 26). These may be selectively added to other AS to create cross-disciplinary courses (as in the second example above) or they may constitute a whole new type of integrated course. It remains to be seen whether similar standards will be developed for the other four future-focused themes (citizenship, enterprise, globalisation, and critical literacies).

The research questions

Against this backdrop of evolving standards and curriculum thinking, this snapshot of secondary school course innovation in 2007 (five years after implementation of NCEA began) addresses the following questions:

1. To what extent are schools providing courses assessed by AS from across traditional subject boundaries, either within one learning area or across several learning areas? What are their main reasons for doing this?

2. To what extent are schools mixing and matching AS and US to create innovative courses? What are their main reasons for doing this?

3. To what extent are courses assessed by AS from different levels in the same subject? What are the main reasons for doing this?

4. How aware are schools of the AS for sustainability? If they know about them, do they intend to use them?

Research method

A Web-based survey was used to conduct the snapshot as efficaciously as possible. Principals were contacted by email and given a password specific to their school. We requested that the survey be completed by one person with a good overview of the school curriculum. It was possible to print the survey to facilitate gathering the necessary information and schools could log in and out of the survey to complete it in stages if need be. The survey remained live on the Internet for 10 days. During this time, 141 schools visited the site and 124 schools completed and submitted their survey. Seventeen schools visited the site to look at the survey but did not complete it.[1] Of the 124 schools completing the survey, just eight did not give examples of some sort of innovation—that is, 94 percent of responding schools had at least one of the four types of innovation to report.

Demographic analysis

We analysed the demographic profile of the schools from which we received completed surveys. The results are shown in the following tables. The vast majority of responses came from the three main types of schools providing secondary education: Years 9–15 secondary schools, Years 7–15 secondary schools, and composite schools. Comparisons with school profiles in the whole of New Zealand according to MOE profile data are therefore restricted to these types.

Profile of responses by school type

Type	Number of school responses	Number of schools emailed	Response rate (%)
Years 9–15 secondary	71	233	30
Years 7–15 secondary	30	101	30
Composite	19	135	14
Other types	4	-	-
Total	124	469	26

Given media commentary that suggests some aspects of NCEA-related assessment practices may differ between high- and low-decile schools, it is important that the sample is as representative as possible in this respect. The next table shows low-decile schools to be somewhat under-represented in the sample we achieved, but this might not be the case for mainstream low-decile schools. A lot of the very small schools we contacted (e.g. schools for teen parents) fall into the lowest decile band and, as Table 4 shows, responses from these schools were patchy.

---

[1] One of those was a special needs school, for which the survey was inappropriate.

Profile of responses by school decile

Decile grouping	Emailed schools (n=469) %	School responses (n=124) %
1–2 low	18	10
3–8 mid	58	62
9–10 high	16	20
99–no decile code	8	7

NB: Numbers may not add to 100 because of rounding.

Two-thirds of the responding schools were state schools (67 percent), a further 22 percent were state-integrated schools, and 11 percent were fully registered private schools.[2]

Next we look at representation of schools of different types in different locations. Most of the responding schools are in urban areas (91 percent) with the balance being made up of rural schools. As the next table shows, the sample was spread right across the country. As might be expected, Auckland schools dominated because there are more of them.

Profile of responses by geographic area

Authority	Emailed schools (n=469) %	School responses (n=124) %
Auckland region	24	25
Wellington region	11	15
Waikato region	10	12
Canterbury region	12	12
Manawatu-Wanganui region	6	6
Bay of Plenty region	6	6
West Coast/Tasman/Marlborough/Nelson	5	5
Hawke's Bay region	5	4
Otago region	6	4
Northland region	6	3
Taranaki region	3	3
Southland region	3	2
Gisborne region	2	1

NB: Numbers may not add to 100 because of rounding.

There was a higher response rate from larger schools than for smaller schools. It may be that larger student populations allow for more flexible course innovation and administration, or it may

---

[2] Some private schools have no decile rating, but others do.

simply be that curriculum leaders with a greater proportion of administration time could more easily respond to the survey within the tight time frame allocated. Another possibility is that electronically collating responses and then completing the survey via the Internet was easier for the larger schools, which of necessity are likely to organise their communications this way. We have already noted that some of the smallest schools were special character schools and they were less likely to respond.

Profile of responses by school size

Size	Emailed schools (n=469) %	School responses (n=124) %
<500	47	31
500–999	31	38
1000–1499	14	19
1500+	8	12

NB: Numbers may not add to 100 because of rounding.

Commentary in the media also suggests it is important to gain the views of schools of differing gender composition—particularly boys' schools. Single-sex schools were somewhat over-represented in our responding sample, particularly girls' schools.

Profile of responses by gender composition

Gender	Emailed schools (n=469) %	School responses (n=124) %
Girls' schools	12	17
Boys' schools	9	11
Coeducational schools	78	72

NB: Numbers may not add to 100 because of rounding.

2. Innovation within a learning area

This section addresses the first part of research question 1:

> To what extent are schools providing courses assessed by AS from across traditional subject boundaries within one learning area? What are their main reasons for doing this?

Components from different traditional subjects within one of the eight curriculum learning areas could be combined to create a nontraditional course that retains its discipline affiliation. For example, elements of history and geography could be combined to create a social science course, or elements of dance and drama could be combined to create a performing arts course. Schools were asked to indicate if they had any courses like this in each of the learning areas.

For each example given, we asked schools to indicate the main reasons for designing this course. They chose from the following list:

1. To free up timetable space so students can experience a greater breadth of learning.

2. Because the combination creates a more coherent focus for the chosen context.

3. To create a better balance between skills/practical knowledge and the more theoretical components.

4. To better match the structure of a contemporary discipline area at the tertiary level.

5. To cover a staff shortage without disadvantaging any student's future study pathway.

Key findings

Two-thirds (67 percent) of the responding schools described at least one type of innovative combination from within a learning area.

The summary table presented next shows that within-learning-area innovation can happen at all levels of the curriculum, and in many schools is taking place at two or even all three levels, at least in some subjects. At least some examples of innovation are reported for every learning area—this is happening across the full breadth of the curriculum.

Snapshot of curriculum innovation within each curriculum learning area

Learning area	% schools with innovation at NQF level(s)						
	L1	L2	L3	L1/2	L2/3	L1/2/3	Total %
Science	27	4	2	4	2	7	46
Mathematics	-	1	13	4	3	4	25
Social sciences	7	1	1	3	2	11	25
Technology	2	2	3	6	1	10	24
Arts	1	2	3	1	4	3	14
Health and PE	6	1	1	2	1	3	14
English	2	1	-	2	2	4	11
Learning languages	-	-	-	1	-	4	5

Science yielded the highest number of instances of schools offering within-discipline combinations, with innovation being particularly common at Level 1. We expected this to be the case because there are so many science AS for teachers to choose from (in science, biology, chemistry, physics, and human biology) as they construct courses to meet the needs and interests of their students, many of whom will not proceed beyond Level 1 with their science studies. Instances of innovation fall sharply at Levels 2 and 3, as shown by the collated data on the next table.

Snapshot of instances of combining standards from different science subjects

Learning area: Science Schools reporting innovation in this learning area: 46%			
% of schools with these courses at each level	L1 = 38	L2 = 17	L3 = 11
Reason for creating courses			% of schools giving reason
More coherent focus for context			40
Better balance skills/practical			26
Better match to structure of contemporary discipline at tertiary level			8
Free up timetable space for greater breadth			3
Cover staff shortage			3

For science, the most commonly selected reason was: *because the combination creates a more coherent focus for the chosen context*. This suggests that at least some teachers' curriculum thinking at Level 1 involves the contextualisation of science, as modelled in the current curriculum (Ministry of Education, 1993) and as congruent with the integration of the key competencies into a "nature of science" strand in the revised curriculum (Ministry of Education,

2006). In the context of this report, it is important to note that the current flexibility to innovate within the discipline area supports this type of curriculum planning.

The picture was different for mathematics. Here innovation was most common at Level 3, and not at all common at Level 1. Again this could be predicted. Level 1 mathematics does not have the range of different AS that are available in science. The creation of combinations from two traditional subjects—mathematics with statistics and mathematics with calculus—at Level 3 can free up timetable space but, again, teachers were more likely to say they created these innovative courses to create a more coherent focus for learning.

Snapshot of instances of combining standards from different mathematics subjects

Learning area: mathematics Schools reporting innovation in this learning area: 25%			
% of schools with these courses at each level	L1 = 8	L2 = 12	L3 = 20
Reason for creating courses			% of schools giving reason
More coherent focus for context			17
Better balance skills/practical			12
Better match to structure of contemporary discipline			6
Free up timetable space			5
Cover staff shortage			3

Technology and social sciences courses offered by these schools showed similar overall levels of innovation to mathematics, but differentiation between levels was not as sharp. Where schools innovate in these subjects, they tend to do so at Levels 1 and 2, and to a somewhat less extent at Level 3. As might be expected, innovation in technology happened as often *to create a better balance between skills/practical knowledge and the more theoretical components* as it did to create a more coherent focus for the subject. Other than that, the pattern of reasons given is very similar to those for science and mathematics.

Snapshot of instances of combining standards from different social sciences subjects

Learning area: social sciences			
Schools reporting innovation in this learning area: 25%			
% of schools with these courses at each level	L1 = 21	L2 = 17	L3 = 14
Reason for creating courses		% of schools giving reason	
More coherent focus for context		19	
Better balance skills/practical		9	
Better match to structure of contemporary discipline		7	
Free up timetable space		6	
Cover staff shortage		2	

Snapshot of instances of combining standards from different technology subjects

Learning area: technology			
Schools reporting innovation in this learning area: 24%			
% of schools with these courses at each level	L1 = 18	L2 = 19	L3 = 14
Reason for creating courses		% of schools giving reason	
More coherent focus for context		19	
Better balance skills/practical		19	
Better match to structure of contemporary discipline		7	
Free up timetable space		4	
Cover staff shortage		2	

Separate tables are not presented for the remaining four learning areas because examples were given by fewer than 15 percent of schools. Again, however, creating a more coherent course focus was the main reason chosen in health/PE (12 percent), in arts and English (both 11 percent), and in languages (4 percent).

Open comments

Few additional comments were made about this type of innovation. Two schools were concerned that we provided no opportunity to describe innovation in US courses, or for reasons other than those we provided:

> We have developed a Year 11 course for our lowest achievers that combines unit standards, generally based on a range of life skills, from several domains.

> Your options do not allow us to give our reason—we are a very small school and the options are limited. We are therefore using the flexibility provided by NCEA to tailor courses to students' needs (personalised learning?).

Other examples

Fifteen respondents were seemingly not happy to consider combined courses within a learning area as being essentially combinations of similar types of subjects. They described such courses in question 2 rather than question 1. Eight examples were given for science, where standards are available in physics, chemistry, biology, human biology, science, horticulture, electronics, and so on. Seven examples were given for technology, which also spans a wide range of traditional "subjects", and five were given for social sciences. Four examples each were given for English, mathematics, and health.[3] The following comments illustrate the nature of these courses:

> Home Economics course at Level 1 includes health and home economics achievement standards.

> Economics and accounting are combined. Our future options scheme combines computer, communication, and outdoor education, law, health.

> We do offer a combination of accounting/economics/social studies.

> Our computing and fabric courses use some technology achievement standards.

> We run an English/media studies course at Level two. Our main reason for this is to provide a more relevant course for students who are not strong in traditional aspects of English.

Several of these comments highlight the challenge of accommodating subjects within the NCEA structure if they do not have a natural "home" within one of the learning areas, as these have been traditionally allocated for our curriculum. For example accounting and economics may be administered in the social sciences learning area, but we have also seen instances where accounting is administered by mathematics. In some schools there may be a "business studies" or similar faculty, in which case any combinations with other aspects of social sciences will be seen as cross-curricular. Similarly, subjects that focus on aspects of ICT (text and information management, computer studies and the like) have found a somewhat uneasy NCEA home in the technology learning area. Other subjects not mentioned here but likely to be caught in this conundrum include classical studies (which could be seen as located in either or both arts and social sciences), graphics (which sits at an intersection of arts and technology), and electronics (which sits at an intersection of science and technology).

---

[3] Potentially, these 15 schools could have provided 45 responses (i.e. three each).

3. Innovation across learning areas

This section reports the second part of research question 1:

> To what extent are schools providing courses assessed by AS from across traditional subject boundaries of several learning areas? What are their main reasons for doing this?

For this question, schools were given the opportunity to provide up to three examples, and to give reasons for each from the same list as in Section 2.

Key findings

Responses to this question that only identified one curriculum area were reported as illustrative additions to the end of the previous section. With these responses removed, just 11 percent of the responding schools (n=14) gave at least one example of genuine cross-curriculum course innovation, making this the least common of the four types of innovation in the snapshot.

This time there were no particular patterns to the levels at which course innovation was happening. The most that can be said is that it is taking place at all three NQF levels. Again, the main reasons for combining aspects of subjects across learning areas have to do with course coherence and the balancing of theoretical and practical course components.

English was the curriculum area most often combined with others, and it was most commonly combined with social sciences, either alone or in combination with at least one other learning area (five schools gave examples). Combinations of English with science and/or technology were given by three schools. One school combined English, health, arts, and languages.

In addition to the above examples, technology has been combined with health (six schools), the arts (three schools), social sciences (two schools), or mathematics (one school).

Social sciences were also combined with science (one school) or mathematics (one school) and science was combined with health in two schools.

Responses to the open comment section

A greater number of comments were made in response to the issue of cross-curriculum innovation. Three themes were apparent in these comments.

The diversity of innovation

Several schools took up the invitation to explain the curriculum thinking behind the examples they had given. This first example shows how such a course might be used to create an academic challenge for students who need that "extra" dimension to motivate them to extend themselves:

> Course 1 (Writing for Publication) was created to develop creative and media writing skills to a high level of competence. Students explore the craft of writing supported by wide reading and research as well as working towards local and national publishing goals. The course includes the graphics standard AS90325 which is team taught by the Director of ICT as well as Social Studies AS90218 and a variety of English AS and US.

The next example, given by the same school, addresses the needs of a quite different group of students:

> Course 2 (Tourism.Com) was designed to cater for students challenged by a more academically focused course. This aims to provide an exciting and relevant course that integrates ICT with tourism and the majority of the course is taught using practical activities and tasks. Two curriculum areas, social sciences and ICT, combine to provide an authentic context for students to practise skills and learn through scenario-based teaching. The course runs over two timetable slots and over two years. It gives students opportunity to gain credits towards UE (14 from one domain) and to achieve the National Certificate of Computing and the National Certificate in Tourism and Travel.

And as the following quote from a small school shows, the flexibility may be used creatively to address needs in a more individualised manner:

> We operate an integrated curriculum model that allows students to select contexts of social and/or critical concern. These allow for combinations of standards, learning areas, and levels to suit individual and/or group contexts. These vary according to the student and the context, e.g. a social studies inquiry into colonisation and assimilation (social sciences) could link te reo Māori (languages), the composition of a haka of protest (arts), and responding to texts (English) and a multimedia presentation (computing).

Courses that combine unit standards across the curriculum

A few schools were most unhappy with what they saw as the narrow focus of this survey. They did not like the focus on courses assessed with AS, because for them these are just one of the assessment options within the much wider ambit of the NQF. Once this is seen as a seamless whole, particularly where schools are looking to create coherent pathways to a local tertiary institution for students who might not have considered further study in the past, the narrower focus on just the NCEA becomes a vexed issue:

> Our main focus in senior college is in forming double period Pathway courses which provide a wider range of unit standards than would be in a traditional course. These are all linked strongly to tertiary and industry partners. For example, our Information Applications Pathway links with assessment offered at [name] Polytechnic. Our Art, Design and Digital Media Pathway uses standards from a wide range of technology, design, and visual arts

matrices. The questionnaire assumes a pattern of combination which is still based on subjects (which are mainly meaningless to us!).

Looking ahead

The following comments illustrate the limitations of taking a snapshot of course innovation. Some schools cannot yet report such courses, but are likely to do so in future. In at least one case this seems likely to be on a larger scale now that the NCEA is bedded in:

> While we do not have any of these type of combined courses currently happening, our intention is to construct our senior timetable around learning pathways rather than subjects in 2008. The long-term plan is to combine learning areas to offer flexible courses appropriate to student pathways. For example, a financial literacy course involving both economics and accounting; English and business studies are two areas we are currently looking at.

> We will do so next year with the Level 2 Science certificate. It will include some maths.

4. Innovative assessment that mixes types of standards

This section reports on research question 2:

> To what extent are schools mixing and matching AS and US to create innovative courses? What are their main reasons for doing this?

The focus here turns from innovative courses to innovation in *assessment of* courses. There will of course be some overlap. Innovative courses may or may not be assessed by innovative combinations of standards (this section) or levels (Section 5), and the same holds true for more traditional courses.

The reasons for which schools might design innovative combinations of assessment standards could be expected to overlap with but also differ somewhat from those given for combining subject components. The following were provided as reasons for combining AS and US assessments in one course:

1. To create a better balance between skills/practical knowledge and the more theoretical components.

2. To support slow/lower achievers who need to work at a lower level.

3. To add valuable aspects of learning that are not covered by existing AS.

4. To provide the possibility of gaining national certificates other than/in addition to NCEA.

Key findings

Most schools (89 percent) indicated that they assessed some courses with mixes of AS and US. This type of innovation was not widely reported in languages (2 percent of schools), the arts (4 percent), health and PE (6 percent), and only somewhat more for social sciences (20 percent). This should *not* be taken to mean that AS/US innovative mixes don't exist in these learning areas. Each school was asked for just three examples, albeit spread to represent the "diversity of your curriculum planning". It seems that examples from the "core" curriculum subjects were more likely to be reported than were courses taught by a smaller number of teachers.

Reasons for innovating in this way in different subjects can vary and so it is not possible to concisely present all the information in one snapshot table. Although we asked for three separate examples of courses, many schools indicated more than one level per course, suggesting they

were thinking of a *type* of course that occurs at several levels of the school curriculum. The tables in this section have been organised to reflect this.

The next two tables compare patterns for English and mathematics. It seems that this type of innovation is much more common at Levels 1 and 2. Around a quarter of the schools were providing such courses at Level 3 in these subjects, compared to around two-thirds of schools at Levels 1 and 2.

In both subjects the US used in innovative courses are most likely to be the "academic" precursors of AS. These US remain on the framework and can be used to cover areas not assessed by AS (for example, wide reading in English), which can help balance practical and theoretical components of the course, or to provide additional learning support for some students. (People could give more than one reason and so percentages here add to more than 100.)

In both subjects, the predominant reason for creating courses that mixed AS and US was to provide for the learning needs of slower or lower achievers.

Snapshot of instances of combining AS and US to assess courses in English

Learning area: English Schools reporting innovation in this learning area: 66%			
% of these schools reporting these courses	L1 = 66	L2 = 58	L3 = 26
Type of US used			% of all innovations
US from learning area			87
Mix of both			9
US from ITO or other area of NQF			2
Reason for creating courses			% of all innovations
Support slower achievers			87
Better balance skills/practical			55
Add aspects of learning not covered by AS			31
Gain other national certificates			10

Snapshot of instances of combining AS and US to assess courses in mathematics

Learning area: mathematics			
Schools reporting innovation in this learning area: 73%			
% of these schools reporting these courses	L1 = 66	L2 = 72	L3 = 26
Type of US used			% of all innovations
US from learning area			91
Mix of both			2
US from ITO or other area of NQF			1
Reason for creating courses			% of all innovations
Support slower achievers			90
Better balance skills/practical			54
Add aspects of learning not covered by AS			22
Gain other national certificates			20

Social sciences showed a similar pattern to English and mathematics, albeit with just 20 percent of schools reporting innovations in this area.

The technology, health/PE, and science learning areas provided some contrast to this pattern, with somewhat more use made of ITO standards, often in combination with the learning area standards. Just eight examples of innovative courses were given for the health/PE curriculum and all of these either drew on ITO-derived US or mixed these with NZQA-derived US.

As might be anticipated, almost half the schools with these types of course innovations in technology were looking to add value to students' courses by providing opportunities to gain other national certificates registered on the NQF. (One example might be a National Certificate in Furniture Making.) This is reflected in the comparatively high number of schools who said they added US to technology to provide for aspects of learning not covered by the AS, and the lower numbers who said they designed such courses to support slower/lower achievers. Unlike English and mathematics, these courses continue to be offered with much the same frequency at Level 3 as at the lower NQF levels. They help create important different pathways through the last year of school.

Science combines aspects of teachers' reasoning about English and mathematics (courses are for lower achievers) with aspects of reasoning from technology (US add dimensions to learning that are not covered by AS).

Snapshot of instances of combining AS and US to assess courses in technology

Learning area: technology Schools reporting innovation in this learning area: 31%			
% of these schools reporting these courses	L1 = 64	L2 = 56	L3 = 52
Type of US used			% of all innovations
US from learning area			46
Mix of both			41
US from ITO or other area of NQF			13
Reason for creating courses			% of all innovations
Better balance skills/practical			82
Add aspects of learning not covered by AS			71
Support slower achievers			44
Gain other national certificates			44

Snapshot of instances of combining AS and US to assess courses in sciences

Learning area: science Schools reporting innovation in this learning area: 47%			
% of these schools reporting these courses	L1 = 69	L2 = 58	L3 = 38
Type of US used			% of all innovations
US from learning area			78
Mix of both			9
US from ITO or other area of NQF			5
Reason for creating courses			% of all innovations
Support slower achievers			78
Better balance skills/practical			66
Add aspects of learning not covered by AS			21
Gain other national certificates			9

Responses to the open comment section

A number of respondents gave details of their examples or their reasoning for creating these types of courses:

> We use this system in more than three curriculum areas to better meet the learning needs of students.

We offer a number of courses which mix US and AS assessment: graphics, textiles, drama, economics, history, art, Samoan, ICT, classics, science.

[We have] a geography course that combines unit standards and achievement standards from L2 and L3 from geography and from tourism.

We offer combination achievement standard/unit standard courses in all our learning areas except languages. This allows us to meet the learning needs of the range of students we have in each class. This is the great strength of the NCEA model which endorsements will destroy!!

Most such courses are offered at Level 1 and 2 to provide an easier, alternative and sometimes more practical course for students who are less able. Also Level 2 geography offers one unit standard to enable aspects of learning to be covered that are not covered by the AS. It also has the advantage of giving students more time to do the remaining achievement standards in the examination—a clear issue where exams tend to be quite long.

In English we have developed a course called 'Te Reo Pākehā'; the students are learning within a cultural base with regards to strategies and texts used; in science we have developed a course which will lead to a Science Technician's qualification at [name of polytechnic] and the credits are already accruing through the US gained in NCEA.

We use US frequently to enable a more varied learning programme for students—to encourage different learning styles and methods. We also use them to reduce the number of external exams students sit so that the quality of their AS external grades can increase. (A strategy for gaining more M and E grades.)

Maths US provide additional opportunity to obtain credits and backup in case of AS failure.

Again, some respondents were critical of the reasons given, seeing these as inadequate to account for their curriculum reasoning. Several were critical of what they saw as a tacit assumption that US are of less learning worth than AS:

You imply that by adding US to a course it allows for slower learners. This is just not correct. The 100% requirement for US is far more challenging in many cases. Most of our NCEA subject areas from physics to classics present a mixture of AS and US.

I cannot give the response I want to this section. The reasons for the choice of unit standards are: a) we prefer internal assessment, b) we prefer the structure of some unit standards, c) we have flexibility in changing students' programmes/assessment according to need, d) to match the needs of our tertiary and industry partners who also use unit standards. The support of slow/lower achievers is part of the balance, and is a reason for preference for internal assessment.

We have at least three other areas that do the mix as well. Teachers are more willing to do this for less able students and/or to make the courses more engaging. In some fields like visual arts, the US are more demanding and help extend the able students. It is not always the presumption it is for less able students. That attitude towards US is actually harmful and depreciates the value of those credits and the work staff do with US. There needs to be a change of mentality.

Nowhere else to put this but a in a number of our courses (Eng, MX, Geo) for high achieving students we use US as confidence builders and value-added for end of unit assessments.

5. Innovative assessment that combines levels with a course

This section reports research question 3:

> To what extent are courses assessed by AS from different levels in the same subject? What are the main reasons for doing this?

Reasons for doing so were anticipated to include:

1. To create challenges for higher achievers who need to work at a higher level.

2. To support slow/lower achievers who need to work at a lower level.

3. To provide for students who have missed one or more standards they need.

4. Staff shortage means we need to offer multi-level classes.

5. Small class sizes in this subject mean we need to multi-level classes.

6. Because a standard needed for the contexts/concepts was only offered at a different level.

With the benefit of hindsight the first of these reasons should also have been included in the previous question. The sixth reason was added when the survey was trialled by several teachers. One of them gave the example of a Level 2 biology course whose theme required the use of standards that could assess aspects of human biology. But such standards are currently only found at NQF Level 1.

Key findings

Three-quarters of the schools (75 percent) reported at least one example of innovation of this type.

As in the previous section, each school could only give three examples, so the predominance of examples from the core curriculum areas does not necessarily mean that this type of innovation is less common in other curriculum areas. However, since these were the areas of greatest response, the next two tables summarise data for mathematics and English.

Examples from other learning areas were cited as follows: technology, 31 percent; science, 18 percent; social sciences, 12 percent; arts, 11percent; languages, 10 percent; health/PE, 8 percent.

Snapshot of instances of multilevel courses in mathematics

Learning area: mathematics Schools reporting innovation in this learning area: 44%			
% of these courses involving each level	L1 = 76	L2 = 84	L3 = 18
Mix of AS/US used			% of all innovations
Mix of AS and US			67
All or mainly US			18
All or mainly AS			9
Reason for creating courses			% of all innovations
Support slower achievers			84
Provide for students who have missed an assessment			53
Challenges for higher achievers			40
To cover for staff shortages			4

Again, we see a pattern of more innovation at Levels 1 and 2 mathematics than at Level 3. Unlike the innovation reported in the previous section, this pattern does not also hold for English. As the next table shows, multilevel assessment continues to be offered at Level 3 in half of the responding schools. This could relate to the nature of English as a subject and the focus of the AS used to assess it. Whereas an outcome of learning such as ability in "creative writing" can potentially be assessed at any curriculum level, as appropriate to the learner, outcomes such as demonstration of mastery of a specific mathematical concept may be more closely linked to individual courses of learning. This highlights that the different focus of AS in different subjects and learning areas poses challenges when attempting to construct general regulations to cover all subjects.

Again, we see that the main reason for innovation is to provide more support for lower or slower achievers, but in English the reason *to provide for students who have missed one or more standards they need* is cited almost as often. This reason is also cited by half the schools reporting provision for multilevel assessments in mathematics and the pattern doubtless relates to the need to demonstrate literacy and numeracy to gain an NCEA award and, at Level 3, to gain University Entrance.[4] Note that nearly half the schools with multilevel assessment innovations in these two subjects are also interested in providing greater challenge for their higher achievers.

---

[4] To gain University Entrance students need at least 14 Level 1 credits in mathematics, and at least 8 Level 2 or 3 credits in English, four in reading and four in writing, sourced from an approved list of AS and US.

Snapshot of instances of multilevel courses in English

Learning area: English			
Schools reporting innovation in this learning area: 38%			
% of these courses involving each level	L1 = 59	L2 = 66	L3 = 51
Mix of AS/US used			% of all innovations
Mix of AS and US			66
All or mainly US			17
All or mainly AS			13
Reason for creating courses			% of all innovations
Support slower achievers			83
Provide for students who have missed an assessment			75
Challenges for higher achievers			43
To cover for staff shortages			2

Although only small numbers of respondents gave examples from the other learning areas, it is interesting to note that wanting to extend high achievers was the most commonly selected reason for designing multilevel assessments in the arts, health/PE, and technology. A similar number of respondents said they wanted to support higher and lower achievers in languages. No respondents said they used multilevel courses in any subject to cover small classes. It may be that the three examples given were for larger classes and this is supported by some of the open comments below. Another possibility is suggested by this comment:

> Note combined classes that have, say, two levels in them are undertaken in subjects where the number at any given level is less than 10. This happens in subjects like Japanese, history, economics, and Māori. However, the full course is taught and assessed at each level. In other words the teacher is basically running and assessing two separate level courses at the same time—the courses are not mixed in any way.

Other responses to the open comment section

Some schools gave three examples of multilevelled courses from various curriculum areas and then added comments about the extent to which they could have described other such courses, or which again suggested that the reasons provided did not fully encompass the scope of their curriculum thinking:

> More and more this is happening.

> The following courses also offer a mix of levels: Samoan, Māori, physical studies, outdoor education, textiles, graphics, drama, computing, ICT, music, design.

> We have other courses in which students can multilevel; e.g. French, Japanese Levels 2 & 3, music Levels 1–3. This is mainly due to small class size. But this has provided opportunities for some students to work at more than one level.

> In music, to accommodate students who have good performance skills but lack music literacy, we may accelerate them in performance but get them to do written study at a lower level.

> Course 2 [of the three examples given] is an ESOL course. We have had other language courses also which were mixed and class size was one of the reason for these mixed courses.

> Year 12 and 13 English [combined in one course] provides for nonacademic students who wish to continue in English, but for whom a NCEA AS course is inappropriate to their ability; ditto for Year 12 maths (we offer a Year 12 stats course for mathematicians who want to do Year 13 stats but not Year 13 calc); we also offer a senior hospitality course, US-based, that offers a variety of US at different levels to suit all those attending.

Again, reasons provided were not seen as adequate by some schools:

> None of the reasons really apply. We don't see US as necessarily 'lower' than AS or vice versa. All our classes are multilevel. We use the mix of both because it offers flexibility and we are able to integrate across learning areas more easily.

> Again, I cannot give the responses I want to. Reasons for combination include: a) better balance of assessment against programme outcomes, b) better alignment with tertiary and industry partners, c) pathways have a double period allocation enabling greater width and depth of programme.

> Some of the unit standards offered in courses are at higher levels than 3 (i.e. Level 4)—in computing or Māori language and Māori performing arts.

> The choice of mix of standards in science had more to do with the particular interests of the students (e.g. Year 12 students wanted to get into genetics in more depth so moved on to the areas covered in L3 standards)—the level of the standard became incidental to the understanding the students wished to explore.

We had anticipated that the reason *because a standard needed for the contexts/concepts was only offered at a different level* would cover the sort of situation described in this last quote, but perhaps that was not clear because no respondents chose it.

6. The draft sustainability standards

A final question asked respondents if they were personally aware of the six Level 2 draft AS for sustainability, and if others in the school were aware of the standards and were planning to use them. The draft titles of these standards (as at 28 February 2007) are:

- Plan, implement, and evaluate a personal action or initiative toward a sustainable future with guidance
- Investigate the consequences of human activities within a biophysical environment in relation to concepts of sustainability
- Describe how different world views have consequences for sustainability
- Describe values and behaviours in relation to a sustainable future
- Describe concepts of sustainability
- Work with others to develop sustainable ideas and strategies in response to a future scenario.

They are intended to integrate aspects of science, social science, health/PE, and technology learning areas.

Key findings

At the time of taking this snapshot the development of these standards was still in process and they had not yet been registered on the NQF framework. Many of those involved in their development work at the tertiary teacher education level. While secondary teachers with an active involvement in environmental education could have been aware that they were coming, we wondered how widely this awareness spread in the secondary sector, and to the curriculum leaders of each school. Responses to yes/no questions about awareness are summarised in the next table, along with responses to a more speculative question about whether the school might use such standards once available.

Awareness of potential availability of these standards and intent to use

Response	% agreement (n=124)
Others in school are aware of standards	35
Personally aware of standards	28
School intends to use standards	27

One school's curriculum committee leader contacted NZCER to ask about the timing of the registration of these standards. This school, with a reputation for curriculum innovation and strong

support for NCEA, was unaware that the standards were coming. The curriculum leader expressed concern that schools need a longer lead-in time if they are to adopt them in the following year, as they were clearly interested in doing. It takes a considerable time to organise and publish course booklets and many schools have committed to their following year's learning programme by the middle of the previous year.

Where schools said they intended to use the standards they were asked to indicate the subject areas that would potentially be involved. These were:

- social sciences (23 percent)
- sciences (22 percent)
- technology (11 percent)
- health/PE (8 percent).

A small number of schools indicated their interest in using these standards in course combinations that included aspects of environment studies, Māori, and mathematics.

Responses to open comments

This question attracted comments from many respondents. A common theme to these comments was an interest in using the standards because of their relevance, high interest for students, and the choice that they might offer. The following comments all add an additional dimension to this basic theme. They are included in all their detail because they collectively paint a very rich snapshot of current curriculum thinking concerning subject innovation and providing for the learning needs of students in the senior secondary school.

Seeing the possibilities in these standards

This first group of comments indicates interest in the possibilities the sustainability standards might open up for introducing contextualised, integrated learning in an area of high relevance and interest to students. Such curriculum intentions have the potential to link very strongly to the key competency "participating and contributing":

> They may help us recognise current or global issues that our present curriculum doesn't cater for.

> They give cohesiveness and can integrate learning from a range of "subject areas".

> We can see how this could give a stronger focus and involve students.

> We are not currently planning around these standards but probably will when the details are out.

> I am happy for 'themed' standards to be developed, although we would have to think very carefully of the implications for the school before opting in to any of them.

> [Yes we are interested] provided they are internally assessed.

Yes, beneficial in the development of future generations. However, we need the people to deliver the work to students. [This response came from a whare kura—indicating the potential to exacerbate existing staff challenges.]

Perhaps—there is the risk of diluting students' study programmes if the choices they make are too diverse. The curriculum already offers a lot of choice. However the theme of sustainability is a valuable one to encourage.

Important that they are used to integrate learning that will never stand isolated.

I know there is discussion between health, PE, and science but no concrete plans as yet. We will be very interested to see the standards under development.

Yes, would like to see more such standards as the geography AS are outdated and the curriculum needs to be rewritten. It would be good to have these standards at Level 1 and if the current draft cross curriculum standards are to be implemented in 2008 teachers need to know about them immediately as many have started planning for next year's courses. Academic Programme booklets for students are now at the printing stage. These standards would also support the EOTC programme run by the college.

Important for students to focus on the issue of sustainability. More diverse programmes are desirable.

We integrate curriculum areas in all areas of our students' learning. Standards such as this would support the way our school's curriculum is designed.

Staff only became aware of them when I circulated an email request. One person said they would be interested in them as they give a better assessment option than the technology standards.

We feel that there are possibly enough standards to allow us to run our varied courses. We encourage all departments/teachers to look at offering multilevel courses which use US/AS in the best combination. We are currently looking at making better use of the core skills domain with our tutor/form classes. If new standards were developed we would adopt those that we feel benefit our students.

One school gave three reasons why they are interested in standards such as this:

* Many students find it difficult to choose five subjects when they are interested in a variety of areas, e.g. science and languages.

* They encourage higher thinking, problem solving, and independent thinking.

* Learning outcomes using project-based contexts are very effective at motivating some students, e.g. in hospitality.

Reasons for not taking up these standards

Some respondents were not interested in the sustainability standards. The reasons for their caution turn largely on an understandable loyalty to traditional curriculum thinking, suggesting a need for specific attention to the origins of traditional curriculum content if ongoing change is to be achieved:

One concern is that standards like these could be seen to be 'fashionable'.

Science would not [take up these AS] because they believe that this development would not be of assistance to students who wish to enter tertiary institutions. No additional time available, given the current science programme.

We are not opposed *per se* but would not be interested at our school. We focus on the traditional cannon of secondary school subjects (and believe strongly in the concept of subjects!) and assessment of these subjects through achievement standards.

The general feeling among staff is that there is enough to do simply getting through the present curriculum without adding more. That may change over time.

The present structure is difficult enough to administer.

The titles of the proposed standards seem a bit 'remote' for our students. They tend to prefer more 'concrete' standards that they can see the purpose (vocation?) for. Perhaps the teachers are a bit like this too. HODs feel they have enough subject-related standards to choose from without going into areas that impinge on other subject areas. Also a problem in having staff who have sufficient cross-subject knowledge?

Only where they can be directly related to the prescription the NCEA subjects work under.

More about new possibilities

Countering the above quotes, with their traditional framing of curriculum and subjects, other schools were aware of new possibilities for curriculum innovation and some asked for more of this type of AS development:

Some of the above standards could be integrated into English.

We have planned to introduce the future-focus themes in our curriculum both at junior and senior level so the above standards and similar for the other themes would be very helpful.

[We would like more] most especially in the area of enterprise education. There is no structure available at this point in time that rewards students' ability to think creatively, or problem solve in realistic and authentic learning spheres.

[Other examples could be] along the lines of research which is done to death in schools. Problem of who offers and manages the assessment protocols. Much better to be holistic.

Very positive in terms of the potential to either integrate learning or just extend the learning/focus/potential within a curriculum area on its own even if not in conjunction with another.

Each school can develop further the unique flavour they wish to present for the NCEA to suit their clients. I am very keen to discuss initiatives like this further.

We need to have national models available to assist us as principals when we are promoting interdisciplinary studies. Also the notion of interdisciplinary studies sits so comfortably with the new curriculum document and such material may be very helpful in assisting secondary

teachers to see how it can continue beyond the junior years and be robust—and lead to tertiary etc.

New questions and requests

Several respondents went further and asked important new questions about the purpose of learning, and of assessment, and the need for clear learning pathways through the whole of the final three years at school:

> NCEA provides for such flexibility and, given that the new curriculum basically encourages such mixing of standards which are not linked to a particular curriculum area, this is to be encouraged. Given also that there are many 21st century-related issues that our students need to be aware of, this is further reason for such innovation. The question remains—do we have to assess everything/all the 'issues' of the day?

> There needs to be discussion with schools about what types of standards they would like to see developed. These standards look good in theory, but would require a great deal of change to our programmes to implement. It would be great to see courses that complement things like E4E business-type learning increasing.

> We review our course curriculum each year. I can see these standards being considered in the future. It would be good to trial the use of these before further are developed. It is important students have a pathway onto similar standards at Level 3 as we have more students studying at this level.

These requests for other AS of a similar type add to the above indications that many schools are keen to continue with curriculum innovation, and they want to see more of this type of development:

> Currently reviewing our curriculum framework and learning skills, aspects of technology and investigation ... many cross curricular options would be useful.

> We would like to see more such standards. Already we run cross curricular projects in the junior school and as a college have a strong commitment to some learning occurring in this way. It helps students to get a more holistic attitude towards learning and brings staff in different departments together to do things in a different way.

> Yes [we would like others in] globalisation, citizenship, ethics.

> We will follow up to learn about the sustainability ones. It would be good to see more developed that provide opportunities for interdisciplinary learning.

> The more cross curricular stuff we can have the better. However, it would be good if it was in real areas rather then opinion-based ones.

> One strength of NCEA/NQF is the ability to tailor courses to allow more student choice in their area of study, as compared to the 'traditional' subjects.

7. Implications for awarding merit and excellence

This section brings together the overall findings from the snapshot to provide evidence for making policy decisions about awarding NCEA in individual subjects endorsed with merit or excellence. Three key issues are outlined, but first we bring together the key findings from the snapshot to present an overall picture of the extent of subject and assessment innovation we found.

Innovative *assessment* design was reported more often than innovative *subject* design.

- Most schools (89 percent) indicated that they assessed some courses with mixes of AS and US. Examples were most commonly given for English, mathematics, and sciences. In these three learning areas such courses were more common at Levels 1 and 2, and the standards used were most likely to be the NQF-registered "academic" US, not ITO-registered standards.
- The greatest reported use of ITO standards was in the technology learning area, where innovative courses were reported to be offered at all three NQF levels.
- As schools were restricted to three examples, we cannot be sure of the extent to which such innovations are also happening in other curriculum areas.
- Three-quarters of the schools (75 percent) reported offering at least one course that was assessed by standards from more than one level of the NQF. Such courses were most common in English and mathematics (but not at Level 3 in mathematics).

Two-thirds of schools also reported innovative *subject* design. The open comments, and responses to questions about the new sustainability AS gave indications that some schools are actively considering more such changes.

- Two-thirds (67 percent) of the responding schools described at least one type of innovative subject that was assessed with a combination of AS from *within* a learning area. This was happening at all levels of the curriculum, in many schools at two or even all three levels. Examples of innovation were reported for every learning area across the full breadth of the curriculum.
- Subjects assessed with a combination of AS drawn from *different* learning areas were the least common type of innovation, with 11 percent of schools reporting at least one such course.

We turn now to a consideration of issues arising from these findings.

The status of unit standards

Because US are not currently endorsed for merit or excellence, the findings that most schools are offering courses that are assessed by AS/US combinations pose challenges for endorsement with merit or excellence at the subject or course level. Students taking such courses will be immediately disadvantaged if some or all of the course credits they gain cannot be considered part of the total from which endorsement is determined.

When weighing up this dilemma it will be important not to assume that such course innovation is only for "less able" students. This snapshot provides evidence that the needs of high achievers are also being catered for in many instances of course innovation, albeit in fewer instances than the needs of slower or lower achievers. Indeed, the (unintended) implication that courses with US are only for the latter provoked angry responses from some schools.

If endorsement begins before the different structure of AS and US is sorted out there is a risk that course innovations that make use of AS/US combinations for assessment will be curtailed. As one teacher said, this flexibility is a great strength of NCEA, so decisions to curtail it should not be taken lightly, or inadvertently.

Schools that have invested time and creativity in innovation that opens courses up to the full potential of the NQF could be seen as bringing to fruition the promise of the framework reforms—to better meet the learning needs of all students. Their perspective is an important one to take into account when thinking about awarding merit or excellence to subjects.

The contested nature of a "subject"

It is food for thought that two-thirds of the responding schools described at least one innovation that combined AS from different traditional subjects within the same learning area. If endorsement of subjects or courses is regulated for traditional subjects, as defined by the "suites" of AS developed in the initial stages of NCEA implementation, then schools that have been leading innovation in designing these types of new courses will also be disadvantaged and doubtless aggrieved.

The example of a course called "Writing for Publication", outlined in Section 3, models a way of placing key competencies at the heart of learning, and so is well placed to transfer to the new national curriculum. The integration of AS from different learning areas is used to combine aspects of traditional subjects that logically come together in this highly relevant context with strong links to real-world settings (i.e., writing for the media). This suggests that the course will support the development of competency in the area of "participating and contributing" as well as more traditional learning outcomes. Given that the revised curriculum identifies key competencies to be integrated into every learning area, more of these sorts of courses will be needed to realise the intent of the curriculum, not fewer.

It is also interesting that the most commonly cited reason for designing these courses, right across the curriculum, was to create a coherent course for a chosen focus. Designing context-rich courses often means a degree of curriculum integration because the real world does not conform neatly to historical subject divisions. This point is discussed further in the third theme below.

Some of the comments and examples made by schools that offered courses assessed with AS from different learning areas point again to the comment above that it is important not to assume that course innovation across learning areas will typically create "less academic" courses. Innovative courses for students from right across the ability spectrum will need to be kept in mind as the policy for awarding merit and excellence for individual subjects is worked through.

Aligning NCEA with the revised curriculum

Determining policy for awarding merit or excellence at the subject level provides an opportunity to forge a wider alignment between the NCEA and the new national curriculum (Ministry of Education, 2006), due for release in October this year. This curriculum has an emphasis on designing programmes of learning aligned with students' actual learning needs. As already demonstrated, the reasons given for course innovation provide strong indications that students' learning needs are already being taken into account when shaping many such courses in the senior secondary school, and that collectively these courses address the full spectrum of learning needs, including those of the most able students.

Providing a counter to these observations, some of the comments from schools that said they would not use the cross-curriculum sustainability standards show that there is still a significant element of more traditional curriculum thinking in the sector. Some of these schools are already turning away from NCEA to more traditional alternatives. The following comments capture something of the indecision this can cause as schools are caught between the evident benefits of innovation and their instinct for caution when making curriculum changes:

> In light of some of the recent changes and the proposed change to subject endorsements tend to make the position and status of such standards [the sustainability draft standards] unclear. Ideally it would be great for such standards but there is danger that students may end up having courses that have a scatter gun approach to subjects and not study a coherent body of knowledge. This may create issues for next level of study. Careful course selection and guidance would be needed for students.

> In a school where 95% plus students move into tertiary education the design of courses must accommodate students being able to get 14 credits minimum in any one domain to enable them to be successful in gaining UE. At the moment this limits the development of courses even though staff and students are interested in developing and delivering such courses. Another problem will be the endorsement of NCEA certificates with merit & excellence in subjects and in the overall certificate. Students in high achieving schools are influenced by the number of M/E grades that are possible to achieve in a course and avoid courses even though they may be interesting and worthwhile in terms of opening career pathways, as they

do not accommodate M/E grades in unit standards. One way to overcome the first concern would be to endorse certificates on a field rather than a domain.

The MOE and NZQA will need to decide where the balance lies between encouraging moves towards the revised curriculum which is more suited to 21st century learning challenges and the reassuring semblance of greater coherence in familiar subject boundaries.

It has been our experience at NZCER, when designing innovative Assessment Resource Bank (ARB) items that take account of the intent of the key competencies introduced to the curriculum, that a degree of integration is inevitable—both between key competencies and content, and between content and context. Many secondary schools have yet to explore the implications of the key competencies for their curriculum, but at least one early adopter school has a plan to focus on more coherent learning pathways for all students that is already leading to a critical examination of "subjects" and their continuing meaningfulness.[5] Where the leaders go, others may wish to follow in time.

Looking ahead

That so many curriculum leaders could see interesting potential in the draft sustainability AS could be seen as an indicator that subject innovation could blossom if more of these integrating standards are developed. Since sustainability is just one of five future-focused themes in the new curriculum it may be that there will be a demand for similar standards for the other four themes. Indeed, some of the comments in Section 6 hint at this. The evidence presented in this report suggests a need for forward-looking policy decisions that can support current practice yet also open the space for the course innovation that is already occurring and may well be gathering momentum.

---

[5] Personal conversation with the principal of Hauraki Plains College.

References

Donnelly, J. (2006). The intellectual positioning of science in the curriculum, and its relationship to reform. *Journal of Curriculum Studies, 38*(6), 623–640.

Hipkins, R., & Vaughan, K. (2002). *From cabbages to kings: Interim research report—first year of Learning Curves: Meeting student learning needs in an evolving qualifications regime.* Wellington: New Zealand Council for Educational Research.

Hipkins, R., Vaughan, K., Beals, F., & Ferral, H. (2004). *Shared pathways and multiple tracks. Interim research report—second year of Learning Curve:, Meeting student learning needs in an evolving qualifications regime.* Wellington: New Zealand Council for Educational Research.

Hipkins, R., Vaughan, K., Beals, F., Ferral, H., & Gardiner, B. (2005). *Shaping our futures: Meeting secondary students' learning needs in a time of evolving qualifications.* Wellington: New Zealand Council for Educational Research.

Ministry of Education. (1993). *Science in the New Zealand Curriculum.* Wellington: Learning Media.

Ministry of Education. (2006). *The New Zealand curriculum: Draft for consultation.* Wellington: Learning Media.

Pilcher, E., & Phillips, D. (2007). Changing courses: A study of the responsiveness of schools to the National Qualifications Framework. *Annual Review of Education in New Zealand, 16*, 151–171.