Teachers' and Students' Experiences of Standards-Based Assessment in New Zealand

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Abstract

The implementation in New Zealand of a standards-based assessment system for secondary qualifications since 2002 has changed the focus of assessment in the last three years of secondary schooling. Students are now assessed against both internally assessed (school-based) and externally assessed (national examinations) standards. The standards, which are registered on the National Qualifications Framework, have a credit value, and attainment of sufficient credits leads to the award of a certificate, generally the National Certificate of Educational Achievement (NCEA). These are at different levels (1, 2 and 3) comparable to each year (11, 12 and 13) of schooling. This paper examines Year 13 teachers' and students' experiences of internal and external assessment associated with the NCEA based on feedback from a range of studies, using information from interviews and surveys. The issues identified by the teachers and students are evaluated within a framework reflecting the key principles underpinning standards-based assessment in order to show how standards-based assessment is impacting on teachers' classroom practices and students' attitudes towards gaining national qualifications. Implications for national assessment systems using a standardsbased approach and for the development of secondary school qualifications are discussed.

Introduction

The development and implementation of any new assessment system, particularly one that provides the basis for 'high stakes' senior secondary school qualifications, requires monitoring of its impact on the people for whom it is designed and their views of its implementation. This is particularly important when the new assessment system has a number of features that differ from the assessment system that it is replacing, and acceptance of the new system is dependent not only upon perceptions that the new system works as well or better than the one it is replacing but also the credibility of the agency implementing the new system (Philips, 1998; Raffe, 2002). In practice, both aspects tend to be interlocked.

As part of evaluating the impact of the new senior secondary qualifications system in New Zealand, the New Zealand Qualifications Authority (NZQA) has extensively monitored the implementation of the National Certificate of Educational Achievement (NCEA). This helps to identify the potential barriers to increased acceptance of the new system, as well as ways of enhancing business processes that contribute to the successful implementation of the new system. This paper discusses some of the types of information that have been gathered by NZQA and from other agencies to assist in monitoring the implementation of the NCEA. Monitoring has included obtaining information from a variety of sources: informal comments from those who are experiencing the new system, such as students and teachers; media reports (e.g., articles on students' experiences of the

new system, or teachers and educators' views); views of officials who are responsible for overseeing the business activities that make up the system; polls of public opinion (contracted market research reports); in-house research on aspects of implementation to monitor business processes; and contracted studies (e.g., from independent research agencies) investigating particular aspects of the system.

After a brief overview of the New Zealand education system and secondary qualifications, the paper presents examples of the types of feedback that have been gained from various stakeholders, briefly evaluates the implications of the feedback for the development of secondary qualifications based on assessment against standards, and discusses possible implications for national qualifications systems.

Background

The New Zealand school education system comprises 13 year levels. Children may start school at age five and the majority do so, although schooling is not compulsory until the age of six and remains compulsory until age 16. There is a compulsory national curriculum for Years 1 - 10. Students progress to the next year of schooling at the beginning of each school year, except for entry to Years 12 and 13, in which case each school decides its own policy. Multi-level study in Years 11, 12 and 13 is common. Most students remain at school at least until Year 11, although retention rates at Years 12 and 13 are reasonably high. A few schools offer Year 14 programmes.

The NCEA is a qualification registered on New Zealand's National Qualifications Framework (NQF). It is available at three levels: NCEA Level 1, which is a Year 11 qualification; NCEA Level 2, a Year 12 qualification; and NCEA Level 3, a Year 13 (final secondary) qualification. Students do not necessarily complete the qualification in the Year level stated. Since 2004, school leavers present results related to the NCEA and other nationally registered qualifications to gain entrance to university. These results are gained in nationally registered unit standards and achievement standards, both of which have specified learning outcomes and assessment criteria. All standards are assigned a credit value, which represents the extent of learning involved. Credit is awarded in each standard when the required level is achieved. High performance may be recognised in achievement standards through merit and excellence levels. Results for unit standards are reported as achieved credit only. Assessment for the NCEA is both internal, or schoolbased, and external, through examinations conducted by NZQA. These are generally written examinations, or for some subjects based on inspection of portfolios of student work. Each subject grouping includes both internally and externally assessed standards. All unit standards are internally assessed.

A full year's study in a subject is represented by standards totaling between approximately 20 and 24 credits. Schools make their own decisions about how many standards will be assessed over a full year's study in each subject and, as standards vary in credit value (usually between 3 and 6 credits), the number of credits a student may potentially gain varies by subject. Generally, students study five subjects, but they may combine 'full subjects' and 'part subjects' depending upon the organisation of a school's teaching and learning programmes.

Students build upon NCEA Levels 1 and 2 to achieve Level 3. NCEA Level 3 is designed to acknowledge achievement across a range of learning areas in the New Zealand curriculum and provides an advanced foundation for further study or employment. Students certified at Level 3 are identified as having the knowledge and skills to solve unfamiliar problems, access, analyse and use information effectively and work independently. All NCEA awards are gained by accumulating credits. Level 3 requires a minimum of 80 credits, 60 of which must have been achieved at this level, and 20 at Level 2 or above. The NCEA Level 3 replaced the University Entrance Bursaries and Scholarship award in 2004.

The Secondary Education Group at NZQA administers the national external assessments, largely through contracts with examiners and markers, and a team of School Relationship Managers (SRMs) visits schools to check their processes for recording and reporting on student achievement for internally assessed standards. National moderators also assess a sample of student work from each school each year. Each school has a principal's nominee who provides an interface between the school and NZQA. Students' entries for externally assessed standards are sent to NZQA and the students' results are sent back to the school as well as being held nationally and reported as national statistics.

During 2005, some reviews were conducted by NZQA and externally by other agencies, including the State Services Commission, which has an overarching monitoring role for other government departments, on the conduct of the 2004 national examinations (external assessments). The government was concerned about the 'variability' in the results that students gained in Scholarship (a national competitive award designed for high achieving Year 13 students) and, to a lesser extent, the NCEA. One of the SSC reports examined the performance of NZQA across a range of governance, monitoring, planning, and leadership dimensions particularly tied to 'the delivery of secondary school qualifications' (State Services Commission, 2005). One of the main recommendations of this report was that "NZQA develop more effective ways of capturing qualitative feedback on the implementation of NCEA through the use of focus groups, face to face interviews and other mechanisms to enhance operational learning."

Stakeholder feedback

Information about teachers' and students' experiences of the assessment systems associated with gaining secondary qualifications has been gathered in New Zealand throughout the implementation of the NQF/NCEA. This has primarily been to support the review of business processes associated with quality assurance within NZQA, and to provide information to Chief Examiners.

Annual Surveys

Each year, NZQA obtains information about the external assessment round held in November and December from surveys of teachers, candidates and principal's nominees.

2005 Level 3 Teacher Survey

In 2005, following the first Level 3 surveys in 2004, teachers had the opportunity to comment on the Level 1, 2 and 3 NCEA and Scholarship external assessments. Surveys

for each level were sent to all 441 secondary schools inviting teachers to comment on their subject's examination papers. Comments were requested for all subjects at Level 3 and New Zealand Scholarship, while selected subjects were chosen at Level 1 and 2 (these reports are not summarised here). Reports on trends in the teachers' responses from 2002 (and 2003 for Level 2) were also prepared, showing a slight increase in favourable responses associated with quality of instructions, resources materials and time to complete all questions. Three-in-ten surveys were group or department responses. Teachers generally agreed that the tasks provided good coverage of the achievement criteria and that the instructions were clear and appropriate, but fewer agreed that the assessment specifications were helpful. The answer books were rated highly by teachers in terms of the space for full written answers and drawing diagrams. Slightly fewer agreed that there was sufficient space for students to plan their answers. Seven out of ten teachers believed the suggested time to complete all questions was *sufficient*. However, almost one-quarter reported that it was too short. The reading level was generally rated as suitable for Year 13 students, although one-quarter believed that the assessments were difficult or very difficult for Year 13 students.

2005 Survey of NCEA candidates

Thirty copies of the candidate survey were sent to 65 randomly selected secondary schools. A total of 279 surveys was returned from NCEA candidates. The 2005 survey sought information on candidates' profiles and experiences of external assessments, opinions of internal versus external assessment, and examination supervision. A report on trends in students' responses from 2003 to 2005 showed only minor fluctuations in the overall type of response to each question.

While most candidates who responded studied at only one level on the National Qualifications Framework, three-in-ten candidates were studying a combination of Levels. On average candidates being assessed at Level 3 attempted a smaller number of credits than Level 2 or 3 candidates (116 credits compared to an average of 160 and 134 for Level 1 and 2). Overall, candidates attempted more external achievement standards than internal achievement standards. One-third (32%) of candidates reported that 'there were no surprises' in their external assessments, and over half (55%) claimed they were 'well' or 'very well prepared' for their assessments. Two-thirds (63%) rated the time allocated for the assessments as 'about right'. Candidates commonly formed their expectations of external assessments through practice exams and help from teachers. They frequently prepared for their external assessments by doing practice examinations, using textbooks and study guides and working through their class notes. Candidates felt both best and least prepared for English and Mathematics. This was related to their relative enjoyment and understanding of the subject, and the amount of study done.

Most candidates (84%) preferred internal assessment, claiming that it was less stressful and occurred while the subject was fresh in their minds. Some commented that there was less pressure without a time limit, and assessments were carried out over a longer period of time so it was a fairer method of assessment. Those preferring external assessment believed it was less subjective than internal assessment, and that it set the same standard nationwide. Overall, candidates were evenly split over whether internal or external

assessment better measured what they had learnt during the year. Almost six-in-ten Level 3 candidates believed that external assessment was better, while Level 1 and 2 candidates were more likely to state that internal assessment was a better measure.

2005 Principal's Nominees' end of year survey

Another group that is surveyed each year is the principal's nominees. In November 2005, they gave feedback on the various procedures surrounding the NCEA. The survey had three parts: comments on the role of the principal's nominee; external moderation; and the process for entries and results. The 274 surveys returned represented a 62% response rate from schools. Principal's nominees were positive about the visits from school relationship managers with the majority rating them as *useful* or *very useful*. Most information sources asked about were rated as *useful* or *very useful* by over 90% of Principal's nominees; this includes the school login page, the NZQA website, the SRM information e-mail link, the annual principal's nominees' seminar on external assessment, and specific circulars.

The majority regarded the external moderation feedback as *useful* or *very useful* in informing future assessment practice (87%) and in providing reassurance for course teachers that their judgments are at the national standard (86%). Around seven-in ten (69%) principal's nominees considered individual subject moderator reports were returned in a timely manner *some of the time*. However, two-in-ten (22%) considered reports were rarely returned in a timely manner. On average schools ranked the quality and format of the moderator's report as *adequate* to *good*. Principal's nominees rated the moderation summary report as *useful*. Most respondents rated the process for submitting entries and results to NZQA as *good* or *excellent*, with 84% of entries submitted electronically and 16% via the website. The responsiveness of NZQA staff to queries about entries and results was mostly rated as *excellent*.

Other 'in-house' research

Apart from mailed questionnaires, other techniques have also been used to investigate the views of Year 12 and 13 students on the NQF and the NCEA, the 'pathways' or range of qualifications available to students, and changes in the assessment practices of 60 teachers over three years (2004 to 2006).

Students' views of the NQF/NCEA

At the end of 2005, focus groups were carried out with a sample of year 12 and 13 students from 16 schools in different parts of New Zealand. Five key areas were explored: understanding of the NQF/NCEA, sources of NCEA related information, use of results information, views on assessment, and aspects of the qualification that motivate or fail to motivate.

Most students were knowledgeable about standards, credits and gaining NCEA qualifications. Some were confused about the number of credits needed to gain a certificate, how credits were carried over to a later qualification and which NCEA level (1, 2 or 3) credits counted towards when students were studying at more than one level. However, students did not have a good understanding of the NQF. Students relied heavily on their schools for NCEA related information, and most believed that their school

provided adequate information. Some commented that others in the community, such as employers, did not have sufficient information. The NZQA website was commonly used, with many students checking their results on it. Some also accessed exemplars, examination timetables and other assessment information.

Students made several comments about the grading system for achievement standards. Some claimed that the expectations for each of the achievement standard grades were too broad. Others observed that the marking of students' work did not take into account correct answers to Merit and Excellence questions if the Achievement questions were answered incorrectly. Most students reported that they would prefer a percentage mark to achievement grades, primarily for competitive reasons, but some believed that percentages would provide a better indication of how much they had improved or how much they needed to improve.

While students varied in their preference for internal or external assessment, more favoured internal assessments, as material was still fresh in their minds (which is consistent with the finding from the candidates' surveys). Those preferring external assessment were predominantly male and often expressed difficulty managing their time effectively. As with the candidates' surveys, students had mixed views on which type of assessment was a better measure of what they had learnt throughout the year. Overall, more students regarded external assessment as a better measure with many expressing concern about the fairness and consistency of internal assessment between schools and teachers. The majority of students reported having heavy assessment workloads, and the timing of internal assessments throughout the year was often mentioned. Many disliked having internal assessments in several subjects due at the same time, and found that they needed to prioritise their effort. Some students mentioned not attempting certain assessments. This was commonly to manage their workload by prioritising which assessments to sit. Others skipped assessments when a standard was worth few credits, was perceived as too hard, when they thought they did not need the credits and/or when they did not like the assessment method.

Most students saw the NCEA as a necessary step towards a positive career path. Post-school aspirations were a motivator – particularly for Year 13 students – to work hard in school and finish with good results. Many thought that the last set of results counted most and that once they had gained level 3 their earlier results were irrelevant. Year 13 students often commented that they had aimed for Achieved grades in Years 11 and 12, but were aiming for higher grades in Year 13. Also, several Year 12 students commented that they would put in more effort in Year 13 when their grades were perceived to be more important. Some students stated that the only contribution for them of the NCEA was as a means for gaining sufficient credits for University Entrance. While those intending to go to university generally regarded University Entrance as more important than the Level 3 NCEA, most were still working towards their Level 3 certificate as well.

Internal assessment encouraged students to work hard throughout the year, and most regarded internally assessed standards as a back up or safeguard for their external assessments. Several students mentioned that internal assessments kept them attending

school on a regular basis. However, a few students found it discouraging to receive what they saw as reminders of their failures throughout the year. Both subject interest and obtaining credits motivated students to work hard in assessments. However, many claimed that they would not put effort into learning activities purely out of interest if they were not assessed for credit. This often related to workload and the need to prioritise, but some students only wanted to do work that was worth credit.

The level of achievement that students were satisfied with differed among the students. Some students were often motivated by Merit and Excellence grades whereas others were generally happy with Achieved grades, and placed more importance on gaining credits. Others students commented that it depended on the subject. A small number of students, often male, commented that they were aiming for the minimum credits required for the NCEA or University Entrance. Some students argued that they would be more motivated to aim for higher levels of achievement if Merit and Excellence grades were awarded with extra credits.

There were mixed views on the motivational aspects of re-assessment, i.e., having a second or third opportunity to demonstrate achievement of some of the assessment criteria for internally assessed standards. While students generally regarded this favourably, many noted that they did not always work as hard at their first attempt at an assessment. Some commented that others being giving re-assessment was sometimes frustrating if they themselves had performed well on their first attempt. Some schools were extending more able students by encouraging them to be assessed at a higher level or, in the case of one student, funding university papers. The opportunity to study at a higher level was seen as challenging and motivating by these students.

Changing Courses: Investigating schools' responsiveness to the flexibility of the NQF Early research by the New Zealand Council for Educational Research (NZCER) on the impact of the NCEA on schools' programmes showed that there appeared to be greater flexibility for students in the subject choices available (Hipkins and Vaughan, 2002). Further investigation of ways that schools are changing their programmes was carried out by NZQA, initially through a case study of 15 schools and then via a national online survey. The purpose was to investigate ways that schools are adapting to the potential flexibility of the NCEA in the design of teaching and learning programmes or different pathways for students.

1 Case Studies of Secondary Schools

Interviews with senior teachers focusing on course design issues were carried out in 15 secondary schools throughout New Zealand in October 2004. Students (120 altogether) were also interviewed and course information booklets collected. Schools reported various changes to their senior courses over the last three years. Schools were mixing standards across levels and subjects with a course made up of Level 1, 2 or 3 achievement (internal or external) or unit standards. Schools reported an expanded curriculum with new courses incorporating standards from a range of learning areas. All schools were committed to the NCEA; however, there was growth in the offering of other National

Certificates. Schools offered on average six National Certificates, the most popular being in Computing and Tourism.

Schools met the needs and interests of students in various ways. Different versions of subjects catered for a range of abilities and interests, and multi-levelling was encouraged. Students also had access to a range of programmes including transition courses, international certificates, distance learning, and academies. The majority of schools commented that the implementation of the NCEA/NQF had increased course flexibility. This was due to schools being more creative in their course design and selecting standards that met their students' needs. Students were also able to gain a range of qualifications and credits that were transferable between providers and tied into transition programmes. Different aids and barriers to offering flexible courses to students were identified. These included timetables, staff, resources, students, courses and relationships with others in the education sector and community.

Schools believed more students were now gaining qualifications. Students reported choosing courses based on career or study aspirations, likelihood of achieving in the course and enjoyment. All students emphasised their teacher as a key factor in why they chose to drop a course. Students reported receiving career advice from a range of sources: career counselors, teachers, family members, course selection booklet, internet or computer programmes, university liaison officers and career expos. Overall, while schools were positive about the NCEA and its impact on course design, some issues relating to the new qualifications system were apparent, such as a perception in some schools that unit standards and National Certificates were for less able students. Students also appeared to be streamed into versions of courses based on previous achievement.

2 National Survey of Secondary Schools

An online survey of questions about senior secondary courses was sent to all New Zealand secondary schools in October 2005. A total of 183 schools responded. Schools offered between six and 209 courses to senior students, with 77 the average, and most at level 2. Usually more courses were offered at larger schools. Most schools had compulsory or highly recommended courses at levels 1 and 2, and 25% at level 3. English was most likely to be compulsory. Two thirds of schools (mainly single-sex, urban, high decile and with larger rolls) offered extra courses and/or tutorials to students attempting Scholarship. Thirty percent of schools offered courses beyond level 3, such as National Certificates, University papers, and Te Reo Māori courses, as these met students' needs and interests and provided academic extension.

Around half of schools reported offering more English, mathematics and science courses at levels 1, 2, and 3 than before the NCEA was introduced in 2002, with most being at level 2 and in science. Courses included achievement or unit standards or both, and varied in content, and number of standards and credits. New courses introduced since 2002 included non-traditional courses such as Cook Island Tourism and Trades Drawing. One third of schools offered courses that assess standards from a range of learning areas, for example, an Environmental Studies course made up of geography, history and

agriculture standards. A quarter of schools had combined existing courses, the most popular being an accounting and economics course, and a geography and history course. Forty seven percent of schools that had made course changes reported they were a result of the availability of the NCEA.

Eighty percent of schools offered students NQF Certificates – on average four - other than the NCEA, with the most popular being in Tourism and Computing. These schools tended to be co-educational, state, mid-decile and rural. Two thirds of schools began offering NQF Certificates before 2002. Schools offered NQF Certificates so students had more opportunities to gain qualifications, including the NCEA, and to meet their needs. Those only offering the NCEA tended to be private schools or with a very high roll. Apart from the NQF, almost all schools offered a range of courses, programmes and other qualifications. The most popular were papers via the Correspondence School, then STAR-funded, the Young Enterprise Certificate, and Gateway. Schools reported these programmes and qualifications met the needs of students, complemented courses at their schools and allowed students to gain qualifications.

Assessment beliefs and practices of Year 13 teachers

This study focuses on a small sample of teachers of English, statistics, geography and physical education and aims to identify their views on assessment against standards and ways that they change between 2004 and 2006, corresponding to the first three years of the implementation of the NCEA level 3. To date, two sets of interviews and preliminary analyses of teachers' responses to a series of statements about assessment and comments from face-to-face interviews have been carried out. This more in-depth study will identify those aspects of assessment against standards that teachers are comfortable with, those that have presented challenges, differences between subjects and implications for NZQA's business processes. It is due to be completed in early 2007.

'External' research studies

The NZCER *Learning Curves* study also used a wide range of qualitative techniques. It spanned a three-year period and was an intensive study of six schools and their senior students working towards gaining the NCEA. The last report, released at the end of 2005, focused on students' and teachers' perceptions of the NCEA, students' strategies for coping with the NCEA, student motivation, subject choices and learning pathways (Hipkins and Vaughan, 2005). As noted in the *Learning Curves* reports, most schools are offering students considerable choice of learning programmes.

The Post-Primary Teachers' Association carried out a study of teachers' views of the NCEA at the end of 2004, highlighting that most supported the retention of the NCEA and the need to have a better balance between the curriculum and assessment so that teaching is less assessment-driven. Students whether more or less able appeared to be better motivated to succeed within the NCEA framework than in previous qualifications. Other findings included that internal assessment has to be carefully managed to allow further opportunities for assessment, internal moderation of assessment is seen as positive but external moderation needs to be enhanced (Alison, 2005). Another research study,

due to be completed later this year, focuses on students' motivation and the NCEA and s being carried out by Victoria University of Wellington.

Evaluating the feedback

New Zealand's standards based secondary qualification requires a mixture of types of assessment, which means that teachers need to understand the quality of achievement expected of students at each level in order to maintain consistency of interpretation, and students (or learners) need to know what is expected of them. The feedback from the surveys summarised in the first half of the paper indicates that teachers are satisfied with the level of difficulty of the external assessments, while the candidates' experiences of external assessment generally indicate a high level of satisfaction, which is very encouraging. Generally, teachers are satisfied with the range and quality of information they receive about the NCEA and the external assessment processes. However, internal assessment also plays an important role in New Zealand's secondary qualifications. The more detailed study based on focus groups of Year 12 and 13 students evaluated students' views of both external and internal assessment, and showed that most preferred internal assessment although some students (often males) preferred external assessment. These findings are similar to those reported in the *Learning Curves* research.

From the *Changing Courses* and *Learning Curves* studies, schools are mostly positive about the NQF due to more flexible pathways for students, more opportunities for further study or employment, and a wider range of qualifications. Most schools agreed that the NQF had led to positive impacts, such as a wider range of courses and qualifications that better cater to students' needs, and more creative course design. The most important aids and barriers to schools offering flexible courses were having the appropriate resources and facilities, the availability and qualifications of teachers, and adequate funding. Schools differed as to whether courses have too many assessment components, and whether students can integrate knowledge and skills across standards.

Overall, feedback from the various surveys and research cited indicates that teachers and students are becoming more comfortable with assessment against standards, and that there is a strong commitment to the new secondary qualifications system.

Implications for national systems of secondary qualifications

The views of teachers who are involved in implementing national curriculum through devising teaching and learning programmes and assessment tasks are an important source of information on the efficacy of a national or statewide system. A variety of methods is required to tap into teachers' views, as formal surveys tend to capture responses within predetermined question frames. This is a useful approach if the questions offer evidence for how well the components of a national system are working and possible ways of improving those components. Similarly, the views of learners – in this case secondary school students – are equally important in terms of capturing aspects of their experience of the national systems. But such techniques can only skim across the surface of the complexity of a national system as it is realised differently in each context (not only each school but each classroom).

More rigorous qualitative techniques are required to identify the real experiences of participants within an assessment system, such as face-to-face interviews or focus groups. Both approaches have been used by NZQA to establish a richer source of information about the impact of standards based assessment for secondary qualifications. While such studies are more time-consuming, they have the potential to contribute more valid information about the impact of a system. Further, using an in-house resource is more likely to have a direct influence on the adoption of enhanced or different methods than a formal, external research study where there is a significant time lag between the gathering of the data and the presentation of a final report. Innovative organisations that model active learning are more likely to use such approaches.

Any jurisdiction contemplating the implementation of a national assessment system based on assessment against standards will need to closely monitor the views and behaviour of teachers and students, and build a strategy for obtaining feedback from key national sector groups. While in-house investigations are essential to identify aspects of business processes that need to be improved, independent research is also critical to verify that the impacts of the new system are carefully monitored and that any 'sticking-points' to acceptance are clearly identified and researched to improve implementation.

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