In Sickness and in Health: Learning and Assessment Inside and Outside the New Zealand Qualifications Framework

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National qualifications frameworks are often considered to be a panacea for educators and educational institutions. In this paper I examine the implementation of the New Zealand Qualifications Framework, with particular emphasis on the relationship between educational institutions and industry partner organizations. It is argued that Government policy must take cognisance of differing skills of industry and education, and not create an imbalance in power that inhibits effective implementation of national frameworks. The issue is illustrated by a description of the experience of the implementation of the Diploma in Applied Technology at UNITEC Institute of Technology. (*Asia-Pacific Journal of Cooperative Education, 2001, 2(1), 23-30).

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In 1991 New Zealand established a National Qualifications Framework. It was to be a seamless national recognition system for all secondary school and tertiary sector qualifications from certificates to doctorates in all academic and vocational disciplines. The Framework was to be based on a partnership between providers and users, with national standards setting bodies, such as Industry Training Organizations (ITOs) setting the qualifications standards to be achieved and institutions guaranteed in legislation the academic freedom to teach and assess in the manner they consider best promotes learning. The Framework’s governing policies demanded that assessment be standards-(competency-) based.

This paper describes the contamination of the assessment model and argues that this can in large part be attributed to a breakdown in cooperation between tertiary institutions and a number of national industry bodies. Assessment in many disciplines became atomised and unmanageable, and good learning was seriously compromised. The paper then goes on to outline one institution’s initiative in developing a Diploma in Applied Technology that is located alongside rather than inside the national framework. It explains how this is steadily enabling trainers to progress towards being educators who are attempting to give primacy to learning and assessment that is student-centered, authentic, integrated, problem-focused, project-based and collaborative. It is argued that best practice cannot occur unless cooperation operates at all levels. In particular, industry and educators need to respect each other’s talents. This must include an unequivocal recognition that educators have particular expertise in guiding students towards constructing their own knowledge, and that undue influence by untrained industry partners in the design of assessment tasks risks undermining national and global strategies for developing skills and economies. The paper also notes that the New Zealand government is finalizing policy that will see the Qualifications become part of a new national recognition system within which education providers will be able to register their own qualifications with the New Zealand Qualifications Authority (NZQA).

The New Zealand Qualifications Framework

In September 1991, after extensive national consultation, the Board of the NZQA announced policy on developing a National Qualifications Framework for New Zealand (New...
Assessment Within the Qualifications Framework

By 1998 the Academic Development Unit at UNITEC Institute of Technology based in Auckland New Zealand, one of New Zealand’s largest tertiary institutions, had become concerned about the manageability of assessment within the Framework. In 1998 the institution offered 41 certificate and diploma programs that included unit standards. A 33 question survey was administered to determine the extent of success and difficulty with Framework assessment. The survey yielded a 100% return from the 20 leaders of these programs. The results were reported elsewhere (Meldrum, 1999).

Only 11 of the program leaders (55%) agreed that “with unit standards, the collection and assessment of evidence is manageable.” Sixteen (80%) agreed that “with unit standards, assessment is fair to students,” but the same number believed that previous approaches to assessment were also fair to students.

Program leaders were asked about the main focus of assessment judgments. Nine (45%) said that the main focus is always on individual performance criteria, and a further seven (35%) said this is often the focus. Four (20%) said the main focus is always on elements, eight (40%) often, four (20%) sometimes, one (5%) seldom and three (15%) never. Only one (5%) said the focus is always on the unit standards title, and twelve (60%) said this is never the focus. Standards are expressed in the titles of unit standards and are clarified in the elements of these. However, the survey showed that many assessors were drawn to focus atomistically on performance criteria.

If the focus is on performance criteria, two problems arise. First, the finer the focus, the greater the number of tasks that is required and the greater the challenge to manageability. Second, if assessment is of parts of a performance rather than of a whole performance, validity may well be compromised.

The NZQA was not proactive in promoting ways to simplify assessment practices. For example, the Policy Statement on Assessment within the Framework (NZQA, 1994) gave primacy to validity, consistency and fairness, and referred to “the required standard” without mentioning performance criteria and range statements. By 1996 it was widely known that educationally impoverished and burdensome assessment practices were being implemented in many areas. Yet when NZQA published its assessment guideline Learning and Assessment (NZQA, 1996), it only cautiously opened opportunities for simplification.

Towards the end of that publication, the question is posed: “Is it realistic to assess for all performance criteria and all items in a range statement?” (NZQA, 1996, p. 47). The guideline went on to answer: “There must be evidence that all performance criteria have been met” (p. 47). Where there is a range statement, the evidence must cover all items in the range. That is not to say that there has been a separate assessment activity for each performance criterion or range item. For example, a range statement says that the learner, “has to be able to cook a turkey and a duck.” The task could be to cook a turkey and to provide an explanation of how the process would differ for a duck. Some supplementary evidence will be less direct than might be preferred but combined with more direct performance evidence, it can be valid. It also makes assessment manageable and avoids over assessment.

Maybe this was too little and/or too late. In the program leader survey, 16 program leaders (80%) agreed with the statement “I believe that indirect evidence is acceptable and valid.” In response to the statement: “In the program we use indirect evidence,” none (0%) said always, six (30%) often, eight (40%) sometimes, two (10%) seldom and two (10%) never with two (10%) not responding. Educators, however, do not have an entirely free hand because they need to comply with external moderation requirements. Only seven (35%) agreed with the statement “The standards setting body/moderators allow the use of indirect evidence.” If external moderators require mark schedules that list the extent of admissible direct evidence, this is perfectly reasonable as a check on a provider’s interpretation of the standard. If, however, moderators do not also allow assessors to admit indirect evidence that does not appear in mark schedules, this is a violation of the principles of good
assessments promoted in Learning and Assessment (NZQA, 1996).

There is a certain irony too. Throughout Learning and Assessment, assessors are encouraged to admit diverse evidence presented by students. Moderators, as expert assessors, should also be able to deal with diverse evidence presented to them by assessors.

Learning and Assessment awkwardly offers a further suggestion to improve the manageability of assessment. It asks: “What about inference?” (NZQA, 1996, p. 47) and answers:

Where two processes are very similar or there are many items in a range statement, is it legitimate to infer competence in one skill from performance in another? Inference works from available evidence. An assessor may decide that two performances are so closely related that the ability to perform one is legitimate evidence of an ability to perform the other...Inferred evidence is likely to be less direct and it could be wise to elicit a little supplementary evidence... (p. 47)

The caution is unnecessary. Inference is wholly legitimate and supplementary evidence should not be required. Regrettably, however, inference is not widely practiced, possibly because it is confused with sampling which is not a sanctioned practice within standards-based assessment.

If there are, say, 5 outcomes (a), (b), (c), (d), and (e), inference works when the assessor says: if a student successfully performs (e), then it can be inferred that s/he is competent at (a), (b), (c), and (d) because these are subsumed within (e) and/or are prerequisites for a successful performance of (e). The assessor would need to be able to argue that a student cannot achieve (e) without also being able to achieve (a), (b), (c) and (d).

In the survey, only two program leaders (10%) agreed or strongly agreed that “the standards setting body/moderators encourages the use of inference” and “allow the use of inference.” Remarkably, only 10 (50%) of program leaders in the survey agreed that “inference is acceptable and valid.” In response to the statement: “In the program we use inference,” none of the leaders (0%) replied always, one (5%) often, five (25%) sometimes, seven (35%) seldom, and five (25%) never.

Meldrum (1999) argued it was inescapably clear that educators lacked the confidence to give life to the standards-based assessment model and its benefits. It was also clear that many external moderators were subverting the conditions that allow the exercise of professional judgment. In the survey only nine (45%) agreed that “external moderation requirements have a positive influence on assessment.”

It is noteworthy too that 16 (80%) of the program leaders deal with ITOs. ITOs were established by the Education Training Act (1992) which in many ways compromised the 1989 Education Act by giving ITOs powers that unbalanced the intended partnership between providers and qualifications users. In particular, the power to purchase off-job training has been taken by some ITOs as an opportunity to control education providers. As a condition of purchase, many imposed assessment practices that were unwieldy to manage.

By 1998, therefore, it was clear that the partnership promised in 1991 had not been fully realized.

UNITEC’s Diploma in Applied Technology

Although only national qualifications are registered on the National Qualifications Framework, individual providers can develop their own qualifications, benchmark these against the levels of the national Framework, and seek approval for government funding.

In 1999 the UNITEC Applied Technology Institute (UATI) began the development of a Diploma in Applied Technology with majors in automotive engineering, marine, plumbing, gas fitting, building, joinery, and furniture making. The qualification was to be benchmarked at level 6 and the program was to be 240 credits - equivalent to two years full-time study.

There were two objectives: to provide the market with a diploma level qualification that emphasized problem solving and critical thinking rather than the performance of narrow tasks (Richardson, 2001a), and to break free from the constraints inherent in the unit standards approach to assessment and learning. Very few ITOs had national diplomas, therefore it was considered better to complement rather than challenge the unit-standards based national certificates already available.

The development process required the staff in the program development team to change their whole way of thinking yet again. Since 1991, providers had worked hard to adapt from the previous training method of time-served apprenticeships and written examinations based on content prescriptions to meet the new competency system based on unit standards. The diploma program was to be organized instead into courses of holistic learning, with learning outcomes broader than those specified in unit standards, and with fewer, more integrated summative assessment activities. Each course was to be 12 credits, equal to about 120 hours of total learning time.

A simple comparison highlights the difference. The National Certificate in Furniture-Making (Level 4, 131 credits) includes 45 unit standards. For one unit standard worth 5 credits, the New Zealand Furniture Industry Training Organization (1999) specifies for each of the unit’s 20 performance criteria the skill evidence required and the question to ask to determine evidence of knowledge. This represents 8 atomised assessment points (4 skill, 4 knowledge) per credit. In the two-year diploma, on the other hand, there are twenty courses, with each worth 12 credits. There are usually 1 to 3 assessments per course, averaging one integrated assessment for every 4 to 12 credits.

The approach adopted in the diploma is consistent with Gonczi’s (1993) argument for the need to consider “the complex combinations of attributes (knowledge, skills and attitudes) which are combined by the worker to understand a particular situation” (p. 5). This approach brings together broad attributes and the tasks that need to be performed in the workplace. Competence is therefore seen as “complex...
of “rich environments for active learning” (Grabinger & Dunlap, 1995) generated particular interest. This led, finally, to a closer consideration of the characteristics of problem-based learning.

The working party then proceeded to negotiate a set of 15 core beliefs:

1. Students participate in generative activities to construct their own knowledge - individuals make sense by relating new knowledge to what is already known.
2. The ways students currently think and do things are challenged - they are coached to engage with tasks as experts and to thereby gain new skills and construct new knowledge.
3. A primary focus is on the students and developing their confidence to learn and do things for themselves.
4. Students are helped to become metacognitively aware by asking themselves routine questions about their learning.
5. Students are helped to develop a repertoire of learning strategies appropriate for different situations.
6. Students are helped to become independent self-monitors of their learning.
7. An emphasis is given to increasing students’ awareness of the importance of self-efficacy (confidence in ability to achieve goals within a subject).
8. The teacher models skills and procedures, and then progressively fades in order to encourage student independence and confidence.
9. The teacher provides lots of feedback, and praises rather than criticizes.
10. Learning is anchored in meaningful problem-solving environments.
11. The emphasis is on students taking responsibility for their own learning.
12. Students learn to ask questions to guide their knowledge building.
13. Self-reflection is emphasized: thinking about consequences and implications of actions.
14. Students are involved deeply and constantly with creating solutions to authentic problems through the development and completion of projects.
15. Teachers become facilitators and students become investigators, seekers, problem-solvers.

After some debate about what to do next, it was agreed that the working party would benefit from treating its task in a way that reflected the core beliefs. It was agreed, therefore, to determine a collaborative problem-solving methodology before proceeding to design the teaching, learning and assessment scenario.

The agreed design process principally involved the creation of alternatives by individuals and/or groups. These were presented to the whole project team for critique. The whole team selected the best solution/s and then proceeded
to the next stage by repeating the process. For almost three months this continued over fortnightly breakfast meetings.

Each diploma course had been given a value of 12 credits, representing 120 hours of learning. To achieve an integrated curriculum scenario that gave scope for recognizing the core beliefs, it was agreed to attempt first an integrated curriculum scenario that merged three courses into one learning block of 360 hours. The courses selected were Health, Safety and Professional Ethics, Introduction to Self-Employment, and Critical Thinking and Problem Solving. The alternatives that were created generated confidence in both the design approach and the feasibility and manageability of an alternative curriculum. There was also excitement that the approach had the potential to foster deep, integrated and authentic learning in marked contrast to the shallow, fragmented approach driven by unit standards.

From here, one whole major was tackled, and eventually the courses in each of the seven majors as well as the generic courses were merged into blocks of three.

Generic Courses Block

Delivery of the diploma began in February 2001 with 21 students (median age 19) in the automotive and boat-building majors. In the first semester the students are also taking three generic courses: Health Safety and Professional Ethics, Critical Thinking and Problem Solving, and Communication and Customer Services. The three courses are being delivered as a block, thereby putting to the test the philosophy developed by the Dean’s Working Party (2001).

On the first day it was explained to the students that learning in this block is to be student-centered, integrated, authentic, project-based, problem-based and collaborative. They were also informed that assessment would be based on evidence presented in projects set up and undertaken by the students themselves. They were encouraged to design projects that are collaborative and that integrate the 11 learning outcomes of the three courses.

The students were then set free to organize themselves into groups and start thinking about the projects they would undertake and present for assessment.

The students formed themselves into three groups: Gese in Flight, Acid Boats and Composite Marine. Two have been organized as companies. In one of these, each student has an assigned company role (e.g., general manager and foreman). The class meets weekly. Sometimes the whole day is spent with the class and the three teachers together, but more often there are separate times during the day for each teacher to facilitate content and advice relevant to their particular course as the student learning need arises. As well as meeting in their own time, there are also class sessions when the groups hold formal meetings to plan, develop and monitor, and to thereby demonstrate their critical and lateral thinking and oral and written communication skills. At these meetings, members of other groups observe and provide peer feedback. Teachers are also observers and sometimes construct formal assessments of communications and problem solving. At the end of the semester the groups presented their projects. One group posted their work on their corporate website.

The semester ends one week after submission of this paper. One group has presented its project work and two are to come. Composite Marine is going to post its work on the company’s website.

The Future

It remains to be seen where the diploma goes, and how well. The real industry response will not be known until the end of 2002 when the first cohort of graduates tests the labor market.

Staff are divided. Some remain attached to the checklist approach to assessment inherent in unit standards. Some like the course focus, and some of these are attracted to integrating courses. Others again are looking at the possibility of rolling all summative assessments into an integrative project that students undertake in the fourth semester. In this scenario, assessments in the first three semesters would be solely for the purposes of formative feedback.

In their evaluations of the integrated approach to learning in the three generic courses, students commented on how demanding it is for “hands-on students” to deal with ideas, and how “it can get quite messy putting three things together.” Nonetheless, they like how “you have to learn to think.” “seeing how different things are linked together,” “learning about the real world,” “team work and help from others,” and “learn(ing) good organization skills.” The students prefer project work to multiple, smaller assessments.

Having raised the learning and skills that our traditional trainees graduate with, we can now explore the possibilities of cooperative links with industry to help our graduates perform at the level they have achieved in their learning. To expect our diploma graduated to perform in a “work experience” culture as for our certificate programs would be an insult to their newfound intelligence. We are not developing graduates ready to enter the industry at an entrance level. We are providing graduates who could serve the industry. Therefore we need to change industry perception of what our graduates can do. A change that will not be easy after the unit standards based training and assessment methods previously employed and adopted by industry. Our graduates will require projects to work on to develop their skills further: projects requiring a research base, problem analysis and problem solving, collaborative teamwork and product development. The trade magazines and journals will be full of published results of their projects, encouraging trade technological growth and competitiveness. The face of trade training and the trade industries are set for a major change. Our graduates, together with cooperative learning with their trade industries, will be driving the change. They will be the future leaders of our industries.


2Training workers to enable entry into an industry position at an entry level performing a set task.
Conclusion

In theory, as Tchaban (2001) notes, national qualifications frameworks are a panacea. Indeed, unit standards are not inconsistent with learning that is student-centered, authentic, integrated, project-based, problem-focused and collaborative. However, when government policy enables the associates of national standards bodies to meddle in the assessment process, the quality of learning can be put seriously at risk. The problem lies less with individuals than with the lack of clear definitions and enforced roles and responsibilities at the interface between educators who assess and industry representatives who moderate. The resulting muddle places in jeopardy national and global strategies for developing skills and economies.

This year, after another long public consultation, the NZQA announced new policy on the establishment of Register of Quality Assured Qualification. According to Andrew West, Chief Executive of the NZQA, the current framework of national qualifications will become “simply a subset of the register” (West, 2001). The same levels, credit values and nomenclature will apply to both the Register and the Framework. The Register will enable institutions to gain national recognition and parity of esteem for their own qualifications.

The Register marks a partial failure of the notion of national qualifications. This has occurred principally because cooperation between providers and some national industry training bodies has been strained. Institutions like UNITECs Applied Technology Institute have been far more successful in establishing partnerships with local industries. It seems that depoliticised, local arrangements in which users and providers respect their different fields of expertise may offer better scope for cooperation and mutual benefits.

References


Richardson, L. (2001a). Recognition of our worth. Interior Detail(s), 1, 61.


APPENDIX

Sample Unit Standard

Interpersonal Communications

9679 PARTICIPATE IN FORMAL MEETINGS

<table>
<thead>
<tr>
<th>Level</th>
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<td>Expiry date</td>
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<tr>
<td>Sub-field</td>
<td>Communication Skills</td>
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**Purpose**

People credited with this unit standard are able to: prepare for meeting; contribute to meeting discussion; and contribute to group and/or team function.

**Special notes**

1. All activities must comply with any policies, procedures, and requirements of the organization/s involved; the ethical codes of relevant professional bodies; and any relevant legislative and/or regulatory requirements.
3. Organization, as referred to in this unit standard, includes organizations based in work, community, and cultural contexts.

**Elements and Performance Criteria**

**Element 1**

Prepare for meeting.

**Performance criteria**

1.1 Review of meeting purpose establishes contributions that can be made by the individual, issues that might arise, and strategies that could be used to deal with the issues in a constructive manner.

1.2 Preparation carried out contributes to the achievement of meeting objectives.

**Range:** Preparation includes but is not limited to - evaluating ideas, gathering data, researching information, and preparing reports.

**Element 2**

Contribute to meeting discussion.

**Performance criteria**

2.1 Contributions made are relevant to, and focused on, proposed motions.

**Range:** Contributions - ideas, information, opinions, recommendations, clarifying questions.

2.2 Contributions are made on the basis of available data.

2.3 Language used fits the situation, subject matter, and relationship between participants.

**Element 3**

Contribute to group and/or team function.
Performance criteria

3.1 Commitment is made to the group and/or team function by complying with meeting decisions and sharing responsibility for meeting problems.

3.2 Support is given to other members that contributes to meeting function and the achievement of meeting objectives.

3.3 Actions taken to overcome obstacles and/or contribute to team function are consistent with meeting objectives and agreed rules for member behavior.

Range: Establishment of procedures, parameters, and guidelines for team members, clarification of issues.