Issues and Practices in Deciding Competency: A discussion paper

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Preface

The increasing 'convergence' of general and vocational education at the senior secondary level in Queensland has seen a large number of teachers become involved, many for the first time, in competency-based assessment. Research conducted by the Queensland Board of Senior Secondary School Studies has suggested many teachers would like more information about how other teachers decide when a student is competent. The present study aims to contribute to the discussion of this topic by providing information obtained from a small number of teachers in schools and institutes of TAFE. While reporting on what teachers have said about how they decide competency, this discussion paper raises some significant questions about assessment practices and the interpretation of industry standards.

I commend this paper to teachers, administrators, curriculum designers and policy decision makers.

I would like to thank those who took part in the study, in particular the teachers in schools and institutes of TAFE who gave their time and expertise. The project was conceptualised by Reg Allen (Deputy Director, Analysis and Resources), who provided the key directions for the conduct of the research.

John A Pitman
Director

Aim of this study

The aim of this small research project was to investigate issues relating to competency-based assessment of vocational education and training (VET); in particular, issues relating to the question 'How do teachers know that what they consider competent is the same as what other teachers consider competent?' This aim is based on a finding of *Evaluations of Study Area Specifications* (Bell, Williams & Paties 1999) that many teachers wanted more information about this topic.

This study will provide some starting points for teachers to reflect on their own practice in deciding competency and to relate their practice to that of some other teachers. Discussion of VET assessment often seems to occur at an abstract level. By taking a set of modules and exploring how teachers in schools and institutes of TAFE assess them, this study aims to support discussion at a more concrete level. In particular, it focuses on the following questions:

- What range of learning experiences do teachers provide?
- What range of potential workplaces do teachers consider when judging competency?
- What range of industry experience and knowledge do teachers have?
- What range of assessment methods do teachers use?
- What are the differences in how teachers recognise when a student is competent?
- What is the range of environments in which teachers deliver modules?

These questions were based on a reading of the relevant literature (see 'Some key points from the literature' below), and include a range of factors that could influence judgments about competency. A small number of teachers and modules were selected, to provide some indicative, concrete information on which to base a discussion. Teachers from TAFE as well as schools were included in the study in order to obtain a diverse range of experiences and practices.

Method of this study

The three main stages of this study were:
- selecting modules, schools and institutes of TAFE to include in the study
- distributing, completing and collecting research instruments
- analysing the completed research instruments and the assessment instruments supplied by the teachers who completed the instrument.

Selection of modules, schools and institutes of TAFE

The modules were selected following a scan of two datasets held by the Board: (a) all TAFE Recorded subjects able to be reported on the Senior Certificate; and (b) all of the schools in the State, with the subject and module information they are registered to provide and their current enrolments in Years 11 and 12.

Modules were selected according to these criteria:
- each is provided both by schools and institutes of TAFE
- each is provided by a large number of schools
- as a group they include different industry areas
- as a group they include both a specific and a generic industry focus.

Schools were selected on the basis of their being registered to offer all six modules, and their being within the Brisbane area (a restriction imposed by resources). Institutes of TAFE were selected on the basis of their offering at least a few of the selected modules. Five schools and four institutes of TAFE were selected.

Distributing, completing and collecting research instruments

In each selected school, members of the research team held a short meeting with a teacher who had agreed to coordinate the completion of the research instruments by teachers of the selected modules. Teachers completed the forms individually. Some meetings were held with TAFE teachers, but in most instances the forms were posted to them following a telephone discussion; in a few cases, the forms were completed as part of the telephone discussion. Because some schools and institutes did not actually teach the modules they were registered to teach, some forms could not be completed. Table one shows the modules selected for the study, and the number of forms completed for each module, by teachers at schools and at TAFE institutes.

Table 1: Modules, and number of forms completed

Module code	Module name	Forms completed by schools	Forms completed by TAFEs	Total forms completed
ABC502	Occupational Health & Safety	3	2	5
INT8	Occupational Hygiene	5	1	6
ITR1	Introduction to Travel & Tourism	5	2	7
NOS234	Payroll—Computerised	0	2	2
NCS002	Writing Skills for Work	5	1	6
AAB101	Ratio, Proportion & Percent	2	0	2

Background

As part of the 'convergence' of vocational and general education, vocational education modules have been embedded in certain Board and Board-registered subjects in Queensland. In 1998, out of 35 394 students who received a Senior Certificate, 11 952 received a result in one or more subjects with embedded VET. This major development in Queensland post-compulsory education has seen a large number of teachers become involved, many for the first time, in the practice of competency-based assessment, which is the form of assessment required in the Australian VET sector.

Competency-based assessment may be employed in many settings, but it is often associated with VET. In this setting, it makes judgments on whether a learner has demonstrated, through performance, that he/she has certain specified skills or knowledge and could be expected to be able to apply these in the workplace. The essential features of this form of assessment, as implemented in the Australian VET sector, are:

- explicitly defined, and industry-endorsed, standards
- qualified assessors with appropriate industry experience.

Learners are not 'placed' with reference to each other, beyond the basic distinction between being competent or not. Learners are not necessarily required to complete a certain course of study before being judged competent: competency can, in theory, be demonstrated at any time, and once a learner has demonstrated competency, no further assessment of that competency is required.

Advocates of competency-based assessment maintain that its judgments obtain validity and accountability, in a vocational context, from their being made with reference to explicit, endorsed standards by assessors who know what is actually required in the workplace. Its advocates also point out that although judging a learner to be competent or not competent may be seen as judging whether the learner has reached a prescribed minimum standard, the notion of competency itself 'does not refer to a lowish or minimum level of performance. On the contrary, it refers to the standard required successfully to perform an activity or function' (Jessup 1991, p. 25). In the Australian context, competency-based assessment is accepted by ANTA as 'an assessment system … which is designed to ensure the validity, reliability and fairness of assessments' (ANTA 1998b, p. 18). The *Australian Qualifications Framework: Implementation handbook* states: 'The body responsible for the issuance of the qualification is also responsible for ensuring the quality of the assessment strategies, i.e. that they are flexible, valid, reliable and provide for the recognition of prior learning' (AQF 1998, p. 11).

This is a statement of how the system should work, but any system of assessment requires a degree of quality control to ensure that it works as it should. In the Australian VET sector, quality control is largely a part of the registration (and re-registration) process. To be registered by the State Training Authority (or other relevant body), a VET provider must be able to demonstrate having met certain 'National Core Standards' and 'National Product/Service Standards', which relate to, among other things, 'resources for the delivery, assessment and issuance of qualifications (including personnel, materials and documentation)' (ANTA 1998a, p. 11). There is not, however, a process for monitoring actual assessment judgments made about particular students, or for ensuring that judgments made about students, by the same provider or across the system, are consistent or comparable.[1]

Many Queensland teachers are used to a system of monitoring assessment judgments. The system of externally moderated, school-based assessment that applies to Board subjects not only helps ensure the quality of the results to be certificated, but also, at various stages, provides teachers with advice from expert fellow teachers. The experience of receiving and perhaps contributing to such guidance regarding assessment judgments may lead some teachers new to competency-based assessment to question where they are to obtain confirmation of the appropriateness of their assessment decisions in VET modules.[2] Indeed, during the ongoing evaluations of study area specifications (SASs) which began in 1997, many teachers asked: 'How do I know that what *I* consider competent is the same as what other teachers consider competent?'

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1. The absence of procedures for monitoring the consistency of results in the Australian VET sector should be seen as a policy choice rather than a necessary feature of VET assessment. In New Zealand, for example, procedures known as 'moderation' are used 'to assure the validity and consistency of assessment with the required standard' (Commonwealth of Australia & New Zealand Qualifications Authority 1998, p. 20).
2. This is not to imply that it is only teachers in schools who feel less than certain about competency-based assessment. Harris et al. claim: 'Assessment of competency-based training is a cause of extensive confusion among TAFE teachers and virtual bewilderment among industry trainers'. (1995, p. 77)

Some key points from the literature

In the following discussion, the ways in which the key points relate to this project are explained in the shaded boxes.

Competency-based assessment: grounds for dispute

It is immediately apparent from the literature that competency-based assessment is an area of some controversy. This form of assessment has ardent supporters, who see it not only as a valid and accountable form of assessment but also, in some instances, as an instrument for industrial reform. Competency-based assessment also has its critics, who may believe it fosters minimal standards in mechanistic skills at the expense of deep-seated knowledge and understanding. Beevers (1993, p. 103), for example, argues: 'The only knowledge and skills deemed worthwhile possessing [in competency-based training in the VET sector] are those believed to be directly related to increasing economic productivity.'

It is not part of this project to explore the connection between competency-based assessment and industrial change, or to reflect on its assumptions concerning worthwhile knowledge and skills. However, some aspects of the debate on competency-based assessment are crucial to this project. These relate to the issues of validity and reliability of results, and to the elements of the approach that are meant to achieve these: the application of common standards, the experience of the assessors, and the requirements of the workplace.

> The project focuses on:
> - how teachers interpret the standards (as shown in their choice of learning experiences and in how they decide whether a student is competent)
> - what industry experience teachers have
> - whether teachers assess students with reference to a particular kind of workplace.

Issues of validity in deciding competency

A common expectation of a quality assessment system is that its judgments about students should be valid and reliable. This requirement is made explicit in the DEFTE 1997 Australian VET assessment guidelines: 'Assessment processes shall be valid, reliable and fair'. Advocates of competency-based assessment, as mentioned above, base many of their claims for the approach on the validity of its judgments; that is, on its judgments actually being about what they say they are. According to this view, if a result is based on a learner's actual performance as measured by a qualified assessor against detailed, industry-endorsed and publicly available standards, that result has a definite meaning, which is understood and accepted in the community. The result can be rephrased: *this person is able to do these things to at least this level in this context*.

This position is fundamental to the rationale for competency-based assessment. A number of critics, however, have pointed out that the apparently solid structure of explicit standards, qualified assessors and workplace requirements supporting student results is not as solid as it may at first appear.

Setting standards

Competency-based assessment depends on the existence of standards that state explicitly what is actually required in industry. The value of the judgments based on these standards must depend on the quality of the standards themselves. Where do these standards come from?

Wolf (1995, p. 106) points out that although the standards are 'industry-endorsed' they do not emerge in any direct, simple way from actual industry practice; rather they are 'defined by the professional consultants who write standards'. Peddie (1997, p. 21) makes the point in a more fundamental way: 'there is no abstract, external, objective "competency standard" somewhere out there, just waiting to be incorporated into a unit.' Harris et al. (1995, p. 94) are positive about the role of standards, but would nevertheless appear to accept the cautions of Wolf and Peddie: 'The standards provide guidelines; they are not prescriptions. Their creation is a consensus process. At the very least they provide a basis for debate and even dispute.'

Wolf further doubts whether competency standards, once created, can 'then be articulated clearly through written documents'. It cannot be assumed, then, that just because a set of standards has been endorsed by the relevant industry body they are an effective basis for teaching and assessment. Chappell (1996, p. 68) argues that teachers 'are being asked to develop and deliver competency-based programs that are informed by competency standards of highly variable quality'.

These concerns could be important to discussions of the theoretical basis of competency-based assessment. The present project, however, focuses on how the industry-endorsed standards are actually implemented, and is not directly concerned with how these standards were created, or their quality as standards.

Applying standards

The standards, then, may not represent an 'abstract, external, objective' reality. They could still, however, form the basis of valid assessment judgments. If a judgment that a trainee is competent is based on a performance that meets the definition of competency in the standards, that judgment will be valid. But can the standards be used in this way? Wolf (1995) comments that 'the assumption has always been that assessment will be unproblematic because it simply involves comparing behaviour with the transparent "benchmark" of the performance criteria' (p. 24), and characterises 'the competence-based assessor of the literature' as 'a strangely bloodless creature, responding purely to the requirements of the standards on the one hand, and the observed behaviour of the candidate on the other' (p. 133). In fact, studies of the practices of competency-based assessors suggest, perhaps unsurprisingly, that the process is a lot more complicated than this, and that 'assessors do not simply "match" candidates' behaviour to assessment instructions in a mechanistic fashion. On the contrary: they operate in terms of an internalized, holistic set of concepts' (p. 67).

It is not enough to say 'Teachers just have to judge against the standards and their results will be valid.' This project tries to obtain concrete information about ways in which different teachers apply standards in making their judgments.

Qualified and experienced assessors

That assessors use an 'internalized, holistic set of concepts' in judging competency is in fact in keeping with the theory. Concepts that assessors are *meant* to bring to bear include direct knowledge of what is required in the workplace. The assessor is meant to be experienced within the relevant industry, and to have current knowledge of what is required in it. In Australia, 'delivery personnel with appropriate qualifications and experience' is part of the National Product/Service Standards for Training Delivery. An indication of the importance of this aspect of competency-based assessment can be found in a survey of the Australian VET sector, conducted by Coopers and Lybrand Consultants (1997, p. 5), in which some respondents expressed concerns relating to 'the capacity of secondary teachers to deliver and assess full VET competencies, given their lack of industrial experience and lack of experience in teaching in a competency-based framework'.

This project explores the range of industry experience teachers have, and approaches they take to ensuring their knowledge is current.

Issues of reliability in deciding competency

Reliability: does it exist? does it matter?

The importance of reliability in competency-based assessment is acknowledged by almost all writers on the topic. Almost as common as the view that reliability is important, however, is the concern that it may not be being achieved. For example, Coopers and Lybrand (1997) report 'a high level of scepticism about the consistency of standards and assessment between providers' (p. 49), and state 'there is little attempt to ensure consistency of similar competencies across industries' (p. 6). Hayton and Wagner (1998, p. 81), too, are aware that reliability may be lacking: 'Problems with reliability mean that it may be difficult to compare performances of students or workplace trainees across workplaces, colleges or regions' but they add: 'The extent to which this may be needed or desired is unknown.'

Jessup (1991, p. 193), who has been a central figure in developing competency-based assessment in the VET sector in Great Britain, goes further, and expresses some irritation at the emphasis given to reliability in discussions of competency-based assessment, describing it as 'yet another part of the baggage people carry with them from traditional norm-referenced models of assessment'. He stresses that validity is the essential feature of competency-based assessment: what matters is not, primarily, that results issued to two students should be comparable, but rather that the results issued to each of these students should be based fairly on how the student's performance measures up against the standards.

> The solution to this problem [of possibly 'unreliable' assessments] … is to check whether the assessments conform to the requirements in the elements of competence and their performance criteria, i.e. check their validity. In all circumstances assessment should be checked against the external criterion and not with each other. If two assessments are both valid they will naturally be comparable and thus reliable, but this is incidental. (Jessup 1991, p. 192)

This view of the relationship between validity and reliability, however, is not that which is generally accepted, and given the range of factors (discussed below) that may influence judgments of competency without clearly violating the validity of any one of them, Jessup's position appears doubtful.

In this project, it is accepted that reliability is important. If we look at the range of factors that influence judgments of competency, we may be able to explore the issue of reliability.

Reliability through standards

Jessup's faith in the shared use of an 'external criterion' as a means of ensuring reliability is only an extreme statement of what, in practice, seems to be a common view. A handbook on competency-based assessment in Australia—*Assessment: Practical guide* (Rumsey 1994)—sees reliability, where it exists, as depending on quality assessment methods, which in turn are methods that reflect the competency standards themselves.

> Reliable assessment uses methods and procedures which engender confidence that competency standards or learning outcomes are interpreted and applied consistently from learner to learner and context to context. Without reliable assessments there can be no comparability of credentials. High quality competency standards or learning outcomes and well-documented, unambiguous and easy to use procedures are fundamental to reliability. (Rumsey 1994, p. 18)

The same handbook points to a basic difficulty in using standards for this purpose—that there is generally not just one set of standards to apply: 'In most, if not all cases, competency standards will not be used for competency-based assessment in their "raw" form. They need to be interpreted and "translated" to the context in which the assessment will take place' (p. 5). These comments suggest that the phrase *industry-endorsed standards* is probably a simplification of a complex range of different 'standards' which exist in a particular industry and in institutions that train people to join that industry.

Wolf (1995, p. 64) points out that 'what is being assumed and relied upon' in expectations of reliable judgments is 'a pre-existing consensus and understanding on the part of the assessors'. But even within a single institution, as Harris (1996, p. 51) points out, reliability based on consensus cannot be assumed and must be worked for:

> Assessment is only effective when all assessors give fair and consistent interpretations of performance criteria. One of the pitfalls is varying interpretations by different trainers … The critical point is that to be competent, the person must be able to do the job to the standard of performance required in employment. Hold regular meetings on this issue to team-build. Debate what evidence is acceptable and what is not, and maximise the reliability of such judgments.

Reliability that depends on a collaborative approach, however, must be even more problematic across a number of institutions. Billett et al. (1998, p. 89), reporting on an extended study of teachers' attitudes towards competency-based assessment, are unconvinced that these factors are likely to produce reliability:

… the evidence suggests that uniformity [of outcomes] has not been achieved, is not likely to be achieved because such a goal is probably illusory and the required moderation processes that might seek to achieve the goal of uniformity are not available. The evidence supports the findings here that to rely on the use of syllabus and published standards to mediate achieving uniformity is quite naive.

In this project, teachers' interpretations of the standards (in the form of learning outcomes) are observed mainly through their comments on how they judge that a student is competent.

Reliability through experience and consultation

Wolf reports on several research projects into the issue of reliability in competency-based assessment in Great Britain. The findings of one such project would, like those of Billett et al. (1998) in Australia, cast doubt on the efficacy of published standards as the major factor in promoting reliability. Rather, they suggest that detailed standards produce less reliable results than a close networking of assessors, even when they are dealing with vague standards (Wolf 1995, p. 77)—although 'even in a situation of established networking and good preparation, intermarker reliabilities on competence-based assessments can be very variable' (Wolf 1995, p. 125).

In another study, which also points to the limitations of standards by themselves as an assurance of quality assessment judgments, it was found that when experts and non-experts were asked to judge the same performances against the standards, the experts were more likely to accept, as competent, performances that in some respects fell short of the standards, apparently because they were willing to make adjustments according to their workplace experience (Wolf 1995, p. 70). In one way this may be considered in keeping with the theoretical framework of competency-based assessment: the standards alone are not intended to be sufficient, but must rather be applied by qualified assessors with appropriate workplace experience. In another way, however, the research exposes grounds for unreliability of judgments: the workplace experience of different judges may be highly variable, leading to variations in which aspects of the standards they consider can be ignored.

This project asks teachers to explain what workplace (if any) they have in mind when judging whether a student is competent, and explores the range of industry experience and knowledge teachers have, and how this experience informs their judgments.

Key findings from teachers' responses

The findings reported below are structured according to six key questions, formed from teachers' responses on the survey form:

- What range of learning experiences do teachers of these modules provide?
- What range of potential workplaces do teachers of these modules consider when judging competency?
- What range of industry experience and knowledge do teachers of these modules have?
- What range of assessment methods do teachers of these modules use?
- What are the differences in how teachers recognise when a student is competent?
- What is the range of environments in which teachers deliver these modules?

What range of learning experiences do teachers of these modules provide?

The learning experiences that teachers provide to students in a module inevitably influence the kinds of outcomes obtained. If two teachers provided very different learning experiences while teaching the same module—for example, mainly reading on the one hand and mainly manual work on the other—this could indicate that they were interpreting the standards (the learning outcomes) in different ways. In fact, although different approaches were of course taken in different modules—with the emphasis either on acquiring knowledge or practising skills—there did not appear to be a very wide range of learning experiences offered *within* any of the selected modules.

Learning experiences based on acquiring 'theory'

Occupational Hygiene

Most teachers stated that Occupational Hygiene was a largely 'theoretical' module. The learning experiences provided by teachers of the module reflect this theoretical approach in all cases. Activities mentioned include 'theory lessons', research, gathering information, listening to guest speakers and watching videos—all essentially to do with acquiring rather than applying knowledge. More practical activities were, however, described for the various learning outcomes, usually in the form of implementing knowledge of hygiene procedures in actual work in the kitchen.

Occupational Health & Safety

In Occupational Health & Safety, as well, the learning of 'theory' predominates, through workbooks, library research and videos. In this module, however, teachers emphasised the integrated nature of the learning rather more than for Occupational Hygiene; that is, the teaching of this module was often incorporated into major practical projects.

Introduction to Travel & Tourism

Another 'theoretical' module—Introduction to Travel & Tourism—was mainly taught through theory lessons and research, but often through field trips or local case studies in the area of tourism as well. Discussion, too, seemed to have a more central place in this module than in others, apparently most often in the form of discussion of the nature and impact of tourism in certain locations.

Learning experiences based on practising skills

Writing Skills for Work

Writing Skills for Work has only one learning outcome: 'Employ effective writing skills and strategies to write simple work related documents'. Most teachers of this module seemed to share a common approach to teaching these skills and strategies: they exposed students to examples of the various genres of work-related documents (letters, memos, faxes etc), taught them the structure of these genres, allowed them to practise the genres and then required them to submit completed documents for assessment, often all based on a single imagined business. One teacher, however, seemed to emphasise the completion of forms rather than the writing of original documents such as letters.

Payroll—Computerised

In Payroll—Computerised, a textbook was used as the basis of the learning activities, which focused on learning to operate a computer program (MYOB, or Mind Your Own Business) for payroll purposes. Reading, here, would seem to be directly related to the acquisition of skills.

What range of potential workplaces do teachers of these modules consider when judging competency?

As discussed above, a concept of the target workplace is significant in two main ways:

- the *validity* of a particular judgment may derive from a qualified assessor determining that a particular performance is of a standard required in the workplace; without a concept of the target workplace, then, judgments of what constitutes competency may be insufficiently grounded in actual practice to be valid

- if several judgments on the same competency were made by qualified assessors who had very different workplaces in mind, the *reliability* of the judgments may be affected.

The approaches taken by teachers of these modules to judging competency with reference to workplaces are quite varied—no workplace at all, one very specific workplace, a range of specific workplaces, a generic description of workplaces within an industry—but within each module there generally appears to be a shared understanding of the extent to which such workplace-referenced assessment is required. It is, moreover, an understanding which can be justified with reference to each module's learning outcomes or function within a course.

Cases where assessment does not seem 'workplace-referenced'

Ratio, Proportion & Percent

Ratio, Proportion & Percent was one module in which assessment did not seem to be workplace-referenced. This module's only learning outcome—'Solve vocational mathematics problems using ratio, proportion and percent'—directly refers to mathematics that could be required in employment, but does not imply any specific workplaces or even industries. The courses in which the module is characteristically taught (such as Certificate I in Work Access, and Certificate II in Vocational Mathematics) are also generic 'vocational' courses rather than industry-specific ones. It could be inappropriate, then, for a teacher to locate competency too specifically in a particular workplace, or even in a specified range of workplaces.

Another module in which teachers often did not refer to a workplace when judging competency was Introduction to Travel & Tourism. As one teacher pointed out, this module is 'an introductory overview (theory-based), not a practical subject'. Since its learning outcomes all require a knowledge of industry-wide structures and characteristics, it is difficult to see how competency in this module could indeed be demonstrated within the context of a particular workplace or even a limited range of workplaces. Competency might rather consist of an overall (if not particularly deep or detailed) knowledge of the entire industry and its significance.

A few teachers, however, did refer to situations such as 'travel agency and reception for hotel/motel', 'MovieWorld/Seaworld in conjunction with a travel agency' or 'situation related to field trip in Brisbane City'. This may perhaps be explained by the response of one teacher who stated that, although the module was too general to be assessed with a particular situation in mind, he did nevertheless use actual situations (such as emerging tourism opportunities) as the basis of extended discussions in the teaching of the module. What is being done in these cases, then, may be that students are being required to relate their general knowledge of the industry to specific contexts.

Cases where assessment seems to be referenced to a 'generic' workplace

Occupational Hygiene; and Occupational Health & Safety

A module in which teachers seemed to be more of one mind on this issue was Occupational Hygiene. Most teachers simply stated that they had 'any commercial kitchen' in mind; one was more specific: 'kitchen: food preparation for ventures or coffee shops'. It can be seen here that although the range of responses was small, the range of workplaces implied by these responses (commercial kitchens) is in fact extremely large and unspecified. This would seem to be entirely appropriate to the nature of the module.

The practices nominated in the learning outcomes all relate to commercial kitchens in general rather than to any particular variety. As discussed below, most teachers made it clear that students were required not only to know what these practices are but also to demonstrate them in their own activities throughout the course. To this extent, assessment may be considered to take into account a particular situation (usually the training kitchen), but the major form of assessment (the written test) remains focused on industry-wide practices.

Teachers of Occupational Health & Safety responded in a similar way to teachers of Occupational Hygiene, probably for similar reasons. It is an introductory module, in which students are required to learn basic health and safety practices required across the furnishing industry. While they are also required to demonstrate these practices throughout the course (which will inevitably involve a particular situation), the focus is on their knowledge of the practices required in such generic situations as a 'workshop environment' or a 'furniture factory'.

Cases where assessment seems to be referenced to a range of specific workplaces

Writing Skills for Work; and Payroll—Computerised

Another module which might be considered 'generic'—Writing Skills for Work—seems to be assessed not only with reference to specific workplaces, but to quite a wide range of them: a public relations company, a plaster mill, a city council office, a catering business, a building company, a signwriter's office and 'office clerical-administrative positions' were all mentioned. This module's only learning outcome—'Employ effective writing skills and strategies to write simple work-related documents'—does not specify any workplace or industry, so it might at first appear right that teachers of this module, like those of Ratio, Proportion & Percent, do not specify any target workplace. However, since the assessment of this module, as discussed below, involves the writing of a set of work-related documents, it appears to be the practice of teachers to supply students with the details of an imaginary office and to ask them to produce various documents which all draw on that scenario. This, it seems, is what teachers meant when they said they judged a student competent with reference

to a particular workplace. It does not seem that they meant the student was competent, say, to write simple documents in a plaster mill but would not be able to do so in a city council office. The use of varied imaginary workplaces, then, points more to a shared assessment approach among teachers than to any obviously disparate notions of competency.

For the module Payroll—Computerised, teachers also assessed students with reference to imagined scenarios: a legal firm, a consulting firm, or a coffee shop. In keeping with Learning Outcome 3—'Establish and maintain a computerised system'—students had to establish a payroll system for a company whose details they were given. As for Writing Skills for Work, the choice of one company or another would not seem to indicate any difference in required standards.

Summarising this question

Within each of the selected modules, it would seem that teachers are generally adopting a similar approach to including a particular workplace in their judgments of competency.

Where teachers may appear to be using a wide range of workplaces, this has more to do with the types of assessment instruments used than with a fundamental difference in the standards they expect a student to demonstrate.

Although there is a wide range of approaches *across* the selected modules, the approach generally taken *within* each module seems to based on a justifiable reading of that module's learning outcomes.

What range of industry experience and knowledge do teachers of these modules have?

The clearest difference between teachers' responses across all the selected modules showed up in the area of industry experience and knowledge. This difference, however, was not always so evident within particular modules.

Industry experience of teachers of modules without specific industry links

Ratio, Proportion & Percent; and Writing Skills for Work

As might be expected, it was in a module with less direct connection with particular industries—Ratio, Proportion & Percent—that teachers seemed least able to point to relevant industry knowledge and experience. In Writing Skills for Work, however—another 'generic' module—diverse responses included '17 years industry experience' (area unspecified), 'English teacher', 'I have managed restaurants', '26 hours in business so far this year', and 'imagination and commonsense'. With reference to 'knowledge of practices consistent with emerging/current best practice in industry and training', teachers of Writing Skills for Work gave responses which included: 'I write in my workplace constantly ... media press releases for school functions etc.', 'I attend professional development', 'We use books and learning materials that are up to date', and 'The Business Studies teachers keep us informed with latest practices with regards to writing skills'. While these responses are diverse, they can probably, in the context of the module, all be seen as valid approaches: continuing and direct writing experience, professional courses, recent learning materials and consultation with other teachers in the field could all probably help teachers learn about best practice.

Industry experience of teachers of modules with specific industry links

Introduction to Travel & Tourism; Occupational Hygiene; Occupational Health & Safety; and Payroll—Computerised

In modules with direct industry links there was also a wide range of responses. In Introduction to Travel & Tourism, for example, the experience teachers nominated varied from 'Roleplaying real-life scenarios. Discussion of actual experiences. Videos', to '80 hours work experience', to '30 years in industry (different jobs) ... wide personal travel'.

With reference to 'knowledge of practices consistent with emerging/current best practice in industry and training', some teachers referred to excursions and guest speakers, another to industry placement (a total of 12 days, some of them spent in workplaces overseas), another to spending two weeks each year in various workplaces keeping up to date (especially on technology), another to extra training she conducted for FlightCentre.

The teacher who referred to his 30 years in industry emphasised that his extensive experience was useful in enriching discussions and other learning experiences. The extent to which extensive (or limited) industry experience might influence the judgments teachers make about students' competency is, however, not clear. Since this module is a broad introduction to the whole industry of travel and tourism, it may be that diverse and long experience of the industry would help teachers judge the accuracy and relevance of students' responses to short-answer tests (which are, as discussed below, the main form of assessment in this module). On the other hand, it could be argued that since this is indeed an introductory, 'theoretical' module, usually assessed by short-answer tests, the sort of knowledge being taught could adequately be acquired by teachers through their own study, and that the sort of assessment being used also might not call for experience-informed judgments.

It is worth pointing out that the two teachers with extensive industry experience (17 and 30 years respectively) were both TAFE teachers; these also seemed to have the most extensive access to current industry experience. No teacher at a school referred to industry experience except in terms of 'industry placement', measured in days or hours rather than years.

In Occupational Hygiene, most teachers referred to working in industry, without specifying the extent of this experience. Several also referred to 'updating courses in food requirements', workshops, excursions or professional development. One responded, 'No human resource requirement other than completing TAFE course INT1–12'. The main observation that can be made is that some teachers have industry experience and others do not. Occupational Hygiene is an introductory module, but unlike Introduction to Travel & Tourism, it is concerned with essential industry *practices*, not with an overview of industry structure and significance. The argument in favour of the need for extensive industry experience might be stronger with reference to Occupational Hygiene. It would appear, however, that most of the responding teachers may not have extensive industry experience.

In Occupational Health & Safety, one teacher (from TAFE) had over 10 years' experience in the furniture industry. The others did not mention industry experience, although two teachers from a school did mention trade qualifications, so may well have had experience as well. Other ways of gaining or updating industry knowledge that were mentioned were 'active professional development', 'updating First Aid courses' and 'compulsory induction courses

every twelve months'. The learning outcomes for this module include one that is essentially 'theoretical'—'Explain the purpose and scope of Occupational Health & Safety legislation'—and may not require extensive industry experience in the judgment of competency. The other two learning outcomes included in the survey—'Identify high noise levels in the workplace and the basic control measures to protect personal hearing', and 'Identify and describe the use of safety signs relevant to workshops and general safety'—do relate to industry practices and may therefore benefit more from industry experience.

Both teachers who responded with reference to Payroll—Computerised gave similar responses to questions relating to human resource requirements. Both had commerce or accounting qualifications, and both referred to using current computer programs, and books about those programs, as a way of ensuring that current practice was being followed. Since the module is concerned with the use of a computer program for payroll purposes, this approach would seem to be an appropriate one.

The validity and reliability of judgments in competency-based assessment are generally considered to depend on, among other things, the assessor being qualified and experienced. It is assumed, then, that assessors with experience make different judgments than do assessors without it. It does not follow, however, that a group of assessors, all of whom are experienced but who have different amounts of experience, will make judgments of varying validity, or will be unable to make reliable judgments. Nevertheless, if teachers do make use of their industry experience when assessing students, their range of experience may be a source of diversity of judgments.

What range of assessment methods do teachers of these modules use?

There is considerable similarity in choice of assessment methods within the selected modules; indeed, at least at first sight, this similarity extends *across* modules as well. The source of this similarity is the central position occupied in the assessment of most of these modules by pen-and-paper tests. On closer examination, however, it becomes apparent that this broad description masks a range of written tasks, from multiple-choice tests to extended pieces of writing.

Assessment based on 'practical' written work

Writing Skills for Work; and Ratio, Proportion & Percent

One module where the use of written tasks would seem inevitable is Writing Skills for Work. This module's learning outcome is expressed in practical terms: 'Employ effective writing skills and strategies to write simple work-related documents'. In some modules, written tasks may indicate theoretical rather than practical forms of assessment. In Writing Skills for Work, however, written tasks may be the most *practical* kind of assessment. All teachers stated that the assessments in this module generally required students to produce the types of work-related documents outlined in the performance criteria. In one school the assessment items included a written report on their work experience.

Another module where written work (of another kind) would seem inevitable is Ratio, Proportion & Percent. As for Writing Skills for Work, written assessment of this module could in fact be very practical. Written exams or tests were indeed the only form of assessment mentioned in relation to this module. The assessment instruments supplied by teachers generally required students to

solve work-related problems, although one gave the students a choice between this sort of problem solving and completing a set of research-type questions requiring verbal explanations of the 'Golden Ratio'. This latter task would seem to assess rather different skills from the other tasks.

Assessment based on theory tests

Introduction to Travel & Tourism

In Introduction to Travel & Tourism, the more theoretical nature of the module appears to have led teachers to set written tests which are intended mainly to test students' recall of knowledge. The tests supplied seemed to be very similar in scope and form, consisting mainly of short-response questions such as:

- define the term *tourist*
- list five of the main components normally found in a package tour
- list three positive and three negative impacts that tourism can have on the environment.

Although some questions relating to specific places were sometimes included—for example about the local area or major tourist destinations—the focus of the tests, like that of the learning outcomes themselves, was the industry as a whole. Other forms of written work which counted for assessment included student workbooks, writing media release statements and producing a booklet based on a field trip. Oral work was counted for assessment by a few schools and institutes in the form of individual or group presentations on the history of tourism or a particular destination.

It would appear that the assessment methods used in this module were quite consistent and focused on the knowledge-recall aspect of the learning outcomes. Where some schools or institutes added to this approach, it was in less structured forms than short-response tests, and focused on applying general knowledge to a particular tourism context.

Assessment based on theory tests and practical application

Occupational Hygiene; and Occupational Health & Safety

Two other modules which were also generally assessed through knowledge-recall tests are Occupational Hygiene, and Occupational Health & Safety. Where both these modules differed from Introduction to Travel & Tourism, however, was in the requirement for students not only to know about relevant procedures (as demonstrated by written tests) but also to put this knowledge into practice; that is, to follow, respectively, essential kitchen hygiene and workplace safety practices. The focus of the learning outcomes in both these modules is on knowledge of procedures and legislation rather than practice, but teachers clearly attach importance to the *implementation* of this knowledge. For both these modules this practical assessment generally extends beyond the module itself: students are required to demonstrate sound hygiene and safety practices *throughout the course* in order to be considered competent in the module.

Assessment based on practical tasks

Payroll—Computerised

Matters of occupational health and safety arise also in one learning outcome of Payroll—Computerised. This learning outcome is assessed through observation only, one teacher describing it as a 'soft' learning outcome. A learning outcome which was clearly considered to be more significant was: 'Establish and maintain a computerised system'. This was assessed in a practical way, by giving students the details of an imaginary company and requiring them to establish a payroll system using MYOB software, and then perform certain specified payroll-related tasks. The tasks required on the assessment instruments submitted appeared to be of comparable difficulty.

Summarising this question

The teachers who took part in this study seem to use assessment methods that can be related to the learning outcomes of each module. In general, competency in modules that are mainly theoretical is demonstrated through knowledge-recall tests; in modules where the theory relates to practice, competency is also demonstrated through applying knowledge to practical situations; in more directly practical modules, competency is demonstrated through performance of practical tasks.

There did not seem to be any clear difference, in any of the modules, between the approaches taken at schools and at TAFE.

What are the differences in how teachers recognise when a student is competent?

That teachers in different schools and institutes seem to use broadly similar kinds of assessment instruments for a particular module is a point of some interest in examining how teachers decide competency. This itself does not automatically make judgments comparable. The range of ways in which teachers use these instruments to make these decisions requires separate consideration.

Written, knowledge-recall tests were a common feature in the assessment of several of the selected modules. How teachers described their ways of using these tests as an indicator of competency, however, revealed some significant differences. The most obvious of these was the degree of success—measured in a percentage—that was required. One hundred per cent was a common requirement, but 50 per cent and 80 per cent were also used as minimum scores. Sometimes teachers stated that the percentage was a rough guide; in other instances it seemed to be a precise requirement. One TAFE teacher of Introduction to Travel & Tourism and one school teacher of Occupational Health & Safety pointed out that language difficulties sometimes made it difficult for overseas students or those with literacy problems to achieve the required percentage, so these students could be given the opportunity to express themselves orally. Some teachers did not require a percentage result, but one which appeared to be derived from grade-related assessment—for example, 'C and above'—while others were explicitly qualitative: for example: 'in-depth answers to questions'. These differences were usually evident within particular modules.

A related condition of assessment which varied within and across modules is the number of attempts students were given to achieve the required result in written tests. For teachers who gave information on this issue, the number varied from two attempts to a number which was limited only by the time constraints of the course. In one school, a student's third and final attempt (if required) was undertaken after the teacher had gone through the answers to the questions that the student had previously wrongly answered. These differences also were usually evident within particular modules. It would seem, then, that although the prevalence of written tests might suggest a shared approach among teachers to the assessment of some of these modules, differences in the score required and in the opportunities given for reassessment point to possible inconsistency in standards.

The only way in which the responses of teachers in schools could be seen to differ (as a group) from those of TAFE teachers was in sometimes expressing concern with the issue of how deciding competency should coexist with allocating levels of achievement. There are differences in the approaches taken by different teachers, but these do not seem to be influenced by whether the teacher works in a school or an institute of TAFE.

Using minimum percentages to decide competency

Some general observations relating to these differences can be made. First, it is worth asking where this tendency to require 100 per cent in a test in competency-based assessment came from. It is not, after all, common in other forms of assessment for a 'pass' mark to be set at 100 per cent. It may have come from the basic requirement in competency-based training that a competent trainee is one who has actually achieved *all* the relevant learning outcomes. In this context the minimum requirement can indeed be said to be total success. However, to say that students must achieve all learning outcomes is not to say that they must achieve a perfect score on a particular assessment item. The two notions are essentially unrelated. *How much* knowledge a student requires to be competent in the workplace is—like *how well* a student must perform a practical task—a matter of professional judgment for the qualified and experienced assessor.

An interesting perspective on the use of percentages is given by the teachers who commented, variously, that they 'had to' insist on 100 per cent, that they 'had to' insist on 80 per cent, and that they were 'not supposed to' insist on any percentage (although they did). There appears to be a range, not only of practices, but also of perceptions of what is dictated by some authority.

If 100 per cent is accepted as the unvarying requirement, regardless of the difficulty of the test, then concerns about inconsistent standards among students sitting different tests are inevitable. Placing a precise cut-off point below 100 per cent—say, at 80 per cent—raises other issues. It is clear that three students, say, scoring 80 per cent in the same test may not have comparable levels of knowledge: one may have got several questions wrong in several sections, another may have scored perfectly except in one section worth 20 per cent, in which he/she failed to get any answers right, and the third may also have not succeeded at all in only one section, but a different one. Moreover, it cannot be said, without analysing the tests concerned, whether a requirement of 100 per cent in one test is more or less demanding than a requirement of 80 per cent in another.

Requiring students to achieve a particular percentage in a test may also present difficulties when that test is being used to contribute towards a level of achievement—as may be the case for teachers of VET embedded in Board subjects or SASs. One teacher of Introduction to Travel & Tourism in a school commented:

> It concerns me that it appears to be easier to gain competency at TAFE or with private providers. We tend to be marking degrees of competency, whereas the others just allocate a pass/fail. It is unreasonable to expect students in the school system to achieve 100% on tests etc. because out tests/assignments are more difficult. We need to allocate VHAs, HAs etc.

It should be observed here, however, that just as requiring 100 per cent in a test is *not* a necessary feature of competency-based assessment, requiring a student to score some predetermined percentage in a test in order to obtain a certain level of achievement is also not a necessary or even appropriate strategy in criteria-based assessment.[3]

The influence of experience in grading students may also be apparent in other responses: one school required students of Ratio, Proportion & Percent to achieve 'at least 50 per cent on the criteria Knowledge, Mathematical techniques and Problem-solving applications', and two schools required students of Introduction to Travel & Tourism to achieve 'a C or above'.

Using practical activities to decide competency

In Writing Skills for Work, the standards used in deciding competency were described in different ways. One teacher expressed it directly in terms of workplace requirements: 'Could this be accepted in a workplace situation under supervision? If yes, then they are competent, I know that they could cope at work.' This approach appears to put into direct practice the theory of competency-based assessment. Other teachers listed the discrete features of writing that students needed to demonstrate, for example: 'If the student produces documents that demonstrate understanding of simple instructions, are in the correct format, are in clear, concise language, and contain correct spelling, grammar and punctuation, the student may be considered competent.' Another teacher's response seemed to draw from both of these approaches: 'Would an employer accept this document as competent? i.e. the correct information is in the correct place; correct setting out is followed. Minor spelling errors, degree of neatness can reduce degree of competency if above are in place.' Another teacher emphasised the *process* the teaching team uses to try to achieve valid and reliable results:

> Staff teaching the unit meet beforehand and we decide on format, layout and read past students' work in order to come to an agreement as to what 'communicates' and what doesn't ... We will sample cross-mark students' work to ensure staff are consistent in their assessment ... We talk to the teachers in the Business Studies department who keep us up to date with competent writing skills for letters, reports and memos.

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3. See Sadler 1989, p. 125: 'If numbers (or marks, or scores) are used [in qualitative judgments], they are assigned after the judgment has been made, not the reverse.'

These responses point to a number of approaches: workplace requirements, overall mastery (in this case, of genres), mastery of individual features (spelling, grammar, punctuation), consensus among markers, and consultation with 'experts'. These approaches are by no means incompatible—and could indeed all be employed in varying degrees by the one teacher—but an emphasis on one rather than the others could have a significant effect on the judgments made of student work.

Another possible source of variant judgments is suggested by the teacher who stated that the essential question was: 'Could this be accepted in a workplace situation under supervision?' Other schools and institutes did not make it clear that they had in mind an acceptable performance *under supervision*. Even if this were a shared assumption, the amount and nature of supervision available in the workplace are likely to vary considerably, even in otherwise similar workplaces.

Consensus reached within a school by the process of discussion and cross-marking mentioned above may well increase the reliability of results within that school; what remains vital in terms of wider reliability, however, is whether that consensus is based on a more widely shared sense of what is acceptable. One teacher's comments point to this issue: 'Several teachers have differing opinions on what competency means. It generates a lot of discussion and we have tried to come to a unified approach which is difficult because it is not clearly spelled out.'

Payroll—Computerised, like Writing Skills for Work, is an essentially practical module, but applies to a much more limited range of workplaces. It might be expected that in this module, criteria for judging competency could be more uniformly expressed. Indeed, the responses from teachers of this module were straightforward. One teacher gave as the criterion: 'When they can complete the required skills to industry standards under given conditions in a specified time. The standard required is 100 per cent.' Another commented, 'Accuracy of output must be to a level satisfactory to industry. As it is critical for payroll to be extremely accurate the margin for error is limited to minor matters of detail only. All principal recording must be correct.' Both teachers reported having a prepared correct solution against which to judge the students' payroll system. In this instance the demand for total (or near-total) accuracy can be related to actual industry conditions.

Incorporating workplace performance in deciding competency

One TAFE teacher of Occupational Health & Safety raised the issue of occasions when the planned ways of deciding whether a student is competent may not be followed in practice. He gave as an example a student who did not seem competent in the TAFE environment but who so impressed an employer during work experience that he was offered a job. The teacher said that in such instances actual workplace performance could outweigh the failure to meet other requirements: for example, 65 per cent might be accepted in a test for which the normal requirement was 80 per cent.

Summarising this question

Although the teachers who took part in this study seem to use assessment methods that can be broadly related to the learning outcomes of each module, the standards they apply in deciding competency raise several issues. The common use of predetermined minimum percentages in written tests as a

requirement for competency raises important questions. The percentages actually selected vary between teachers of the same module, but even where the minimum percentage in different tests is the same, this approach is no guarantee of comparable judgments.

Practical demonstrations of competency in the workplace-focused module of Payroll—Computerised seemed to pose few problems, while teachers' explanations of how they judged competency in more extended, 'practical' written tasks (in Writing Skills for Work) were quite varied.

There was no clear difference in approach between teachers in schools and in institutes of TAFE.

What is the range of environments in which teachers deliver these modules?

Learning environment is the area where there is least variation within each of the selected modules. All teachers in all modules stated that at least some of the learning took place in a classroom. Beyond this, all teachers of Occupational Health & Safety also listed the workshop as part of the learning environment. The library and the workplace were also mentioned. Teachers of Occupational Hygiene all listed the kitchen. Most teachers of Introduction to Travel & Tourism listed field trips or excursions as well as the classroom.

Conclusions

Within the limits of the small number of modules and teachers involved, this study suggests that in certain respects there exists a reasonable degree of common practice among teachers of competency-based assessment of VET modules. In particular, within each module, the kinds of learning activities provided and assessment methods used seem reasonably consistent. Also, there is consistency in the kinds of learning environment in which the modules are delivered.

In some of the modules, there appeared to be some diversity in teachers' notions of the workplace with reference to which a student was being judged competent, but this diversity could generally be accounted for in the context of the modules' learning outcomes.

However, in a couple of crucial areas, there exists considerable diversity of a kind that could influence the validity and reliability of outcomes. The amount of industry experience and knowledge possessed by teachers varied greatly. There would seem to be no reason to believe that there is a direct correlation between length of industry experience and the validity of competency-based judgments. However, when assessment is referenced to industry standards, widely different degrees of industry knowledge among teachers may result in diverse judgments.

The second area where significant diversity seemed to exist was the crucial one of the ways in which teachers determined competency. Although they may be using similar methods of assessment, teachers' ways of making sense of the results of this assessment—that is, of using them to determine whether a student is indeed competent—reveal either significant differences or, where an approach is generally shared, aspects of practice that may deserve reconsideration. Requiring a wide range of scores in written tests, and allowing

different opportunities to resit these tests, are examples of easily apparent differences. An example of a common practice that raises important questions is equating competency with a particular score on a test, whether there is agreement between teachers on the required score (and what it means) or not.

Teachers seemed to have different ideas about what 'is required' or 'is not allowed' in competency-based assessment. Some teachers' responses seemed to imply that they were adopting certain assessment practices that they thought were unsound just because they 'had to', while others seemed to imply that they were adopting practices they thought were sound, even though they were 'not supposed to'. Furthermore, the same practice—such as requiring a minimum percentage in a test—might be put by different teachers into *either* of these categories: 'unsound but obligatory', or 'sound but disallowed'.

Implications

This study has implications for teachers, for writers of syllabuses and SASs, employing authorities and for the Board itself.

Implications for teachers

Questions that teachers might consider, in the light of the issues discussed in this report, could include:

- If I require students to score a particular percentage in a test, how does this relate to the notion of competency?
- How can I assess whether students can *make use* of the knowledge I assess through 'theory' tests?
- How do I use my knowledge of workplace requirements to inform the judgments I make about competency?

Implications for writers of syllabuses and SASs

The findings of this report suggest that teachers have incompatible ideas of what is 'required' or is 'not allowed' within competency-based assessment. Syllabuses or SASs with embedded VET could perhaps counteract possible misconceptions by more detailed explanations of what is mandatory, and what is subject to teachers' professional judgment.

In addition, these documents could perhaps include additional information or advice about how particular assessment methods may be used to measure particular aspects of students' competency, perhaps with a greater emphasis on the use of 'practical' tasks where appropriate.

Implications for employing authorities

Both the literature on competency-based assessment and the responses of some of the teachers emphasise the importance of assessors' networking, so that perceptions of standards can be shared and made more consistent. This may be of special importance in allowing teachers with more industry experience to share their perspectives with teachers with less industry experience. Employing authorities could provide increased opportunities for this kind of networking.

The study also suggests the value of professional support and development for teachers, including access to resources that help develop sound assessment practices.

Implications for the Board

The report identifies areas where teachers seem to need more help from the Board. The areas include: choosing the most suitable assessment methods, considering the significance of marks awarded in written tests, and negotiating the demands of competency-based assessment and criteria-and-standards-based assessment.

Assistance from the Board could be in the form of workshops, discussion papers and further research. The Board already has a program of workshops: in relation to these, the study offers information that may be useful to identifying priority areas.

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Appendix: Sample research instrument

Deciding Competence in Competency-based Assessment

ABC502 Occupational Health and Safety (1)

The *Evaluation of Study Area Specifications* suggested that teachers wanted more information about how teachers decide that a student is competent in a module. This small research project aims to produce a discussion paper for teachers on some issues relating to deciding competence.

This project is *not* part of any quality review process, and all information given as part of the project will be treated confidentially.

Please answer the following questions in the spaces provided. We would like as much detail as possible.

Name .... School/Institute ....

Content

What activities do your students do when they study ABC502 Occupational Health and Safety (1)? (For example, do they do a major project? What kind of project?) Which of these activities may be used to demonstrate competence?

Contexts

Do you have a particular situation in mind (for example, a particular workplace) when you judge whether a student has demonstrated competence in this module? If so, what is this situation?

Resource requirements

How have you met the following human resource requirements for this module?

Access to professional development opportunities regarding Furnishing at all viable times.

Demonstrated skills in each discipline for the Furnishing area taught.

Deciding competence in selected Learning Outcomes

We recognise that you may teach and assess various learning outcomes, or various modules, in an integrated way rather than one by one. When you answer the following questions, please say if this is the case.

Learning Outcome 1

Explain the purpose and scope of Occupational Health and Safety legislation.

Assessment methods

What form of assessment do you use for Learning Outcome 1? (For example, written test, practical activity.)

If you use written assessment instruments, please attach a copy.

Judging competence

How do you judge when a student is competent in Learning Outcome 1? That is, how do you recognise when a student crosses the threshold from 'not yet competent' to 'competent'?

Delivery

Describe the learning environment in which you deliver Learning Outcome 1. (For example, classroom, workshop, actual workplace.)

Learning Outcome 3

Identify high noise levels in the workplace and the basic control measures to protect personal hearing.

Assessment methods

What form of assessment do you use for Learning Outcome 3? (For example, written test, practical activity.)

If you use written assessment instruments, please attach a copy.

Judging competence

How do you judge when a student is competent in Learning Outcome 3? That is, how do you recognise when a student crosses the threshold from 'not yet competent' to 'competent'?

Delivery

Describe the learning environment in which you deliver Learning Outcome 3. (For example, classroom, workshop, actual workplace.)

Learning Outcome 4

Identify and describe the use of safety signs relevant to workshops and general safety.

Assessment methods

What form of assessment do you use for Learning Outcome 4? (For example, written test, practical activity.)

If you use written assessment instruments, please attach a copy.

Judging competence

How do you judge when a student is competent in Learning Outcome 4? That is, how do you recognise when a student crosses the threshold from 'not yet competent' to 'competent'?

Delivery

Describe the learning environment in which you deliver Learning Outcome 4. (For example, classroom, workshop, actual workplace.)

Other comments

Do you have any comments about how you decide competence in this module?

Do you have any other comments about issues to do with deciding competence?

Please return the completed form to

Dr Erica Bell
Manager, Policy and Evaluation
Queensland Board of Senior Secondary School Studies
PO Box 307
SPRING HILL Q. 4004

If you have any questions about this project, please do not hesitate to telephone Dr Erica Bell
(3846 0267), David Kelly (3864 0261) or Boyd Paties (3864 0367).

Thank you for your assistance in this project.