Recognition of learning through work
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1. Recognition of learning through work

The recognition of skills is important to individuals. The acquisition of qualifications, their level and standing is correlated to levels of remuneration (Groot, Hartog, & Oosterbeek, 1994; Grubb, 1996; Lengerman, 1999; O'Connell, 1999), associated with occupational identity (e.g. Noon and Blyton, 1997, Pusey 2003) and, likely, the standing of the work individuals are permitted to engage in (e.g. Darrah, 1996). Those whose work is low paid and least valued (e.g. women, migrants, non-native speakers) often have the greatest need for skill recognition. Yet, for many workers there exists no bases or mechanism for their skills to be recognised, because of a lack of courses or other means of recognition. Given that workplaces are key sites for learning and demonstrating the knowledge required for work, they present an option for the recognition and certification of work skills that can assist overcome disadvantage and also be used to maintain the recognition of skills throughout working life. Yet, currently, the practice of the recognition and certification of skills learnt through work is underdeveloped and constrained by complexities in its organisation and enactment that have particular and significant policy implications. It follows that understanding further how the recognition of workplace learnt knowledge might be best enacted and identifying policies and practices to support its enactment are worthy and timely goals.

The recognition of skills is achieved mainly through successful participation in courses. Workers able to access to these courses can secure national certification (e.g. qualifications), internationally recognised qualifications (e.g. City to Guilds) or vendor-specific authorisation (e.g. Microsoft certification). There are, however, alternative processes for the recognition of skills. These include the recognition of prior learning, accreditation of prior and experiential learning and licensing arrangements (e.g. fork lift driving, aircraft engineering) and the assessment of competence for occupational certification purposes (e.g. Tradesperson's rights in Australia). In common, these alternative recognition processes require some kind of occupational benchmarks for judgements to be made about the level and scope of individuals' skills. Typically, statements of course outcomes (e.g. objectives, competency statements) are used in process such as the recognition of prior learning. Yet, if individuals' work is not reflected in or closely aligned to any available benchmarks, these alternatives will not be available. Therefore, workers whose occupational practice sits outside

provisions of courses and easy certification are structurally and doubly disadvantaged. Moreover, the kinds of occupational practice denied courses and certification are often low paid and characterised as being 'low skill', and occupied by disadvantaged groups, such as women (Bierema, 2001) and migrants (Hull 1997). Finding means to legitimately and authoritatively recognise skills acquired through work holds the prospect of providing just arrangements for these otherwise disadvantaged workers as well as those requiring recognition throughout their working life.

However, commensurate with the worthiness of this goal are complexities hindering its achievement. These include identifying and selecting appropriate focuses for skill recognition, how it might be undertaken fairly (i.e. with validity and reliability) and how these arrangements should be administered and monitored. For instance, should that recognition be based on individuals' development, the specific requirements of a workplace or on occupational-wide criteria? Such alternatives have sometimes-conflicting purposes. Workplace assessment and certification processes will also require some transformation from current practices. Vocational educational institutions commonly use statements of outcomes (e.g. objectives, performance criteria) provided in documents (e.g. syllabuses) and tasks that are usually substitute for or remote from actual workplace performance (Raizen, 1991). These are used to predict individuals' performance in occupational activities in another environment -- the workplace where individuals will exercise their skills. In contrast, skills assessment and recognition in workplaces will almost inevitably be premised on individuals' performance in activities in the particular workplace setting. This is because their performance will provide compelling and authentic bases for those judgements. Yet, while being authentic, workplace environments also foster conditions that counter the fairness of assessment processes. Workplaces are contested environments (Bierema 2001, Billett 2001c, Solomon 1999). Expectations of increased remuneration or enhanced status likely accompany the recognition of workers' skills. Such rewards may be unreasonably pursued by or denied to some individuals and deliberately thwarted or unreasonably supported by interests within the workplace. Assessments of and judgments about performance are likely to be subject to the interests and influences of workplace affiliations, cliques, demarcations and management that can render them unfair (Billett 2001c). As a consequence, securing bases for and enacting the fair recognition of individuals' skills needs to circumvent workplace factors and practices that may attempt to thwart its validity and reliability. So individuals' workplace performance provides bases for making judgments about occupational competence and recognition. To provide fairness in the assessment and buttress the standing of that certification, agencies and

individuals from outside the workplace may be required to conduct assessments and legitimise certification. This could assist making the processes and outcomes fair to both individuals seeking recognition and those already certified. Yet, in many countries this will require identifying and supporting host organisations to administer and monitor the recognition of skills acquired in workplaces, and then their enactment of processes that are able to legitimate and provide confidence in the paid workforce and employers.

This chapter advances policy options for the recognition of learning through work by discussing how it might be enacted in ways that reflect the contributions of workplace and workplace practices, yet are taken and sustained as being fair, legitimate and worthy. The case is made through, firstly, elaborating the justification for the worth of recognising skills in the workplace. The purposes for and processes of workplace assessment and recognition of skills are then discussed to identify appropriate focuses and procedures for recognition. It is proposed that, except for some large or particularly prestigious enterprises, currently there is a probably initially a need for the administration, monitoring and certification of skills recognition to be hosted outside of workplaces. This is to assist establishing the legitimacy of the recognition of workplace learnt knowledge and because the conditions for fair and valid recognition will not always be present in workplaces. Some options for these hosting arrangements (i.e. industry or professional associations, vocational education systems and local organisations) are advanced through a consideration of workplace goals and assessment and certification practices located outside workplaces.

2. Legitimacy of workplaces as sites for the recognition of skills

Workplaces are increasingly being acknowledged as rich and accessible learning environments (Boud & Garrick, 1999; Fenwick, 2001; Inman & Vernon, 1997; Livingstone, 2001). They offer a range of potential contributions to learning the knowledge required for paid work. These include access to authentic work activities in which to engage and learn, opportunities to practice and refine what has been learnt, and interactions with more experienced co-workers to guide learning and assist the kinds of learning that would not be possible without that guidance (Billett, 2001b). The physical setting and ordering of activities in workplace can also contribute to learning through the authenticity of experiences that are distinct from those in educational settings. The worth of workplace experiences in developing occupational practice has been long acknowledged (Boud, Solomon, & Symes, 2001) with extensive periods of workplace experiences being required before individuals are accepted into trades or professions. There is also growing acceptance of learning environments outside

education institutions perhaps supported by their long held acceptance within adult education (Kasworm & Marienau, 1997; Livingstone, 2001).

Yet, despite all this, the standing of workplace learning experiences and its contributions are often viewed with ambivalence, being described erroneously as informal, ad hoc and concrete (Billett, 2002). So, on the one hand, workplace experiences are valued, but, on the other, they are denied legitimacy as effective learning environments, seemingly because they occur outside of educational programs. True, there are potential shortcomings of learning through work. These include the variability of experiences and support, the problem of accessing and engaging with hard-to-learn knowledge and the contested nature of workplace life that distribute workplace learning experiences in particular ways. Yet, despite evidence to the contrary, generally the view persists that learning experiences in workplaces and their outcomes are sometimes less legitimate and robust than those of educational institutions, particularly in relation to prized learning (i.e. that which provides status and high levels of remuneration). Such premises have direct implications for the recognition of learning secured through work and present tangible goals for policy.

It seems that the legitimacy of learning environments and their certification remains largely founded in the often-unquestioned acceptance of an irreducible relationship between teaching and learning. The absence of teachers or teaching-type facilities, processes of moderation and verifying assessments appear to lead to a characterisation of workplaces as 'informal' or 'unstructured' learning environments with assumptions that their learning outcomes are necessarily weak and ad hoc. Yet, the kinds of learning secured in workplace-type settings has been shown to be as robust (i.e. transferable and adaptable) as that arising from educational institutions (Raizen, 1991; Rogoff & Lave, 1984; Scribner, 1985). Standing outside of educational institutions means that learning through work typically remains either un-credentialled or its credentials have limited standing (Livingstone, 2001). While programs of learning organised through educational institutions that sometimes include workplace experiences enjoy certification, often at the highest level (e.g. in law, medicine, nurse and teacher education and the trades), the basis for their certification tends to be largely premised on experiences in educational institutions. Recently, some university programs are providing direct credit for workplace based learning and accrediting prior (Boud et al., 2001; Evans, 2001). This also occurs in vocational education courses through the recognition of prior learning. Yet, overall, there is little evidence of learning through work systematically being recognised and certified its own terms and merits. Nor is workplace learnt knowledge granted the legitimacy through certification that is warranted by its widely acknowledged

contributions to learning and development (see Billett 2001b). This situation stands to perpetuate existing inequities in the distribution of opportunities for the development and recognition of adults' skills, because for many workers there are no courses to provide for certification. It also amplifies the need for workplaces to be seen as legitimate environments for the learning and recognition of occupational skills. This is no more urgent than at a time when many governments are emphasising learning throughout working life as a means to maintain and improve national productivity levels (Organisation of Economic Cooperation and Development (OECD), 1996).

3. Need for recognition of workplace learning experiences

A key rationale for recognising learning through work is to assist workers denied this recognition because of historical or institutional precedents. Overall, it seems that workers without certification are likely paid less, their employment is more tenuous and their prospects for advancement more limited than those with qualifications (Groot et al., 1994; Grubb, 1996; Leuven & Oosterbeek, 1999; O'Connell, 1999). In many countries, the provision of initial preparation and certification of skills does not extend to all occupational practice or locations. For instance, small business workers, who constitute a substantial portion of private sector workforces, are less likely to participate in vocational programs than those in larger enterprises (O'Connell, 1999) and often report a dissonance between their needs and educational programs (Coopers and Lybrand, 1994). With tight labour markets, the constant churning of the workforce through restructuring and the reorganisation of work, those workers without certification of their skills may be rendered less employable and less able to secure career goals. Moreover, for probably most in the workforce, workplaces are the key site to develop further their occupational skills throughout their working lives. Yet, Giraud (2002) notes that even where there are systems in place to fund the certified training within workplaces, employers tend to sponsor the further training of already qualified employees over those who are not qualified.

There are also cultural impediments. The premises for the certification of skills are not necessarily exercised on objective assessments of the complexity or demands of the occupation. Instead, historical precedents often determined which occupations warranted certification and at what level. For instance, by tradition, trade apprenticeships form the core of the vocational education system and the certification of prized vocational skills in many countries. These occupations enjoy significant publicly funded educational provisions and certification processes. However, other occupations, for instance those without

apprenticeships, are often less well represented and sponsored. Some countries have a far wider range of trade callings than others leading to distinct patterns of skill recognition, which illustrates the disparity in recognition across countries. Retail workers in Germany are apprenticed and receive formal certification on completion, whereas their counterparts in other countries would generally not enjoy structured training or such high status certification. Darrah (1996) notes how, despite similarity in the complexity of requirements for effective work performance, qualified design engineers in a computer manufacturing plant enjoyed higher status, acknowledgement and remuneration than workers in the production area. This leads to those workers unable to secure credentials being relatively under-qualified in labour markets that value qualifications (Brunello & Medio, 2001). All this is exacerbated when there appears to be a surfeit of qualified workers in some labour markets (Livingstone 2001). Those without certification of their skills are potentially disadvantaged in securing work and advancing careers.

The need for recognition extends beyond the initial preparation of occupational skills, as there is a growing demand for the development and acknowledgement of currency of skills throughout working lives (OECD, 1996). Within recent policies of lifelong learning, workers are increasingly being expected to maintain their skill currency and its utility to their employers throughout their working lives (OECD, 1996, 2000). However, not only is the provision of support for this ongoing learning underdeveloped, the means of recognising that on-going learning is also relatively absent. Although recognition of prior learning initiatives is promoted on equity grounds, the practice can be quite different. Central to these processes is the need for benchmarks against which individuals' knowledge can be assessed and certified. In practice, statements of intended outcomes within curriculum documents are used often for these purposes. However, the greatest need for the recognition of learning through work is for those workers for whom there are no courses, and hence no benchmarks. At least one large industry sector in Australia raised workers' expectations about recognising their learning through work only to be unable to fulfil these expectations because of an absence of agreed benchmarks. Significantly, governments' promotion of the recognition of prior learning in Australia was not accompanied by the development of occupational benchmarks for those industry sectors that lack them. Moreover, these recognition processes are usually individual, time intensive and costly. So, opportunities for individuals seeking recognition of their skills are not always available and individuals usually have to carry the cost, thereby jeopardising equity goals. Therefore, enacting accessible arrangements for the recognition of learning through workplace activities and using the workplace as sites for and bases for appraisal holds

the promise of greater fairness and standing for individuals' a skill recognition throughout their working lives.

The standing of occupational activities also shapes at what level certification is available (Lengerman, 1999). Yet, the level of certification appears not always premised on objective analyses of work. For instance, on what bases is nurses' preparation recognised at degree level, whereas electricians work, is at trade certificate level. Quite different benefits and status are associated with these levels of certification (e.g. ease of access to further education). These anomalies and shortcomings in how the recognition of skill is acknowledged and variably enacted suggest that the bases for the recognition of learning through work and the processes of certification warrant urgent, but careful consideration and policy action.

4. Workplaces as sites of assessment and certification

Workplaces present novel challenges for the assessment and certification of vocational knowledge. These challenges are central to issues of securing fair assessment and legitimated recognition. They include issues associated with what should constitute the focus for assessment and certification, the validity - the worth of judgments made against some criteria -- and reliability - the consistency of judgments across time and location. However, firstly it is useful to consider some orientations for the assessment and recognition of individuals' skills.

Orientations of workplace assessment and recognition

There are at least three distinct foci for the recognition of workplace learnt knowledge. These are: (i) *individual development* - an individualistic, humanistic, and potentially critical approach focused on individuals' development; (ii) *workplace practice* - focused on the performance requirements of the particular workplace in which individuals are employed and (iii) *occupational practice* - the focus on the capacities expected to be deployed effectively by somebody working in the particular occupational field (e.g. cooks, production work, teachers).

Individual development

An individual focus is consistent with a view of adult learning that provides opportunities for individuals to explore and extend their knowledge according to their personal goals, in this case, within their working lives. As is central to contemporary concepts of adult learning, this assessment can have a humanistic or critical orientation (Kasworm & Marienau, 1997). Here,

the purpose would be to identify individual workers' needs and aspirations, and determine the degree by which their learning meets these goals. If adopted, a critical perspective requires the individual to demonstrate a capacity to critically appraise, identify contradictions and alternatives within their work and work practices (Brookfield, 1997). Assessment and recognition of these kinds provide a vehicle for recognising the individual's development and capacities in ways not constrained by the requirements of particular workplace. The strengths of this orientation are in its capacity to reflect emancipatory and transformative goals for adult learners who have exercised their agency in addressing the particular demands that their adult role or societal expectation are making of them (e.g. their working life). A limitation of this focus is that it may not attract the sympathy of or recognition within the workplace or the broader occupational practice. The recognition of actual performance is central to the enterprise and most valued and rewarded by employers (Smith & Billett, 2003), whereas predicted performance against occupational standards will be the focus of occupational licensing. For instance, current policy goals in most Western countries are associated with adults learning to maintain their skill currency and workplace effectiveness throughout their working lives (OECD, 2000), rather than individual goals.

Workplace practice

A focus on a particular workplace practice for the recognition of skills emphasizes the situatedness of performance, and the need for it to be appraised and acknowledged in actual practice. This includes relations between individuals' requirement for performance and their acknowledgement (e.g. status, pay, promotion) in a particular workplace. Recognition focused in this way privileges the validity of current performance and can assist in making predictions about future performance in this or similar work practices. The validity and reliability of judgments leading to certification can be apprehended through accounts of individuals' performance in that workplace. Overtime, these accounts can provide bases for high validity when judgments are closely linked to a history of individual applicants' performance (i.e. supporting valid judgments) and supporting reliability through comparisons with others in the workplace over time. An approach that acknowledges actual performance is compelling and almost inescapable in a workplace setting. That is, current workplace activities and preferences offer bases for decision-making about individuals' performance, and for those decisions to be appraised by others, thereby shaping their standing. Moreover, comparisons across individuals might be easier to exercise when the focus for performance has some commonality (e.g. performance in the same workplace tasks), thereby likely aiding the

reliability of such judgments. So focussing on workplace practice has the advantage of acknowledging performance associated with individuals' current employment and on that basis can potentially be conducted with high degrees of reliability and validity. Its weaknesses include a highly situational basis for recognition, and potential constraints on the ability to predict performance in other workplaces (e.g. changing employment, promotion, capacity to change) or in the changed circumstances in the workplace. Also, individuals can only practice, perfect and demonstrate those skills that they can access in their work activities. This access may be constrained by workplace factors.

This approach to recognition is likely to be highly valued by some employers, particularly those cautious about sponsoring workplace training. The evidence internationally suggests that enterprises value the development and acknowledgement of skills that are enterprise specific (Smith & Billett, 2003). Some enterprises have created their own enterprise specific qualifications to meet their particular needs. Software companies have been at the forefront of the organisation of these arrangements from product specific purposes across national boundaries (Adelman, 2001) and fast food companies within those boundaries (e.g. McDonalds).

Occupational practice

The requirements for occupational practice, such as those stated in national curriculum documents and competency standards, describe the capacities demanded of a practitioner in a particular occupation. They offer a premise for judgments that can transcend the requirements of a particular workplace, because their purpose is to determine whether the individual possesses the capacities to practice the occupation more widely. Here, the focus is on the capacity for adaptability within the occupation and competence with than recognition of performance in a particular workplace (Billett, 2003). Complicating such a purpose are the difficulties to apprehend bases for the validity and reliability of such recognition. As the requirement for occupational practice can be quite distinct across different workplaces (i.e. different versions of the occupational activity occur, in different ways and different standards), (Billett 2001a) benchmarks that describe idealised statements of occupational practice may or may not reflect the actual performance requirements of specific workplaces. Moreover, there can be significant variations in the requirements for work across industry sub-sectors. For instance, in the food processing sector, the skills required in vegetable processing are quite distinct from those in fish processing, viticulture, cannery or dairy work. The same can be said for secondary processing and some primary production work, such as

agriculture. These differences complicate making reliable judgements about occupational performance, thereby undermining their utility. So, although national competency standards, statements of occupational requirement or even professional standards might be available as benchmarks, the consonance between the occupational practice in a particular workplace and these benchmarks will shape their usefulness as bases for reliable assessment. Moreover, inferences from observation or a history of individuals' performance are really needed for judgements to be made against such standards. Industry spokespersons and the government often favour the recognition of skills at the occupational or industry level because it offers the promise of a basis for administering standards and courses. Individuals also favour this kind of recognition, as it grants options beyond their particular workplace. Yet, the problem is how this recognition can best address variability of occupational practice and also predict adaptability to changing circumstances within enterprises and across the sector. Hence, the provision and organisation of occupational benchmarks needs to be open and flexible enough to accommodate variations in occupational practice across workplaces and industry sub-sectors.

These three focuses represent different perspectives or orientation for recognising learning through work. The assumption of assessment within vocational education using occupational standards is that it provides judgments about capacities to perform within the occupation, regardless of the particular workplace performance requirements. This claim seems very ambitious. Moreover, increasingly the capacity to transfer or adapt knowledge (i.e. robust workplace performance) is not a wholly individual quality, being premised on variations in the social practice (e.g. requirements for performance in particular workplaces) (e.g. Pea, 1997). Therefore, assessment of individuals' capacities alone will be insufficient to predict adaptability across occupational practice. More likely, evidence of understanding something of the different contexts in which the occupation is enacted (e.g. variations in requirements for mechanics', electricians', chefs' work) will be more predictive of adaptability across the occupation practice. In so far as evidence is required about performance, actual performance stands as compelling bases for judgements about individuals' workplace competence. The desirable goal would be to incorporate and integrate the three purposes (i.e. individual, enterprise and occupation). Yet, finding a balance among these purposes may not be easy. Moreover, employers' preference for specific performance and for broader requirements to secure occupational certification will predominate when issues of remuneration and occupational certification are addressed.

Procedures for the recognition workplace skills

There are also significant procedural issues for the recognition of learning through work, as foreshadowed. These include: (i) the bases for assessment (i.e. benchmarks, performance indicators or situational requirements); (ii) workplace factors influencing the fairness of assessment and certification processes (e.g. contested workplace practices and conflicting goals); and (iii) the standing or credibility of these processes' outcomes. These issues go beyond mere procedural matters for assessment. They also reflect concerns about the bases upon which judgments about the recognition of occupational competence should be made, conflicts and consequences of the acknowledgement of individuals' performance and the different status of social institutions that host the certification process and qualifications.

Premises of workplace recognition

Workplace assessment and skills recognition will likely proceed on different bases than in educational institutions. In workplaces, assessment will likely focus on the actual practices being enacted in the workplace. In education institutions, statements within curriculum documents that predict performance or address specific criteria will likely be used. These documents are usually syllabuses, national competency standards or industry standards, comprising disembedded statements about occupational competence (Billett, 2003).

Curriculum documents in vocational education often comprise an aggregation of employers' and practitioners' beliefs about what comprises the skills and practices constituting an occupation. What they describe is not always consonant with the actual requirements in particular workplaces. This is because requirements for workplace performance are not uniform or a version of the occupation practice; they can have distinct qualities (Billett, 2001a). Compare the work of a mechanic in a inner-city dealership with that of a mechanic a garage in a non-metropolitan community; an electrician installing and maintaining elevators with that of an electrical contractor engaged in domestic installation work, chefs working in a five-star hotels with those who preparing precooked meals for airlines, hospitals, or for supermarkets etc. Regardless of where they are practised, when considering the performance of mechanics, electricians and chefs, it will be their capacities to be effective in the workplace in which they are employed that stands as the compelling basis for the assessment and recognition of work performance, rather than some abstracted statement of occupational performance.

So a different focus for assessment and certification exists in workplaces than education institutions. In the former, the focus will be on specific workplace requirements,

and for the latter on predictions of performance in workplaces that are based on statements of occupational competence. As foreshadowed, judgments of specific workplace performance may be more situationally valid and possibly reliable, because they are embedded in and can be moderated through available evidence (i.e. other workers' performance). However, this assessment and any certification may be too specific, and not predictive of wider occupational competence or future performance in even that workplace, when conditions change. Conversely, assessment against statements of occupational competence may be quite spurious (i.e. of low validity and reliability) because workplaces have quite diverse requirements for occupational performance.

So, it may be more difficult to assess individuals' capacity to practice occupational skills in work situations that are different from those at that workplace. Consequently, a key concern is about the kind of benchmarks against which assessment and accreditation in workplaces will be exercised. Will it be sufficient to utilise enterprise-specific benchmarks or should some occupational standard be used? Perhaps some occupational statements that acknowledge difference in its enactment of the practice may be a useful compromise.

Factors influencing the fairness of workplace assessment processes

There are inherent difficulties in securing fair assessment in workplaces. Workplaces are often contested environments and potentially the assessment of individuals' skills and provision of certification will be enmeshed in workplace relations, including the standing of individuals and cohorts of workers. In all, the evidence suggests that workplaces are far from benign and that opportunities to access training, support and therefore recognition are not equally distributed (Leuven & Oosterbeek, 1999). Old-timers may inhibit the progress of newcomers to avoid displacement (Lave & Wenger, 1991), part-time workers' activities and opportunities may be constrained by full-time workers (Hughes & Bernhardt, 1999) to avoid being replaced. Differences in opportunities and acknowledgement may be afforded on the basis of gender (Bierema, 2001; Solomon, 1999), language and ethnicity (Hull, 1997). Workplace affiliations of different kinds will serve to overtly support some individuals' aspirations and actively inhibit others (Billett, 2001b). Given the legitimacy and status that potentially arises from the certification of skills, it is likely that processes granting recognition to individuals or cohorts of workers could become highly contested. Moreover, contested workplaces may act to test the validity of the workplace assessment and accreditation processes. That is, the recognition of skills sits within environments where the recognition of skills may serve to reinforce or challenge particular interests, advantage individuals or groups of individuals and

in ways that displace other individuals or reposition interests within the workplace. For instance, trade workers might enjoy higher status and be paid more than, un-credentialled production workers. The provision of certification for production workers, may ultimately lead to contestation between two groups of workers because of challenges to the standing of the trade workers. In a workplace, where peer assessment was trialed, workers had great difficulty in gaining promotion to higher classifications because peers had unreasonable expectations of their performance. Eventually, management had to intercede to ensure that at least some workers were promoted (Billett 2001b)

A graphic account of how workplace affiliations and relationships can subvert and render workplace assessments unfair and invalid was demonstrated in a study within in the coal mining industry. In the coalmines investigated, assessment of competence was linked to levels of remuneration. The very high rates of successful workplace assessments identified in the study were achieved through the subversion of the assessment process and even coercion of assessors (Billett, 1995). Trade workers were given the assessment tasks and selected segments of training modules days before the tests. These workers focussed their efforts only on those materials and rehearsed responses to the selected assessment items. Despite the use of external assessors, the briefing and provision of assessment items by workplace delegates largely invalidated the assessment process. These trade workers generally secured higher remuneration as a result. Beyond this direct subversion were instances of coercion of workplace assessors that invalidated the assessment of production workers' competence. Mine site production workers had their skills assessed by fellow, but more senior or staff workers. Some of these assessors reported often feeling obliged to record successful outcomes. The assessors worked in the same workplaces as those whom they assessed, lived with their families in the same remote mining communities, their children went to the same school as those of the parents they would be assessing, they shopped in the same shops, socialised in the same clubs etc. To record unsuccessful assessments might come at a high personal price for them or their family members. There were also tests and testing reported whose validity could be questioned. If operators could start and move a bulldozer a short distance, lift and lower its blade and push a small amount of dirt they would be deemed to be competent in its operation. There were also reports of assessments being hurriedly and successfully completed when they coincided with meal breaks or the end of shifts.

Although many trade and production workers were successful in a range of workplace assessments, and enjoyed increased remuneration as a result, there was consensus by the miners, union delegates and managers that the workplace was less safe and possibly less

productive and viable (i.e. because of increased labour cost) as a result of these assessments. Many workers became authorised to use equipment that they were not competent to operate and potentially were risks to themselves and other workers. For instance, those certified to operate a bulldozer, as described above, could be expected to shift dirt or coal, on a coal wall under lights at night and in the rain. So the actions of workplace affiliations (i.e. union delegates), the concern about reprisals and ineptness of the assessment processes invalidated many of the assessments and subverted their purposes. The salient point here was that ultimately the assessment and certification process was undermined and lacked legitimacy in the minds of those who had benefited from it, sponsored and enacted it.

Beyond co-workers either facilitating or inhibiting the fairness of the assessment process, workplace managers or owners may well seek to limit the recognition of skills. This might be done to maintain the viability of the enterprise, or the management or owners' control of it (Danford, 1998). Employers are usually keen to constrain the level of remuneration and the numbers of employees trained in order to limit the percentage of highly paid workers (Leuven & Oosterbeek, 1999) or to avoid their portability. For instance, many workers in the Australian food processing industry are enrolled in modules of the Certificate of Food Production. However, the completion rate of the Certificate is relatively low. Because the modules need to be sponsored by employers, the range of modules accessible for workers are often constrained by employers. It seems few enterprises are willing to sponsor the range of modules required for workers to complete the Certificate (Billett, 2000). Employers claim to be sponsoring only those modules pertinent to their enterprises' needs. However, too frequently the scope of this sponsorship also coincidentally fails to extend to that required for individuals' to secure certification.

In sum, arrangements for the recognition of skills in the workplace needs to be enacted to counter the: (i) negative effects of the interests of workplace cliques and affiliations; (ii) the interests of management; and (iii) can secure assessment procedures. These kind of obstacles need to be addressed by policies and practices in order for fair and accessible recognition of skills to proceed. This includes removing instances of coercion, the prospect for fairness in the recognition workplace skills and the legitimacy of that certification may otherwise be jeopardised.

The standing and credibility of workplace recognition

Because of the kind of issues raised above, and the standing of particular social institutions, there is a residual concern that assessment and credentials administered through workplaces

will remain of low status. The exceptions are where workplaces enjoy particularly high status or are large enough to offer quality assessment and recognition (e.g. Buckingham Palace, national airlines). In addressing the important equity goals of assessing and recognising skills in workplaces, it may be too difficult to initially achieve (a) the legitimisation of learning in the workplace and (b) their credibility as institutions able to provide certifications in ways that would have the legitimacy and authority enjoyed by education institutions. If workplaces gain a greater legitimacy as sites for learning, then it may be timely to consider offering credentials. Yet, even then, there remains pervasive problems associated with assessing and credentialling workers in workplaces, as outlined above. So while workplaces offer bases for highly valid assessment against individuals' enactment of practice, there are concerns about the inevitable enterprise-specific focus for assessing workers and offering credentials; the undermining of the assessment processes by contested workplace practices; and a concern about the standing or acceptability of credentials issued from the workplace. In order to address the important goal of recognising workplace learning, it is necessary to consider options for occupational assessment and certification, and advance mechanisms that can assist with fair and valid assessment, thereby establishing and maintaining the legitimacy and standing of the certification of workplace learning.

5. Options for the recognition of learning through work

Ideally, approaches to recognise learning through work need to be conceptualised, their development premised, directed towards and evaluated on the basis of how they meet three kinds of outcomes outlined earlier. These are: (i) individuals' goals; (ii) the requirements of their workplaces; and (iii) recognition for their occupation. While meeting all three of these needs represents the ideal goal for recognising learning through work, addressing individuals' performance in the workplace within the context of an occupational practice is proposed here as providing a useful starting point. In meeting both workplace and occupational requirements, many individuals' vocational aspirations will also be met.

It is unlikely that a single or uniform approach to the recognition of learning through work will be sufficient or feasible. The diversity of occupational practices, including its multifold manifestations within some subsections of industry (e.g. secondary processing, food production), the structuring of industry sectors (e.g. those predominantly comprising large or small enterprises), their professional and affiliations arrangements, and the levels of readiness to proceed down a track of recognition (e.g. those with existing courses, benchmarks) militate a unitary process. Instead, because of differences in the requirements, structures, affiliations

and readiness of industry or occupational sectors, options for processes of recognition will need to be enacted. The utility of these various options will be shaped by the existence or otherwise of professional associations and trade unions, the geographical distribution of workplaces and any requirements for occupational licensing. However, across these options there is a common goal of securing the legitimate and authoritative recognition of individuals' skills, in relation to their enactment in a particular workplace setting and the wider potential of their application across instances of the occupational practice.

Hosting the recognition of learning through work

Some form of agency external to workplaces may best assist the standing of the recognition of workplace-learned knowledge (i.e. through certification, licensing, and qualifications). High standards for the conduct of workplace assessment processes will be required, to establish the legitimacy of the certification. While some large and prestigious enterprises may have the standing and resources to conduct assessment fairly and to be recognized as legitimate, most enterprises will not. The use of external agents and agencies will not always be welcomed by enterprises or their management, who might be concerned about the undermining of their capacity to control levels of remuneration and reward. There are also problems associated with the focus of and funding of such arrangements. Yet, what seems essential, at this stage, is some separation between the workplace and the organisation that is assessing and providing recognition. However, a rich interaction is also necessary to assist understanding the full worth of the enterprises' activities and individuals' performance in those activities. This includes building both the employers' and employees' confidence in the fairness of the assessment processes. Moreover, because each workplace's particular requirements need to be accounted for as it constitutes a version of the enactment of the occupational practice. There is no ideal or archetypal instance of occupational practice (Billett, 2003), just a range of variations of practice dependent upon the particular circumstances of the particular workplace. A key role for external agencies will be to identify what constitutes effective performance in a workplace and, perhaps, make judgements about how this relates to performance in other workplaces where similar performance is required. So benchmarking will be a key concern and well as assessment and certification.

The following represent some options for achieving this common goal organised on the basis of their hosting within different kinds of organisations and agencies. What will be required, however, are policy frameworks to support coherent and legitimate practices across

the different kinds of hosting organisations in the administration of assessment and recognition of occupational skills.

Large enterprises

Although using major enterprises to host the recognition of employees' learning is problematic in terms of ensuring the fairness of assessment for all employees (Giraud, 2002), it may be a useful option in some instances. This is particularly likely when the industry sector and, hence, occupational practice, is dominated by a few large enterprises or even a single employer. For instance, national railway systems, automotive manufacturers, aeroplane manufacturers, may virtually represent industry sectors or large parts of them. Hence, enterprise certification may have currency and be quite appropriate in industry sectors where employees can only seek employment in a small number of large enterprises. Such large enterprises may also have the capacities (e.g. resources, expertise, procedures) for the legitimate and authoritative recognition of learning through work. Policy considerations here include identifying industry-wide statements of occupational competence, negotiating around enterprise sensitivities about codifying patent or specific skills and enacting processes to assist the ability and reliability of assessment processes and recognition (Adelman, 2001). In these large enterprises, issues associated with validity are likely to focus on the enterprises' work practices, as much as a wider occupational applications, because these enterprises' practices may represent occupational benchmarks. Issues of reliability would be premised on the conduct of the assessment processes within the enterprise. However, it needs to be acknowledged that management of many workplaces would be reluctant to lose control of processes that linked the recognition of workers' skills to increases in remuneration. There is also the question of who pays for these processes of and maintenance of certification. Policy intervention that supports and promotes good practice, yet avoids external intervention might be the most appropriate approach.

Industry or professional associations

Industry and professional associations in some countries are the centre of the development and recognition of occupational skills. For instance, in Germany local trade and professional organisations play a mature and active role in shaping what is required for occupational practice of how best it can be learnt and the arrangements for its recognition (Giraud, 2002; Koch & Reuling, 1994). These arrangements are, however, not widespread outside of northern Europe. Elsewhere, there are active industry or professional associations that could

play a significant role in the establishment of occupational benchmarks and the recognition of workplace learning. For instance, they may generate industry or occupational statements that have standing within the sector. Also, because of relatively small workforces of individual enterprises, their specializations and geographical dispersal, local industry or professional organisations may be appropriate to host assessment and recognition arrangements, as in Germany (Koch & Reuling, 1994). Similarly, there are associations that promote the occupational concerns of their members (e.g. Master Builders' Association) and industry training associations might also lend themselves as hosting organizations in some countries.

There is, however, a particular need to be sensitive to and accommodate specific sector arrangements that might be overlooked or swamped by larger industry or professional associations and affiliations. Emerging sectors (e.g. natural therapy, the software development) or those with low status (e.g. production work, service work) all might struggle to have their interests well represented within larger affiliations. For instance, the diverse needs within the food-processing sector, as noted, may be unable to secure appropriate space or place within a sector where its practices are viewed as being of low order. Equally, the specific requirements of small businesses or those engaged in highly specialised activity may well warrant particular support and attention within policy frameworks to ensure that these interests are well represented.

Policy considerations here include the identification and selection of an association or associations that could best represent the needs of an industry sector, or its sub sectors. The degree of institutional maturity or organisational capacity to undertake such a role will need to be appraised in order to determine if it requires support from government to achieve this goal. In Germany, these capacities were developed over time and now operate with high levels of autonomy from government (Giraud, 2002). This includes the capacity to be representative of the occupation or sector, and developing its competence to conduct or licence assessments and also to administer certification that would be seen by the occupation or industry sector as legitimate and authoritative. A starting point would be to determine whether an occupational, industry or industry sector focus is the most salient. Some occupational activity sits well within a particular industry or even sub sectors (e.g. pilots in aviation and marine, train drivers within rail, military work within defence, hairdressers within the service sector, nurses within health) yet many others transcend industry sector boundaries (e.g. clerical work, electricians, metal fabricators, construction workers). Following this, some identification of those areas where there are no bases for the recognition of skills and certification establish themselves as priorities for government action. In all of this, the need to be sensitive to: (i)

situational variation; (ii) developing (further) the capacity for fair assessment; and (iii) arrangements that authorise and legitimise certification are important policy goals, as these will underpin the standing of the bodies such as trade, industry and professional associations.

Vocational education systems

Vocational education systems can likely provide at least two kinds of hosting arrangements for the recognition of learning. Firstly, where there exist certification and benchmarks in the form of course outcomes and qualifications, these constitute bases for vocational education systems to engage with workplaces in providing assessment and the recognition of learning acquired through work. The task would be to understand what these occupational benchmarks mean in terms of the requirements of particular workplaces and the deployment of assessment processes that are fair and authoritative. The second role is for vocational education systems to conduct assessment and recognition processes on behalf of industry sectors, large enterprises and regional bodies who may lack the resources to effectively provide fair assessment, and legitimate and prestigious certification. Both the validity and reliability of assessment and certification may also benefit from some form of external monitoring or evaluation. As enterprises, particular large enterprises, are increasingly subject to external monitoring of their activities (e.g. quality assurance, occupational health and safety) there exist models for monitoring and auditing that might be readily adaptable to the recognition of skills. Policy considerations here include using benchmarks for assessment that are flexible enough to address diverse instances of occupational practice and ensuring that those assessing are able to translate their assessment and certification practices to adapt to the exigencies of workplace settings.

Local- regional arrangements

The assessment and recognition of learning through work, if not its certification, will sometimes need to be sensitive to the geographical distribution of workers and workplaces. This includes localising an understanding of the requirements for performance (e.g. what a mechanic, builder, nurse, teacher has to do in rural, isolated or remote communities in contrast to their metropolitan counterparts), making accessible assessment process and facilitating the kinds of support required to secure certification and its administration. In particular, the skill recognition needs of those in small business will often require localised responses, and in ways that may be remote from metropolitan and regional centres. Existing agencies in these communities (e.g. regional development boards, local learning networks)

might be encouraged and supported to act as the occupational assessment groups. Such localised arrangements are likely to need the support of local employers and enterprises, as other policy initiatives suggests (e.g. Smith and Billett 2003).

These hosting options are not exhaustive or mutually exclusive. They represent a set of options for organising the recognition of learning in the workplace. In particular ways, these options might be best able to address the: (i) diversity of occupational practice; (ii) readiness of enterprises to conduct assessment; and certification; (iii) and a concern for buttressing the legitimacy of workplace assessment and recognition. As they utilise existing institutions and associations they may not make overwhelming demands upon governmental resources.

However, in extending and separating some of their existing roles, the focus and means for recognising learning through work will often sit in highly contested relations. These relations include teachers assessing knowledge not acquired through teaching processes, enterprises supporting the assessment of workers' skills which may precipitate claims for higher remuneration, and workers cooperating with peers in ways that will fairly recognise the breadth and depth of co-workers' skills; as opposed to their own. So the policy task goes beyond enacting arrangements for identifying what counts as occupational practice in particular workplaces, mere ordering of assessment processes, making them valid and reliable, and maintaining the standards of certification. It also comprises changing views about what kinds of work is worth certifying, understanding the disadvantage experienced by those without certification, inviting enterprises to support and engage in such processes, particularly where there is little history of such engagement, and directing priorities to areas of need rather than ease of recognition. It follows that government policy needs to:

- identify and support the development of agencies (e.g. professional, union, local) that are best placed to administer and monitor workplace-based assessments;
- identify and trial methods for benchmarking workplace performance;
- enact arrangements that changed the existing views about the lack of legitimacy of work learnt knowledge and elevate the standing of learning arising outside of educational institutions or programs;
- develop procedures for the hosting arrangements identified above; and
- ensure those arrangements are monitored to maintain fair and accessible skill recognition through work.

These organisations enacting the assessment and certification of workplace learnt knowledge will need to build confidence in their capacity to provide fair and valid assessments and in the administration of those arrangements. This will include:

- linking specific workplace performances to occupational requirements;
- developing or adapting benchmarks for the assessment of workplace skills;
- enacting assessments that are valid in terms of workplace performance and reliable in terms of relative levels of performance across industry sectors;
- identifying how best different kinds of occupational practice might be recognised; and
- managing consistency in decision-making across sectors, workforces or workplaces.

It will ultimately be the quality of the enactment of such arrangements that will shape the standing and legitimacy of these the recognition of the workplace learnt knowledge.

6. Recognising learning through work

In summary, despite the complexities and difficulties in the provision of the authoritative and legitimate recognition of learning through work, it remains a worthy goal for policy deliberations and actions by government, professional associations, unions and other agencies. For all workers, the ongoing maintenance of their individual skills throughout working lives is becoming increasingly salient to the continuity of their employment (OECD 1996). Given this, and the increasingly transitory nature of contemporary employment, the need for recognition of those skills is compelling. For those marginalised by existing education provisions or workplace practices, there is an even more compelling case for the recognition of learning through work. It has been proposed that except for some large or particularly prestigious enterprises, there is currently a need for the administration, monitoring and certification of workplace skills recognition to be hosted outside of workplaces. This is to assist establishing the legitimacy of the recognition of workplaces learnt knowledge and because the conditions for fair and valid recognition will not always be present in workplaces. Underpinning these processes is the ongoing task for government, professional associations and unions of championing the richness and diversity of vocational knowledge, the sources of its complexities in different workplaces and the need for this richness and complexity to be fully valued. The key policy goals are necessary to identify the focus for the recognition of skills (i.e. occupational, workplace, personal), enacting procedures to recognise learning, selecting and supporting hosting organisations and

institutions and developing those procedures, so that the recognition of skills through work becomes as legitimate that provided by educational institutions.

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