The place of recognised qualifications in the outcomes of training

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Executive summary

Project brief

The purpose of the present research study was to identify the relationship between total competence requirements of an enterprise for the performance of specific jobs and that part of the competence requirement that needed, in the opinion of employers, to be formally recognised.

This research set out to explore the following areas:

- the relationship between the various recognised and non-recognised competencies that form the "total competence" of an employee;
- the types of competencies most likely to fall within the different competency groups;
- patterns in the way in which competence is achieved and recognised for different enterprises and industry groups
- outcomes valued by the enterprise and the employer for competencies which are recognised by enterprises in ways other than the national recognition or qualification;
- structural, procedural or other impediments to the recognition of competence achieved in the workplace, but not at present assessed or recognised

Methodology

Due to the exploratory nature of the project, the data collected was primarily qualitative, gathered through interviews with managers (sometimes in conjunction with supervisors and experienced workers) during a site visit to 23 organisations from 5 different industry sectors. Two instruments supplemented the case study approach one of which collected detailed quantitative data on the competencies of selected jobs. Thus, observations could be made at two different levels of analysis—the enterprise or case level and the unit of competency level. Quantitative demographic data was collected through a survey administered during the site visit.

The competencies from each of the different training packages, were divided into two categories, 'defining' or 'industry' competencies and 'enabling' competencies. The 'enabling' competencies from all training packages used were combined into a common list and the duplicates deleted. The 'defining' competencies were kept in their specific industry sector.

Managers were asked to describe several jobs within their organisation by picking out from lists of competencies so generated those competencies they believed were needed to perform each job at a competent level. In addition, interview subjects were asked to nominate competencies, outside of those provided to them in the competency lists that they believed were important to the performance of the chosen jobs. Once these lists were completed interview subjects assigned the selected competencies into four groups according to the required approach to assessment *viz.* requiring recognition, formal assessment, informal assessment or no assessment.

Findings

A large number of competencies were identified by employers as required for jobs to be performed well. Generally, this was significantly in excess of that needed to obtain a qualification at an AQF level appropriate to the job. There were few competencies identified by managers as required by workers to properly perform the selected jobs which are not covered by Training Packages.

Competency type

Competencies could be earmarked into two main classes of competence—'defining' competencies or 'support' competencies. Industry or job specific units of competence are those that help *define* the industry or sector in which the competence is to be employed (for instance plastic versus rubber) and/or the type of job the competent worker is able to perform (for instance injection moulding versus vacuum forming). Employers and trainers refer to *support* types of units of competence as 'soft' skills. These are more generic competencies that could easily be adopted across a range of industries and jobs.

In the jobs surveyed, it was found that the number of defining competencies was usually much less than the number of support competencies. There are relatively few (defining) units of competency that distinguish one job from another.

The types of competencies that are selected to compose a job are influenced by a number of enterprise factors. A higher proportion of defining competencies was identified as required by managers for jobs in enterprises that are:

- high technology;
- public sector;
- locally owned;
- small, and
- with a history of recognising competencies/qualifications.

Level of assessment

Competencies are not considered equally by employers in terms of their need for training and especially in their requirement to be assessed. Assessment of competence in general is important to managers, with 57.7% of all identified units of competence perceived as requiring at least formal and structured assessment. However, only a small proportion (15.9%) of units of competency identified for the performance of selected jobs was judged to require formal recognition. At the other extreme, an equal proportion of competencies (15.9%), while considered necessary for the job, are determined by employers not to require any assessment.

There are four main types of competencies that employers target for recognition:

- competencies associated with 'tickets' and licences conferred by non training bodies;
- competencies associated with training and assessment;
- competencies associated with occupational health and safety; and
- job specific or 'defining' competencies.

Assessment effort should be seen as a continuum (from no effort, to assessment for competence recognition) with variation not only between organisations but also between different jobs within an organisation. It appears that employers apply a risk management approach to determining the required level of assessment effort, where the financial, legal and human consequences of incompetence in a unit of competency are weighed against the

cost of the assessment of that unit of competency. The higher the appraised risk (in terms of consequences), the greater the assessment effort likely to be committed.

Several enterprise factors have an influence on the level of assessment embraced by managers. The enterprises where the managers ascertain a need for greater levels of competency assessment are likely to:

- have a higher level of technology;
- have a history of qualifications;
- be in the private sector; and
- be foreign owned.

The effect of organisation size is different for each type of competency with small organisations having higher levels of assessment of enabling competencies and large organisations assessing more defining competencies.

Use of Training Packages

A comparatively high proportion (40%) of the case study enterprises claimed to be using or about to use a relevant industry Training Package (TP). The reasons given for using a Training Package were:

- to qualify workers;
- to train workers;
- to structure the workforce (industrially or in terms of remuneration)

Conclusion

Employers, as outcomes of (their own) enterprise-based training efforts, do not significantly value qualifications in the same way as the vocational education and training sector. The approach taken to 'qualifications' by enterprise managers is generally to seek recognition only of a small number of competencies, not a whole AQF qualification. This conviction though varies significantly in respect to a number of variables, including the job under consideration and types of competencies being contemplated. Alternative ways of measuring the uptake of Training Packages, though less available than recognised qualifications, might be more appropriate. These could include:

- increased competence in areas designated as *critical* to a business, either in defining or support competencies;
- increased use of competency standards as a basis for performance appraisal, and improved performance outcomes using this tool; and
- increasingly strong relationships between qualifications frameworks and systems of reward.

An area for further research identified through this study concerns the degree of structure and effort committed to acquiring and assessing of competencies, and how this might vary according to enterprise and job context and inherent qualities of the competency itself. These issues have great significance for VET policy, since it is possible that industry (at least enterprise managers) is thinking in quite different ways to VET planners.

Chapter 1: Qualifications as outcomes of training

Introduction

The importance of education and training for the competitiveness of enterprises has long been recognised, as has its role in providing opportunities for economic and social advancement by individuals (*eg* Denison, 1962; Becker, 1964; Selby Smith, 1970; Layard *et al*, 1971; Selby Smith, 1975; Leslie and Brinkman, 1988; Maglen, 1993, 1995).

A series of UK studies, undertaken by Prais *et al*, have raised considerable interest in the differences in outcomes from varying training effort (*eg* Daly, Hitchens and Wagner, 1985; Prais and Steedman, 1986; Steedman and Wagner, 1987; Van Ark, 1990a, 1990b; Van Ark, 1992; Mason and Wagner, 1994; Wagner, 1999).

> *"Differences in training matter. In a series of brilliant case studies S.J. Prais and his colleagues have shown clearly how higher skill levels on the Continent make possible quite different systems of work, involving much greater productivity" (Layard, Mayhew and Owen, 1994).*

In these studies, comparisons were made between enterprises in Britain and Germany (and, to a lesser extent, Britain and the Netherlands or France) recognising that for nearly two decades output per German employee had been exceeding that per British employee[1]. The research program initiated and led by Prais was designed to test the relationship between vocational education and enterprise productivity. Using Census of Production figures, the output of a German worker was estimated to be some fifty per cent higher than for a British worker. The researchers concluded that the lower productivity found in Britain compared to European countries could primarily be attributed to superior skills in the European workforce, which includes a greater density of vocational *qualifications*.

The studies outlined briefly above by Prais and his colleagues have been very influential in Britain in shaping what some authors have labeled the "British Training Problem" (*eg* Cutler, 1992). Academics, politicians and the broader media have all sought inspiration from these studies in extolling the virtues of training (leading to formal qualifications) as a potential panacea for the perceived poor productivity of the British workforce.

Qualifications as a measure of training outcomes

Most importantly for this study, virtually the same arguments used in Britain to support calls for both the quantity and nature of vocational education and training (VET) effort, have been adopted in Australia. For instance, Moran (1998) noted that a measure of the competitiveness of a nation in the global marketplace is that nation's ranking in the number and type of qualifications held by its workforce (see also Sargent, 1998; and Noonan, 1998). The original British research is frequently quoted by Australian authors as a means of support to sustain the argument for higher levels of training.

Some authors have identified almost a singular preoccupation within vocational education and training circles with qualifications as the primary measure of training outcomes. Baker, Wooden and Kenyon for instance note:

[1] The rationale for concentrating on productivity differences in those particular European countries was that, while productivity in those countries has typically exceeded that in Britain, the countries are culturally similar.

> "*Since the coining of the 'national training reform agenda' training for VET practitioners has really meant developing structured training arrangements leading to* ***accredited outcomes****.*" *(Baker, Wooden & Kenyon, 1996, p. 3; emphasis added)*

They argue the focus on accredited outcomes has also meant that a similar emphasis has also been placed on the development of competence through formal means, with a reduced acknowledgement of the importance of skills acquisition through informal and unstructured learning situations (Baker *et al*., 1996).

The value of qualifications

Qualifications are certainly tangible outcomes of training for individuals, employers, training institutions and governments; they are comparatively easily counted; and to some in formal vocational education and training circles, they represent the pinnacle of achievement. Few if any education and training institutions would not measure the success of individuals (students) by completion of a course (and attainment of a qualification), although part-completed courses can also be valued (although generally less so) by stakeholders on occasion (NCVER, 2000). Similarly, the success of vocational education and training institutions themselves is measured in terms of the number of qualifications (both in total and as a proportion of enrolments) and in some institutions the type and level of qualifications achieved.

Apart from the comparative ease of measurement of qualifications, a number of other benefits are attributed to qualifications. Sargent has argued that where goods and services are traded in a global market, there is an increasing demand for consistency in the definition of skills and for assessment of skill standards (Sargent, 1998). Qualifications delivered against an overt standards framework allow mutual recognition of skills and knowledge across wide geographic, jurisdictional and international boundaries (*eg* Varanasi, 1999). This can in theory facilitate labour mobility across enterprise, geographic and even industry boundaries by offering widely accepted evidence of competence.

Types of training and qualifications

It has been argued that training resulting in qualifications represents only the tip of the iceberg in terms of the training conducted in Australian enterprises, and an even smaller fraction of the activities which result in skill acquisition outcomes (Daly, 1991; Hager, 1997; Black, 1997; DEETYA, 1998). This is especially so when considering small business enterprises (Smith, 1997a).

The Australian Bureau of Statistics (ABS) undertook surveys of education and training experience in 1989, 1993 and 1997 (ABS, 1990, 1994 and 1998). In the twelve month period prior to each survey 79%, 86% and 80% of wage and salary earners, respectively, undertook some form of training. Training effort could be classified "on-the-job", "in-house training course" or "external training course". The ABS defined on-the-job training as being when an individual participated in a workplace training activity to improve their job skills, while working in a job. Workplace training activities included asking questions of co-workers or colleagues, teaching yourself, being shown how to do your job and watching others work. For each year on-the-job training was by far the most commonly reported form of training, being 72%, 82% and 72% respectively in each year, compared with 35%, 31% and 33% for in-house training courses and 10%, 12% and 20% for external training courses, respectively[2]. Note the definition of on-the-job training excluded any training or study for a formal

[2] Note that since multi-response categories were collected the components can total more than 100%.

educational qualification. Thus, the bulk of enterprise training, by definition, is not aimed at achieving a qualification.

The ABS findings, on the proportional balance of training effort in enterprises, are supported by other Australian research and by overseas data. In the United States Frazis *et al* (1998) estimated that for every hour of formal training there were two hours of informal training. Bishop (1991) found that formal training was only 8% of the total hours of training for new hires in the first three months after they joined the firm. Drake (1995) reviewed European studies of "*e-learning*" (experience led learning) compared to "*i-learning*" (instruction led learning); and concluded that more needs to be learned about the various types of *e-learning*, its relation to *i-learning* and the circumstances that foster e-learning. A Canadian survey on the array of adult learning activities found that Canadian adults average about 15 hours per week on informal learning, which is much more than is spent in the formal education and training system (Livingstone, 1999). A survey of New Zealand employers found that, for a substantial majority of respondents, informal training and the improvement of skills on an everyday basis, were considerably more important for improving skill levels within the organisation than formal training (Decision Research Limited, 1997).

Evidence on the relative allocation of effort between types of training emphasising the significant contribution of informal learning processes in the workplace does not *per se* undermine the achievement of qualifications as a primary outcome of training. Over the past decade gradual change in the vocational education and training system has been directed to integrating more fully all forms of training (*eg* formal/informal; on and off-the-job) with a view to broadening the number of possible pathways to qualifications. For example, the Front Line Management Initiative cuts across any explicit distinction between formal and informal education and training. Hager (1997) in support of this trend argues:

> " *... there is increasing evidence that linkage between formal on-the-job training and informal learning is crucial for the skill formation process ...*" *(Hager, 1997: p.6)*

These changes have culminated in the current "Training Package" approach, which facilitates the development of competence and subsequent attainment of qualifications through both formal and informal training approaches, or a mixture of both approaches (Reid, 1998). Increased attention has been given to recognition of prior learning (VEETAC, 1993).

Other perspectives on qualifications

Anecdotal evidence suggests that stakeholders outside the VET system do not value qualifications as much as those stakeholders inside the system. Employers, unions and employees all have varying objectives when they advocate an increased training effort, and qualifications may at times be seen as superfluous to those objectives.

Employers by and large accept the value of training …

> *"... investment in skills, knowledge and training can raise labour productivity and enhance the productivity of capital. Productivity gains improve the competitiveness and profitability of business."* (*The Allen Consulting Group 1999*, p.ii)

They are though often sceptical of the claims about the portability of qualifications (Harris and Simons, 1999), arguing that even if a national framework for recognising qualifications is a necessary condition of workforce mobility, it is not a sufficient condition. Employers point to the importance of quality assurance in the mutual recognition process and the difficulties which result when trust in the quality of processes is damaged (Sargent, 1998). Also many employers see little value in facilitating conditions where their best employees become more 'marketable' and are therefore more likely (or able) to leave (Dutneall, Hummel and Ridoutt, 1998).

Small businesses, which by some estimates employ approximately 40% of the total Australian workforce (ABS, 1998), are argued to be especially indifferent to the attractions of the VET system in general and qualification outcomes in particular. For instance, Gibb (1998) notes:

> "*If there is a prevailing training culture in Australia at present, then it is one which is based on structured training and/or recognition of competencies gained in work and life experience leading to qualifications. The statistical data suggests that this prevailing culture has failed to have an impact on small business*" *(Gibb, 199, p: 40)*

Stokes, in affirming that "VET orthodoxy is of no particular value to small business" offers some insight as to why ….

> *"VET success is measured in terms of learning outcomes, national standards and credentials, whereas for small business 'success' means profitability and survival." (Stokes 1998, p.25)*

Employees, while seemingly more favorably inclined to qualifications (The Allen Consulting Group, 1999), often emphasise the role of training more in mastering their job and obtaining job satisfaction than in obtaining formal qualifications. They are generally interested in qualifications for their instrumental relationship to reduced risk of unemployment and for providing a basis for increased incomes (Blundell, Deardon and Meghir, 1996). If alternative pathways to these outcomes are available, the qualification pathway does not necessarily remain so attractive for employees.

From a theoretical perspective also, a preoccupation with qualifications (especially as they derive from a very formal and structured national training framework) has been questioned. For instance, the research basis of much of the vocational educational and training policy direction, both in Britain and in Australia, has come under increasing criticism. Fault has been found in the British research in regard to the rigour and appropriateness of its methodology (Cutler, 1992); and on the basis of its bias towards certain political and economic philosophies that emphasise rigid control of worker behaviour within a narrow capitalist framework (*eg* Crouch, Finegold & Sako, 1999; Payne, 2000). As a consequence, the layers of policy constructed on the research bedrock has also come under attack, such that Payne was able to comment in regard to the British situation:

> "*Throughout the 1990's education and training policy became increasingly mired in the belief that simply boosting the outputs of the VET system by expanding the supply of educated and skilled employees, would be sufficient to transform national economic competitiveness and realise the vision of high skill, high value-added capitalism…. It is now widely accepted amongst critical academic commentators in the field that this prevailing policy orthodoxy is both myopic and deeply flawed.*" *Payne, 2000:p. 359)*

Practical problems with qualifications

In theory, the current frameworks in the vocational education and training area should result in qualifications being attained as easily from informal on-the-job training as from training structured through in-house or external training courses, this does not appear to be obvious to enterprises (Dutneall, *et al*., 1998). In practice, there are two considerable impediments to widespread acceptance of qualifications as a suitable outcome of training. First, traditional notions of qualifications only being associated with formal courses (and certain types of worker) often prevail at the industry or enterprise level. And where these traditional values are not a factor, the requirement still at some point to involve a registered training organisation (RTO) in training delivery and/or assessment can result in barriers being erected.

For instance, when initially attempts to improve flexibility in the vocational education and training system were being attempted, Curtin (1994) identified a lack of employer engagement with the proposed development of the formal training system. He found the formal training system remained inflexible in its approach to unstructured learning. Curtin's findings were supported by a Towers Perrin survey of employers (1993, p.97) that identified a number of industry concerns about the competency standards framework (which still underpins qualifications frameworks in current Training Packages). These industry concerns included:

- the standards reflected a professional and/or educational perspective and often did not take into account efficiency and work value;
- the standards frameworks controlled the labour market through training requirements and ran counter to enterprise-based work arrangements; and
- the standards emphasised formal course completion rather than broad competence acquisition processes.

Many employers continue to argue that the complexity of the VET system prevents industry attempting to help employees convert competence attained (through various means) into qualifications (NECA, 1998; The Allen Consulting Group, 1999). This is despite the Federal government's intention to link training more closely with employment and move to an industry and enterprise driven training system, which focuses more on the development of direct relationships between enterprises and individuals on the one hand and training providers on the other. The development of the VET training market over recent years and the introduction of New Apprenticeships from January 1998 illustrate these trends" (Selby Smith, 2001pp. 112-126).

Additionally, the capacity of formal VET training institutions to deliver training appropriate to the attainment of qualifications is sometimes questioned (Harris, Bone and Simons, 1998). A majority of employers are not confident what functions workers with particular types of qualifications can actually perform, and would like a greater input into course design (NCVER, 1999). Similarly, a recent study of the decline of apprenticeship uptake in the electrical industry found that qualifications, or at least courses designed to deliver formal qualifications, were losing their lustre. Many employers were valuing less what the traditional apprenticeship product could deliver. Instead they were increasingly favouring competence development that delivered '*the operative who can handle uncertainty and solve problems*' *(NECA , 1998, p. 23).*

Another recent Australian study by Burke, Costello, Malley and Shah (1998) of leading edge enterprises in a number of industries, found that training for skills in new technology areas was, in the first instance, usually provided on an in-house basis by established training departments. Moreover, each enterprise had experienced deficiencies in the existing institutionalised systems of training with regard to meeting new skill requirements. Interestingly, each company had a dominant profile within its industry sector that allowed it to set standards for sub-contractors and component suppliers, so that the enterprise was acting as teacher and diffuser of technology and skills to supporting companies. Under these circumstances, where the enterprise is setting the relevant standards, what benefit would there be in pursuing generalist industry qualifications? As argued earlier, enhanced employee mobility in general does little to help employers if the best employees are more likely to be poached by a competitor.

Chapter 2 – Different perspectives on training outcomes

Training outcomes – different perspectives

The outcomes of training effort undertaken at the enterprise level (as compared with international comparisons, *eg* McKenzie, 1998) are difficult to measure, and until recently have not been the focus of much research (Smith, 2001). The common understanding is that training *does* produce benefits for the organisation. However, very few studies have been able to quantify those benefits. Long, Ryan, Burke and Hopkins (2000) note that:

> *"... despite its importance, there is very little information in the literature about the rates of return to employer-supported education and training" (Long, Ryan, Burke and Hopkins 1996, chapter 5).*

Discussion in Chapter 1 suggests formal qualifications are a questionable measure of the outcomes of enterprise training effort, at least in the view of employers[3]. Since qualifications as the sole or even the primary outcome of training is questioned by employers (and too employees to varying degrees as will be discussed later), are there other more suitable forms of outcome measure for competence acquired? Consider the following quotation;

> *"Thus two breakfast cereal producers, alike in almost every respect, had adopted radically different approaches to their training. Whilst one enterprise had played a major role in the development of the Certificate of Food Processing and was implementing this for its shopfloor employees, the other had developed its own enterprise competencies and was delivering training customised to the needs of the enterprise rather than the industry." Smith (1997b, p.145)*

Are the employees in the second cereal producing company in the above quote likely to be less competent than those in the company pursuing training through formal qualifications? If they are equally competent, is there any additional value for that enterprise in obtaining nationally recognised qualifications? If not to the enterprise, are there benefits for the employees or the industry in general?

The types of outcomes from VET that *are* valued will vary depending on whose perspective is sought, and the circumstances from which the perspective is being constructed. Different views are held by various participants in the training process (Harris and Simmons, 1999), their views being shaped by a range of factors, including personalities and histories, self interest and work cultures. Three main perspectives are considered in the remainder of this chapter, *viz*.:

- those of employers;
- workers/employee perspectives; and

[3] However, it is not the thesis of this study that qualifications are a poor outcome measure. Rather, it is proposed that they are not the only, nor necessarily even the best measure of the outcomes of training effort, especially within enterprises.

- the union perspective.

Particular attention is given to the employer's perspective, because the overall research study is primarily interested in the viewpoint of the enterprise or employer.

Employer perspectives

Cost and benefit concerns

A number of papers in the collection edited by Lynch (1994) emphasise that there are important differences in firms' training needs, depending on a range of factors, including the initial skill level of workers. Oulton and Steedman compare the British system of youth training with Germany, Berg presents a comparative analysis of training in the US and German automobile industries, Hashimoto examines the employment-based training which is undertaken in Japanese firms operating in Japan compared to those undertaken in Japanese firms operating in Groot, Hartog and Oosterbeck consider the returns to within-company schooling employees in the Netherlands.

International comparisons of training in the private sector show there are significant differences across countries in enterprise responses to these training needs. For example, non-managerial and non-technical workers receive little skill-enhancing, formal training in the United States compared to their counterparts in Europe and Japan. An important common theme though argued by many is that if companies are to engage in training, they must see it as profitable for them to do so (e.g. Noble, 1994; Stokes, 1998).

A 1998 OECD study provided a brief summary of nineteen studies from nine countries, which demonstrated positive effects on productivity for firms from a variety of training programs (OECD, 1998, pp. 62-63). The (US) National Association of Manufacturers has also provided a collection of brief descriptions of positive outcomes of training programs in seventeen, generally fairly large US manufacturing companies (National Association of Manufacturers, 1998). ANTA and the Victorian Office of Training and Further Education have commissioned research to provide enterprise frameworks for estimating the return on training investments (*eg* Davidson, Doucouliagos, Macneil, Rimmer, Sgro and Watts, 1997), which have mostly shown very positive returns on training investment.

Despite the general level of professed enthusiasm for training and a belief in its benefits, individual enterprises still need to make very practical decisions aimed at achieving a balance between the benefits and costs of training (perceived or real). For instance, NECA (1998) revealed that (based on 1995 data) the training wage for apprentices in Australia was generally double the wages offered to apprentices (as a proportion of adult skilled wages) in most European countries. Indeed, because of the high training wage for apprentices *vis a vis* their output with respect to a qualified tradesperson, Dockery, Koshy, Strombach & Ying (1997) conclude that the "average" Australian firm fails to achieve a net benefit on its training of apprentices until year four of the apprenticeship. Interestingly though, while 78% of enterprises studied by Dockery *et al* were calculated to be making a net loss on their apprentices over the full term of the apprenticeship, 82% nevertheless still believed they were obtaining an overall financial benefit. In the face of this finding, Dockery *et al* surmised that:

> *"… employers have a strong commitment to apprentice training for reasons that are non-economic or not internal to the firm. These include an obligation to contribute to training in the industry, to contribute to the supply of tradespersons, to perpetuate their trade or to give a young person an opportunity." (Dockery et al., 1997: p. 267)*

Another area of almost unquestioned training investment is in new employees. Blandy, Dockery, Hawke and Webster (1999) found that about half of the time of incoming employees in Australian enterprises is taken up with training over the first three months of their

employment, compared with about a third of the time of incoming employees in the United States. While the investment levels of Australian employers (and workers) are higher, nearly all of the productivity gains from the training of incoming employees were captured by firms in Australia, compared with only about half of the productivity gains in the US. Blandy *et al* argue that taking these two factors together implies that employer-sponsored training is probably about as profitable to Australian firms as it is to US firms. The results suggest Australian enterprises are well aware of the costs and benefits of training; and that they reap good returns from the training they provide. Of course, there can be major differences in the profitability of training among enterprises.

Strategic and operational expectations

Rogers argues that industry believes in a broad link between training and innovation, research and development effort, and change (Rogers, 1999). More generally the Allen Consulting Group argues that there is a relationship between the knowledge and skills of workers and business performance, and in turn, investor support (Allen Consulting Group, 1999). Based on the views of over 350 Australian companies, the Allen Consulting Group found strong preferences amongst a significant majority of companies for quite specific outcomes from training:

- improved quality (94%);
- improved competitiveness (88%);
- multi-skilled employees (87%);
- health & safety legislative compliance (77%);
- workplace change (69%); and
- company commitment (67%).

Interestingly, few of the companies expressed a desire for their employees to gain qualifications.

Stokes (1998) found that most small businesses were content to see their employees gain qualifications, so long as the immediate benefits of training for the business were first satisfied. Achieving formal qualifications from the training of their employers was not their prime objective (see also Gibb, 1999).

The Allen Consulting Group study also noted that the professed views and intentions of industry are not always translated into appropriate training effort, either quantitatively or qualitatively. An obvious reason is that the strategic expectations of enterprise executives are not always enacted by individual line managers, who actually control most training judgements (Noble, 1994). At this level, there is a strong emphasis on training that can deliver immediate benefits (Noble, 1994). The training investment tends to be in key skills required to improve current productivity (Allen Consulting Group, 1999). Even at the executive management level though, professed strong training expectations are often in conflict with the remoteness of the training function from the key decision-making and strategic direction of the enterprise (Kane, Abraham and Crawford, 1994), and the beliefs and actions of managers in other human resource areas. For instance, the Allen Consulting Group found that there was strong support in the industries they surveyed for moving the development of most skills back to the pre-recruitment stage. This would save expenditure for the enterprise, but tend to enhance the need for qualifications as a means of determining the competencies of a potential recruit.

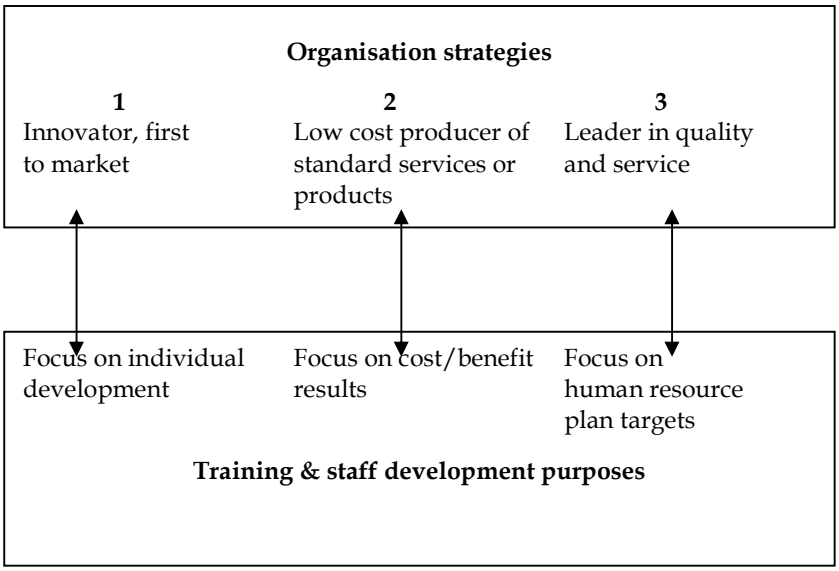
Business and training strategies

Kane *et al*. (1994) proposed three main purposes that enterprises might espouse as desired outcomes of training effort. They attempted to fit a number of top 500 companies surveyed into one of these three categories:

- focus on individual development;
- focus on cost/benefit results; and
- focus on human resource plan targets.

They found a relationship between these training purposes and the broader organisational strategies adopted by an enterprise. These relationships were not mutually exclusive. For instance, at a particular point in time an organisation might be pursuing both an individual development (short-term) and human resource plan (long-term) approach. However, the inherent conflict between different approaches 'forces' a predominant focus to be adopted. The relationships between organisational strategy and training purpose are illustrated in Figure 2.1 below.

Figure 2.1: Organisational strategy and training purpose relationship (adapted from Kane, *et.al*., 1994, p.114)



The first and third organisational strategies noted in Figure 2.1 above are most conducive to high levels of training investment. The cost/benefit approach essentially sees training as a 'cost' to be minimised. The organisation strategy of 'leader in quality and service' allied with a 'focus on human resource plan targets' as the training purpose is the combination which appears to be most likely to result in qualification outcomes for an enterprise's workers. This is because first, the emphasis on quality supports some form of 'certification' and second, because the long-term perspective accommodates the gradual attainment of a recognised qualification. In fact, Kane *et al* found few companies with executive managers who espoused the human resource plan approach. The most common training purpose was found by them to be the focus on individual development, with a further third of company executive managers favouring the cost/benefit approach. In practice, those favouring a cost/benefit approach were less interested in achieving measurable outcomes and more interested in saving money.

The Kane *et al* (1994) study results support the view that employers by and large look for outcomes that are to the benefit of the business. This is consistent with the findings of other studies (*eg* Noble, 1994; Stokes, 1998; Harris and Simons, 1999). Whether employers seek immediate benefits (for instance in the form of specific competencies to operate a new piece of equipment) or longer-term gains (such as increased competitiveness or enhanced company commitment), depends on the enterprise's strategic organisational (and training) direction. Hayton, McIntyre, Sweet, McDonald, Noble, Smith, and Roberts (1996) suggests that the size of the organisation will often be a factor in determining the organisation's stance. Smith (1997) further notes that even within an enterprise the 'interpretation' of the organisational direction may vary at different management levels; the levels closer to operations likely to adopt a more instrumental and less "far-sighted".

Types of employee

There is clear evidence that enterprises expend different levels of training effort on certain worker categories, with varying levels of expectation. The ABS surveys of education and training (ABS 1990, 1994 and 1998) found that the incidence of on-the-job training was related strongly with different employment characteristics, such as occupation, sector of employer, and employment status. It also varied by demographic characteristics of the trainee, such as age, State or Territory of residence, birthplace and level of educational attainment.

Outside the more traditional apprentice-like training programs and training for new employees (see above) it seems that employers are more discriminating in their training investment and their expectations. Here the barriers to obtaining qualifications seem more pronounced and influential. One of those barriers is that training can deliver competencies that do not add up to a recognised qualification (Noble, 1994; NCVER, 2000). Neither employers nor employees, at least on the basis of anecdotal evidence, appear to care much for qualifications in the form of 'statements of attainment' (Dutneall, *et al*, 1998), except when they equate to a discrete and observable endowment (*eg* a licence).

The differentiation, at least in the investment decisions of enterprises, between types of employee is a cause for concern with many observers (Piore and Sabel, 1984; Cutler, 1992; Payne, 2000). The Tavistock Institute (1998) refers to research that identifies a growing divide between certain types of jobs that are becoming 'knowledge rich' and others that are being gradually deskilled as a result of production processes that place the control of work in fewer hands. Rifkin (1996) describes this situation well:

> *" ...whatever vestigial control workers exercise over the production progress by programming instructions directly into the machine, which then carries them out verbatim. The worker is rendered powerless to exercise independent judgement either on the factory floor or in the office and has little or no control over outcomes dictated in advance by expert programmers." (Rifkin, 1996: p.182).*

On 'upskill' side of the above divide are professionals, managers and technicians, and on the other a growing number of peripheral forms of employment (the occupants of which make up the poorer and clearly disadvantaged side of a segmented labour market, Piore and Sebel, 1984). Payne (2000) amongst others notes substitution of 'soft' or 'generic' skills (*eg* work as part of a team) for 'technical' skills apparently desired by enterprises for many of their workers, and largely supported by VET policy, leads not to upskilling as many claim but rather to development of very basic skills. Any qualifications that arose exclusively from such training would, according to Payne, have limited value.

Worker/employee perspectives

The Allen Consulting Group (1999) suggest that employees are interested in formal qualifications to enhance their employment prospects and choices and to reduce their long term risk of unemployment. Employees see qualifications as a means of obtaining increased incomes and job satisfaction. The examination by Blundell, Dearden and Meghir (1996) of the determinants and effects of work related training in Britain offer conditional support for this stance. They note that work-related training appears to be particularly important for the wage prospects of individuals with intermediate-level school qualifications.

Formal qualifications do not necessarily result from the employer-provided training, although the returns to employees from employer-provided training are surprisingly transferable across employers. More importantly though, individuals in the UK with only intermediate-level school qualifications were found to be less likely to obtain work-related training, particularly that which led to a formal qualification (Blundell, Dearden and Mephir, 1996). This finding resonates with an Australian study by McKenzie and Long (1995). They found that those with post-school qualifications were much more likely to be engaged in training leading to further qualifications than those without existing qualifications.

Barron, Black and Lowenstein (1989) analysed the results of a 1982 survey in the United States, which provided information about on-the-job training given to new workers by 1901 US employers who employed people in low wage jobs. A 10% increase in training resulted in a 1.5% increase in wage growth for these employees and it appeared that training was the main cause of the wage growth. The training was estimated to increase productivity by twice as much as it increased wages. They concluded that employers benefit from the increased productivity that results from training, but that they return about half of this benefit as higher wages to their employees. A related study in the Netherlands by Groot (1997b) found that training raised management estimates of productivity by 16% on average, and wages for these workers rose by 3.3%. Employers were again benefiting from training, but in this European case they were passing a much smaller proportion on to employees and keeping a larger proportion of the total benefits for themselves.

From a human resource management perspective it appears that most employees can achieve most of their extrinsic reward expectations without obtaining a qualification. Employees understand that qualifications are a means of obtaining a higher rate of pay or a promotion, but also know that obtaining the qualification is no guarantee of reaping these rewards. As Long (1998) has shown, a significant proportion of the Australian workforce has a highest qualification in excess of that needed for their current job. In the longer term this discrepancy provides for flexibility in the face of changing conditions, which may benefit employees and their employers. In the short term the costs of education and training have been incurred and, especially if remuneration is related to current performance and not future potential, are unlikely to be offset by commensurately increased benefits.

Union perspective

In strongly unionised industries and enterprises there is a greater likelihood that the workforce will be pursuing formal qualifications than in industries and enterprises where the union presence is weak (Hayton, McIntyre, Sweet, McDonald, Noble, Smith, and Roberts, 1996). Unions have played an important role in linking qualifications to industrial classification systems, including remuneration and promotion (Curtin, 1994). Indeed, the tactic is part of an employee representative organisation's overall strategy tool kit.

Qualifications appear to be increasingly valued in industries where traditionally only tradespersons and professionals were qualified, possibly as a method of achieving greater parity in wages and conditions. This change may be related to the nature of those industries. Curtin (1994) notes the emergence of a new qualifications-based labour market for base grade or entry level personnel, broadly classified as 'operators'. He argues that such qualifications-based labour markets have emerged in the metals; vehicle manufacture; food processing;

textiles, clothing and footwear; cement manufacturing; and hospitality industries. Thus, there is evidence that industry factors influence the attractiveness of qualifications for different stakeholders.

Of course, employee representative organisations are not likely to be fixed on training, and particularly qualification outcomes, as a way to facilitate favourable financial and conditions outcomes for their members. Dutneall *et al* (1998) found that union officers would use qualifications as a means of obtaining member gains only when that tactic was judged to be most propitious. At other times more direct methods of bargaining might be employed that could result in more training effort (for instance as part of an enterprise bargaining agreement), that may or may not result in recognised qualifications.

Teicher has argued that the continuing individualization of the employment relationship, including the growth of nominally independent contracting and non-standard employment, is leaving a gap in the process of skill formation (Teicher, 2000).

Summary remarks

Many of those in the formal vocational education and training system in Australia (ANTA, state training authorities, RTOs) believe qualifications are the primary outcome of training effort. The literature suggests though, that employers, workers and unions are not as enamoured of qualifications.

Instead, employers, workers and unions seek a number of other outcomes from training, of equal or greater importance. For enterprises the valued outcomes of training are those which contribute immediately or strategically to the achievement of business goals. Thus training is beneficial because it means a new piece of technology is mastered and this contributes (indirectly) to the enterprise's profit and growth prospects. Or training outcomes result in longer-term productivity gains that are less easily attributed to training, but are none the less tangible to 'culturally' sensitive employers. Enterprises with cultures that are more amenable to higher levels of training effort are those that ANTA (2000) might term "high valuer" organisations, that Field (1998) might describe as having 'technocultures' that foster empowerment, and Hayton *et al* (1996) would probably identify as in a state of change. Whatever their 'culture', these enterprises tend to view qualifications at best as an intermediate measuring stick on the way to more valued outcomes of training effort.

For employees and unions, the outcomes sought tend to be both intrinsic and extrinsic rewards. Again, for this stakeholder group, qualifications are seen at best as a means to an end. For many of the valued outcomes, such as increased financial rewards, job satisfaction and job security, qualifications are not necessarily the most effective or the most economical means of achieving them.

This project

Having established qualifications are just one of several possible outcome measures, the place of recognised qualifications *vis a vis* other measures of training outcome becomes of more central interest. The purpose of the present research study therefore was to explore the relationship between total competence requirements of an enterprise for the performance of specific jobs and that part of the competence requirement that needs, in the opinion of employers, to be formally recognised[4]. Total competence requirements identified by an employer for a particular job can be categorised initially in two ways:

[4] The term 'recognised' is used throughout this document only with a very specific meaning. It means recognition of competence to confer a qualification as prescribed within the Australian Qualifications

- Competencies that are described (in part or full) in industry competency standards within endorsed Training Packages;
- Competencies that are not detailed in Training Packages but are nevertheless valued by employers in some other way.

The vocational education and training sector perceives the first category of competencies as relatively homogenous—in theory all units of competency within an industry competency standard are considered of 'equal' value or worth. Employers though appear to discriminate between competencies, expending different levels of effort on the development (training) and assessment of individual units or different classes of competency.

For instance, there are some employers who might want all competencies that fit within a Training Package recognised, or at least as many as will enable an appropriate qualification to be 'packaged' for their employees. The literature suggests though such employers are in the minority, and that most employers only want one or two units of competency recognised (*eg* fork lift operation).

Many employers prefer to train and assess to *enterprise* standards, which may be very similar in nature and content to relevant endorsed industry standards. Competency assessment is conducted 'in-house' to these internal 'standards' (which may be something as simple as standard operating procedures of the enterprise or work site). Assessment may be quite rigorous, but falls short of allowing competence to be recognised (in the sense used here, which is to confer a qualification). It falls short normally on one of two grounds, first because it is not against relevant industry competency standards, and second because the rules established in the relevant Training Package 'Assessment Guidelines' are not fully satisfied (for instance a requirement for external, third party involvement).

In other circumstances still, employers determine that verification of competence attainment does not require or warrant (formal) assessment effort. These may include competencies, which for various reasons are difficult to assess in the workplace, including competencies required by leading edge companies for which there are (as yet) no industry standards.

Various combinations of employer requirement of competency *attainment* and *recognition* are possible. This research project explores and quantifies the relationship between different groups of competencies. It is important to understand that a single employer may perceive and respond differently to several different groups of competencies, both between and within job categories.

Framework (including a statement of attainment for a single unit of competency or course 'module') or other accepted public body. Recognition of a competence invariably requires rigourous assessment procedures as established by the 'Assessment Guidelines' of a relevant Training Package.

Chapter 3 - Methodology

Introduction

There is an acceptance that qualifications capture only a small percentage of all skill acquisition by Australian workers (Daly, 1991; Hager, 1997; Black, 1997; DEETYA, 1998). However, despite substantial national investment in training, there has been very little research undertaken on the relationship between training and qualifications or other forms of training outcomes.

Against that background, this project was conducted as an explorative study. A case study method of information collection was chosen to try to tease out enterprise level issues that might provide insights into the relationship between training/learning and valued outcomes, including qualifications.

Enterprise case study selection

Studies were conducted in 23 case site enterprises distributed across 5 industry sectors. The five industry sectors were:

- Chemical and Oil
- Manufactured mineral products
- Plastics Rubber and Cablemaking
- Entertainment
- Libraries and museums

The five industry sectors selected for the study, described in detail in Appendix V, are all covered by the consortium partner industry training advisory boards; CREATE Australia and Manufacturing Learning Australia. Other partners in the consortium had built a sound knowledge of these industry sectors through years of consultancy and training delivery with relevant industry enterprises (see Appendix VI for details on the partners to this research effort).

This knowledge of organisations in the chosen industries was employed in the selection of the actual case study enterprises. Suggestions for prospective case study enterprises were invited from the respective boards of CREATE and Manufacturing Learning Australia. These suggestions were considered through consultation among the consortium partners, and a final selection made on the basis of a limited number of criteria (see below) and perceptions of the likely receptiveness of companies to be involved in a comparatively arduous data collection process. All of the 25 enterprises selected to participate in the study were initially enthusiastic. As a small case study type sample of enterprises, no pretence was attempted to gain a sample 'representative' of the industries included in the study, although as discussed below efforts were undertaken to at least ensure sufficient variety amongst the enterprises on a number of selection criteria.

In selecting enterprises for the study the primary criteria (with one exception noted below) was that the enterprise employed a significant proportion of their workforce whose jobs could be defined by the competency standards of one of the following Training Packages:

Training Package	Responsible ITAB
Entertainment	CREATE
Chemical, Hydrocarbons & Oil	MLA
Plastics, Rubber & Cablemaking	MLA
Manufactured Mineral Products	MLA
Libraries & Museums	CREATE

As secondary selection criteria, the following enterprise characteristics were considered:

- history of involvement with TAFE and/or the relevant ITAB;
- size of the enterprise (as defined by number of employees rather than revenue or turnover); and
- employee skill levels *(e.g. operator, trade, and technician).*

Some balance in the sample case enterprise population was attempted across these characteristics.

Initially letters were sent from the relevant industry ITABs (CREATE and MLA) to prospective case study companies, outlining the study and requesting participation. Prospective companies were called and appointments for an onsite consultation arranged. Two enterprises who originally agreed to be a part of the study subsequently withdrew at the last moment due to health (of the primary contact) and restructuring 'noise' (the selected enterprise was the subject of a takeover bid). As we were only informed late of the dropouts, it was not possible to recruit new enterprises to replace the two that could not be surveyed.

The 23 enterprises surveyed are shown in table 3.1 below.

Table 3.1: List of case study enterprises

Organisation	Description
Australian Broadcasting Corporation	Produce and broadcast film, television and radio programs. Large employer
Blue Circle Cement	Cement manufacturer, part of a larger national network of cross-owned cement manufacturing assets. Large employer
Boral Plasterboard	Subsidiary of a larger organisation manufacturing plaster based building materials. Large employer
Bridgestone Australia	Tyre manufacturer. Large organisation
Britax Rainsfords	Large manufacturer of component parts for the motor vehicle industry
Cartigny Pty Ltd	A medium sized enterprise producing plastic wrap and paper products.
Castrol	Oil mixing, packaging and distribution. Part of a large multi-site organisation
Casula Powerhouse Arts Centre	Gallery and museum, small employer
Ecolab	Subsidiary of large multinational batch chemical manufacturer specialising in a range of detergents. The site where data was collected, and at the time of collection, was a small employer
Hornsby Library	Council library, small workplace however

	part of a large employer (council)
Illawarra Performing Arts Centre	Entertainment venue. Small organisation
James Hardie Building Products	Construct non metal building materials for the construction industry, Subsidiary of a large multi-site organisation
Nowra Chemical Manufacturers	Small, family owned, batch chemical manufacturer of detergents
Nuplex Resins Australia	Batch resin-manufacturing plant. Medium size
Pirelli Cables Australia	Manufacturer of fibre optic and other plastic sheathed cables. Large company, one of only two in the industry
Rescrete	Large manufacturer within the concrete products industry, making building panels, tanks, pre-stressed beams
Rocla Pavers and Masonry	Manufacture moulded concrete products including pavers, retaining wall blocks and building blocks. Large organisation
Shinagawa Thermal Ceramics	Medium sized manufacturer of refractory products
State Library of NSW	Library, large organisation
Sutherland Shire Libraries	Council run library. Small worksite, however part of a large employer (council)
Sydney Opera House	Entertainment venue, large organisation
Vinidex Tubemakers	Large organisation which produces plastic pipes for the electrical and construction industries
WIPCO	Medium/small plastics injection moulding company, manufacturing a range of products for the packaging industry

A summary of the distribution of the case study enterprises by industry sector is outlined in Table 3.2 below.

Table 3.2: Distribution of companies by industry sector

Industry Sector	**Number of companies surveyed (%)**
Chemical, Hydrocarbons and Oil Refining (CO)	4 (17.4)
Manufactured Mineral Products (cement, glass, concrete and ceramics) (MMP)	6 (26.1)
Plastics, Rubber and Cablemaking (PRC)	6 (26.1)
Libraries and museums (LM)	4 (17.4)
Entertainment (Ent)	3 (13%)

One of the selected case study sites (as noted earlier), the Australian Broadcasting Commission, was different from all the rest in one important aspect—its technical workers were not covered by a relevant *endorsed* Training Package at the time this research was conducted. This enterprise was selected though on the basis of their desire to understand how current formal in-house training programs/courses could be reconciled with the qualifications framework of the newly drafted (and in the process of being endorsed) Film and Television Training Package.

Data Collection

A mixture of quantitative and qualitative data was gathered through interviews conducted with managers, sometimes with experienced workers in attendance. Both quantitative and qualitative data gathering was facilitated through visits to each of the study organisations. Visits would last between four to eight hours.

Data collection on enterprises

Information on enterprise characteristics was collected through a 12 page self-completion questionnaire. Generally this questionnaire was completed by the enterprise manager during the visit to the case study site, but in two cases it was completed by phone interview subsequent to the visit.

The questionnaire included data on enterprise size, quality orientation, training activity, learning environment and management commitment. The survey instrument used for this data collection was the same as that used by the consortium for another NREC study on the "*Implementation of Training and Learning in the Workplace*" (see Appendix II and the pending report on the study). The use of a common instrument allowed comparisons to be made on a range of variables, although in truth much of the data collected through the survey instrument proved superfluous for this study.

Data collection on competencies

An interview protocol was developed and piloted in two enterprises by the consultants. Findings from the pilots led to a fine-tuning of the protocol, which was then used in all subsequent case studies. For a copy of the protocol see Appendix I.

The interviewee

The case studies involved the consultants spending between half and a full day at each selected enterprise. Information was collected from interviews with managers and/or supervisors accountable for workers whose jobs were to be the focus of examination (see below).

The type of manager interviewed though varied from case study to case study. In the majority of cases at least one manager present was in what might be termed an 'operations management' role. This would be variously an 'operations', 'site', 'technical services' or 'production' manager title. In the smaller enterprises, the person interviewed would be the owner / manager.

In some of the larger enterprises, a section or branch director was interviewed, but more commonly a human resources manager was the principal person interviewed. Ten of the 23 case study sites where interviews were conducted involved a human resources management person, most likely a training specialist but in three cases a generalist human resources person. Invariably, a human resources interviewee would be accompanied by experienced employees (those performing the jobs under examination and therefore able to offer a potentially more complete and accurate assessment of the job and its competence requirements) or a manager/supervisor directly accountable for persons performing the jobs being studied.

While it was continually stressed in the interviews that it was an "enterprise management" perspective being elicited not a personal viewpoint, there is no doubt the different interview situations could have affected the data collection outcomes. In particular, the presence of experienced workers in collaboration with especially a human resources manager may have influenced the primary interviewee's responses. On the one hand, the manager response could have benefited from the worker presence by gaining a more realistic appreciation of the

job (as actually performed). On the other hand it could have distorted the true management perspective on competence requirements, and especially the need for recognition of particular competencies identified.

All interviews were conducted at the selected enterprise site, although some follow-up conversations to clarify certain points were conducted by phone.

Interviewers

The interviews were conducted by three of the four authors of this report in roughly equal numbers. The interviewers all had extensive experience in vocational education and training (including having collaborated to develop three of the five Training Packages pertinent to this study and worked extensively with one of the others), and were very experienced in communicating with personnel at the enterprise level. The interview team was supported, as noted earlier, by consortium partners to this research project including the two relevant industry training advisory boards.

Interview content

Interview subjects were asked to nominate "benchmark" or "typical" jobs in their enterprise covered by one of the Training Packages included in the study. Invariably, 'technical' jobs were chosen that were at the heart of the enterprise's process of production[5]. In all, the 22 enterprise case study interviews yielded a total of 72 jobs for analysis (64 separate job titles: see Appendix IV for a complete listing of the job titles covered), the number of jobs nominated by each enterprise ranging from one to 8. If qualifications were aligned with the jobs selected then they would range from Certificate II to at least diploma level (AQF 2 to 5), with the bulk of the jobs aligning with AQF 2 (28%) and 3 (42%).

For each job selected the person/s interviewed were requested to identify the competencies required to perform the job. Lists of competencies were created to present to ingenuous managers and workers especially to facilitate the identification of appropriate competencies (for an example of the type of units contained in each list see Appendix III). The method of conception of the lists borrowed from the framework devised by MLA in its "*Starter Kits*", introductory 'navigation' type documents to their Training Packages.

The "*Starter Kits*" themselves were based on a simple design principle that in most (if not all) Training Packages it is possible to differentiate between types of competencies. Payne (2000), somewhat pejoratively, comments on a "veritable galaxy" of competency types such as 'soft', 'generic', 'transferable', 'social', 'basic', 'technical', 'employability', 'key', 'management' and 'inter-actional'[6]. In this study though, in order to make the task as simple as possible for the interview subjects, we differentiated between only two basic types of competencies, *viz.*;

- 'industry' or '*defining*' units of competency, and
- 'enabling' or '*support*' units of competency.

Industry or job specific units of competence are those that help *define* the industry or sector in which the competence is to be employed (for instance plastic versus rubber) and/or the type of job the competent worker is able to perform (for instance injection moulding versus

[5] In the case of the service industry enterprises the jobs chosen were similarly critical to the 'production' of the services provided by that enterprise.

[6] Payne's apparent view on 'enabling' competencies is that increasingly jobs are being emptied of specific 'technical' content in favour of the creation of jobs that only require generic competencies to perform—leaving a primary labour market with few jobs rich in content, and a secondary labour market with many generic (and presumably low paid) jobs. In opting to acknowledge 'enabling' competencies in this report, the authors are not accepting as a corollary that jobs therefore will be created devoid of technical competence requirements.

vacuum forming). The following units of competence, extracted from all the Training Packages relevant to this study, are examples of 'industry' or 'defining' competencies:

Screen the film (CUE CIN 3A)
Make costumes (CUE COS 4A)
Operate chemical separation equipment (PMA PROC 208A)
Run blow moulding equipment (PMB PROD 11A)
Run continuous thermoforming equipment (PMB PROD 12A)
Assist clients to use information service effectively (CULLB201A)
Contribute to collection development (CULLB507A)
Undertake cataloguing activities (CULLB412A)
Operate a calcining kiln (PMC OPS 210 A)
Batch mix concrete (PMC OPS 260 A)
Operate container forming equipment (PMC OPS 245 A)

Each of these competencies will be easily associated with a particular job or occupational title. They define these jobs, differentiating them from other jobs in the same and other industries. For instance, the example units of competency listed above can be readily linked with and help to define jobs such as projectionist, costume designer, chemical plant operator, blow moulding operator, thermoforming equipment operator, library assistant, cement kiln operator, premixed concrete batcher and waremaker.

Employers and trainers within industry enterprises sometimes refer to 'enabling' or *support* types of units of competence as 'soft' skills. These are more generic competencies that could easily be adopted across a range of industries. Indeed, as discussed briefly above and in more detail below, there is considerable overlap between Training Packages in these enabling competencies (but not in the 'defining' competencies). Some examples of enabling competencies are:

Follow OH&S policies and procedures (PMA OH&S 100 A)
Apply quality processes (PMC SUP 190 A)
Complete workplace documents (PMB COMM 01A)
Provide service to customers (PMB CUST 01A)

The common areas covered by enabling competencies are:

- occupational health and safety
- communication
- training and assessment
- quality
- business management
- customer service
- product / materials handling
- maintenance

Interviewee task

Interviewees were first asked to identify those competencies that were required for the job. Having identified all the competencies required to perform a designated job (an opportunity to add competencies not listed was provided), the interviewee was then requested to discriminate between competencies that required recognition (in terms of a formal 'qualification') and others that required other forms of assessment.

At the conclusion of the interviews the lists of identified competencies then became a source of questioning with employers/managers in each enterprise. Reasons for, and attitudes

about, observed gaps between actual competencies and qualifications were probed. Interview data was supplemented by researcher observations, gathered while on the site and likely to be related to the company's 'training culture' and its business strategy.

Data analysis

Case study data were analysed in two ways:

Quantitatively - for each job, the number of competencies that had been described as being part of the job were separated into two groups: defining or job specific; and enabling. The competencies in each group were then counted.

The same process was followed for counting the competencies that were described as either requiring formal recognition (Group A), formal assessment, but not recognition (Group B), informal assessment (Group C) and no assessment (Group D).

Qualitative - A content analysis of the information collected through interviews was undertaken. To ensure all the relevant issues were answered, the information was partially 'processed' into broad areas of interest that mirrored the information requirements of the research questions. These broad areas of interest included;

- attitudes to qualification;
- attitudes to assessment;
- approach to training;
- impediments to the recognition of competence; and
- perceived differences between competencies.

Chapter 4: Exploratory themes

Preamble

As noted earlier, this study was intended to be exploratory in nature with a methodology that would hopefully enhance the sharpness of future speculation and conjecture on the issue of outcomes of enterprise training. The chief benefit of adopting such an investigative methodology has been the insight gained on a range of aspects of enterprise training and assessment. In the following sections of this chapter a number of content themes are explored, with both qualitative and quantitative data from case studies drawn upon to amplify the themes.

The themes to be explored in the following sections are:

- the existence of comparatively small numbers of competencies that define jobs/qualifications
- the relationship between recognised and non recognised competencies
- types of competencies likely to fall within recognised (or non recognised) categories
- assessment practices
- organisational and other influences on the way in which competence is achieved, assessed and recognised
- employers perceived value of Training Packages
- impediments to the pursuit of qualifications
- valued assessment outcomes (other than competence recognition)
- the relationship between enterprises and registered training organisations
- the force of enterprise change as a motivator of training, assessment and competence recognition

Defining competencies

Backdrop

Training Packages vary in size from less than one hundred to several hundred units of competency. The Training Packages relevant to this study, with details of their size in terms of number of units of competence, are listed in Table 4.1.

Table 4.1: Number of units of competency by Training Package

Training Package	Responsible ITAB	Number of units of competency
Entertainment	CREATE	98
Chemical, Hydrocarbons & Oil Refining	MLA	99
Plastics, Rubber & Cablemaking	MLA	131
Manufactured Mineral Products	MLA	71
Museum & Library / Information Services	CREATE	103

A further Training Package (Film and Television) was explored with one organisation (Australian Broadcasting Commission), but that Package has yet to be endorsed. That case study has hence been treated differently to all other case studies, and data from that study excluded from most of the quantitative analysis of competencies that follows in this chapter.

Table 4.1 above suggests that the five Training Packages listed contribute a combined total of 502 competencies to the national pool of units of competency. In fact, while all or most of these 502 units of competency might have a unique unit code, many will be very similar (if not exact duplicates). For instance, the occupational health and safety competencies in the MLA Training Packages all derive from the cross industry guideline standards published by the National Occupational Health and Safety Commission (NOHSC, 1998), and so are virtually the same in each Training Package.

Types of competencies

As part of the methodology of this project, described in detail in Chapter 3, the competencies from each of the different relevant Training Packages were segmented into sub-lists of competencies. The two basic types of competencies identified were;

- 'industry' or 'defining' units of competency, and
- 'enabling' or 'employability' units of competency.

The proportion of total competencies in each of the Training Packages listed in Table 4.1 above which is able to be classified into either 'defining' or 'enabling' categories is shown in Table 4.2.

Table 4.2: Segmentation of Training Package units of competency into 'defining' and 'enabling' categories

Training Package	Number & proportion (%) of 'defining' competencies	Number & proportion (%) of 'enabling' competencies	Total number of competencies in package
Entertainment	90 (91.8)	8 (8.2)	98
Chemical, Hydrocarbons & Oil Refining	80 (80.8)	19 (19.2)	99
Plastics, Rubber & Cablemaking	67 (51.1)	64 (48.9)	131

Manufactured Mineral Products	46 (64.8)	25 (33.2)	71
Museum & Library/ Information Services	76 (73.8)	27 (26.2)	103
Total	359 (71.5)	143 (28.5)	502

On average, the proportion of job defining units of competency in each Training Package accounts for almost three quarters of total units of competency, but this varies considerably between Packages. The defining units of competency could be further divided into industry or occupational sub-categories or streams (one might term these 'career' options). The number of these also varied between Training Packages:

Entertainment	15 streams
Plastics, Rubber and Cablemaking	6[7] streams
Manufactured Mineral Products	7 streams
Chemical, Hydrocarbons & Oil Refining	4 streams
Library	9 streams
Museums	6 streams

In the process of constructing the lists of competencies used in the case study interviews, it became apparent that many of the enabling/employability type units of competency drawn from different Training Packages (even those from the different industry sectors) were very similar. To facilitate the interviews and allow easier comparison between enterprises from different sectors and industries, enabling units from all the relevant Training Packages were grouped into a single generic list (which the researchers called "enabling" units). Grouping them together in this manner made the similarities and overlaps more apparent. Thus, from a possible total of 143 'support' or 'enabling' units of competency (see Table 4.2 above), a much smaller list of 98 distinct units of competency was able to be distilled after obvious duplications were eliminated (or collapsed into a single unit).

The creation of a joint list was validated indirectly by participants in the study. Often they chose 'enabling' units of competency relevant to jobs in their enterprise, but from Training Packages other than the one specifically developed for their industry. Of course, not all of the 'support' or 'enabling' competencies in the list were relevant in all industry sectors.

Narrow bands of defining competencies

A superficial examination of Table 4.2 above would suggest that most jobs are able to be constructed almost completely from defining or 'industry' type units of competency. Logic and anecdotal experiences dictate otherwise.

Indeed, a simple, unsophisticated level of analysis suggests that in general terms the number of defining, industry specific competencies is usually much less than the number of enabling competencies. For instance, if we examine the number of 'industry units' in each 'stream' then we can calculate that there is a mean of 8.8[8] units per stream (standard deviation 7.1). Not all

[7] The Training Package for Plastics, Rubber and Cablemaking (PMB 98) actually identifies 15 streams. These were known to be incomplete at the time and this project combined many streams to broaden the coverage. This approach was acceptable to the participating enterprises.

[8] If we exclude the Chemical, Hydrocarbons and Oil Refining Training Package from this analysis then the mean becomes 7.5 (SD 5.5). Chemical, Hydrocarbons and Oil Refining Training package is

of a stream's competencies will be suitable for all jobs, hence the number of defining competencies per job (on average) reduces further from the average of 8.8 units.

A more sophisticated analysis is possible by considering the make up of the 72 jobs for which details were obtained from employers. As shown in table 4.3 below, employers/managers identified a total of 3004 competencies required to perform these 72 jobs (an average of 41.7 competencies per job). Overall, just under one third (32.4%) of the units of competency identified as being required to perform the designated jobs were defining competencies. On average then, 13.5 defining competencies were identified per job assessed, however, as low as 2 competencies could be defining a single job.

Table 4.3: Type of competency by industry type

Type of competency	Entertainment (%)	Manufacturing (%)	Service (%)	Total (%)
Defining	184 (29.3)	454 (27.5)	335 (46.2)	973 (32.4)
Enabling	444 (70.7)	1198 (72.5)	389 (53.7)	2031 (67.6)
Total	628 (100.0)	1652 (100.0)	724 (100.0)	3004 (100.0)

Table 4.4: Average number of competencies per job in each industry type

Type of competency	Entertainment (n=10)*	Manufacturing (n=45)	Service (n=17)	Total (n=72)
Defining	18.4	10.0	19.7	13.5
Enabling	44.4	26.7	22.9	28.2
Total	62.8	36.7	42.6	41.7

*n=number of jobs described

The ratio of defining to enabling competencies identified to perform jobs varied between enterprise types when classified on the basis of industry type. Service industry type enterprise employers (libraries, museums) identified a significantly higher proportion (χ^2 = 91.1, df = 2, p<0.01) of defining competencies in their jobs.

While this project was not set up to examine the issue of different categories of competency, the use of the specially designed competency lists did validate the categorisation of units of competency into defining and generic units of competency. It is somewhat surprising that within a Training Package of over a hundred units of competency, for any one job there are often only a handful of units of competency which distinguish that job from many others in the same (or even another) industry. In some cases the difference between two jobs that industry may perceive as quite different can be distilled down to one unit of competency. For example in one of the manufactured mineral products organisations studied, the difference in competency between a 'Fettler" and a "Greaser" was reduced to one competency with the former requiring the competency "*Undertake track maintenance activities*" and the latter "*Apply grease and oil to machinery*".

Generalising this finding too broadly would be unwise, however, it seems two tentative hypotheses are possible:

- there exists a set of *enabling* or support competencies which are largely generic across a number (if not all) industries. This supports the thinking underpinning the development of cross industry generic guideline standards. The logical conclusion to this form of thinking is the system of a single database or bank of generic units of competency such as that pertaining in New Zealand (see Varanasi, 1999).

organised on a slightly different basis. However it is believed that the same general conclusions still apply.

- there are relatively few units of competency which distinguish one job from another. One would expect the emphasis in recognition to be on those 'defining' units of competence.

Another interesting issue raised by the figures in Table 4.4 concerns the number of competencies identified by enterprises as required to perform jobs. The jobs selected by enterprise managers for review ranged from Australian Qualifications Framework level II to level V, although most of the selected jobs would nominally fall within the AQF III level. The 'average' job (taking into account all AQF levels and industry types) was deemed to require nearly 42 competencies for appropriate performance, which varied between 37 and 63 for the manufacturing and entertainment industries respectively. These competency requirements need to be compared with the crude qualification requirements for Certificate III courses in each of the industries covered by this study (see Table 4.5 below).

Table 4.5: Number of competencies required for Certificate III qualifications in each of the Training Packages covered in this study

Training Package	No. of competencies required for CIII qualification	Average No. of competencies in each job reviewed
Entertainment	17[9]	62.8
Plastics, Rubber and Cablemaking	21	36.7
Manufactured Mineral Products	21	
Chemical, Hydrocarbons & Oil Refining	21	
Museum & Library / Information Services	20	42.6

The discrepancy between the number of competencies required to package a qualification, and that deemed by employers to be necessary to perform jobs, is stark. Of course such a comparison is not very refined. It does not take into account the types of competencies that might be required for the qualification, the crudeness of the 'average' competencies figure, and the possibility that employers (given an open list of competencies from which to choose) were not entirely discriminating in their selection process. However, the figures still give cause for consideration. Do they imply that vocational qualifications only account for a proportion of the competence needed to perform jobs appropriately (a situation that has long been recognised as the case for higher education qualifications)? Are employer expectations for competence totally out of kilter with what can reasonably be expected of workers? Can competence be neatly divided into that which needs to be recognised and that which is simply otherwise valued by employers?

Some of these questions are addressed in the following sections of this chapter.

Recognition and non recognition of competence

The recognition of competencies, the process of which is the basis of conferring qualifications, was found not to be a high priority for most enterprises. Moreover, enterprises seem generally not to conceive the recognition process as does the VET system—specifically and somewhat paradoxically, they do not consider recognition of competence to be synonymous with the attainment of qualifications.

[9] These crude statistics can be misleading as some packages (ie MLA TPs) state the total number of units required whereas others treat competencies as cumulative simply stating the additional number required for a Certificate III above a Certificate II.

Data from the case study interviews instead suggested 'level of assessment' was a key factor employers use in discriminating between competencies required for jobs in their workplace, and in this context recognition processes are seen as one 'form' of assessment. A possible classification of classes of competency by level of assessment the data identified was as follows:

Recognised competencies (A)

These are competencies that are assessed as per the 'Assessment Guidelines' in a relevant Training Package (and therefore will normally require involvement of a Registered Training Organisation or other third party authority). Assessment may be aimed at conferring a qualification. The term 'qualification' here is used loosely to include various forms of widely acknowledged certification of competency conferred by such bodies as universities and relevant authorities (eg WorkCover authorities, licensing boards, etc.) as well as VET qualifications. Thus, for the purposes of this research, a forklift operation ticket would be considered a 'qualification'. So too would a diploma conferred by the Australian Library and Information Association (ALIA) outside of, or prior to, the endorsement of relevant competency standards.

Formally assessed competencies (B)

Formally assessed competencies are those that have been assessed in a structured manner against a standard, likely to be other than the endorsed industry competency standards. The relevant standard could be workplace standard operating procedures, enterprise competency standards, etc. If assessment is against standards from a relevant Training Package, it will not be conducted in such a way (that is according to the 'Assessment Guidelines' in the Training Package) so as to lead to recognition. The assessment process for 'B' competencies involves collection and recording of evidence and some (however rudimentary) documentation.

Informally assessed competencies (C)

These are competencies assessed through subjective judgement. The assessment generally does not involve a structured process and will not be referenced to an objective (observable) standard. This does not preclude the assessor having a mental 'schema' against which assessment is made, which may act as a *de facto* set of standards. Experienced workers in 'buddy training' relationships will commonly be called upon to provide an informally assessed opinion of the 'buddy'.

Not assessed competencies (D)

Competencies may not be assessed (that is an employer chooses not to assess) for a variety of reasons which are difficult to disentangle. These may include competencies:

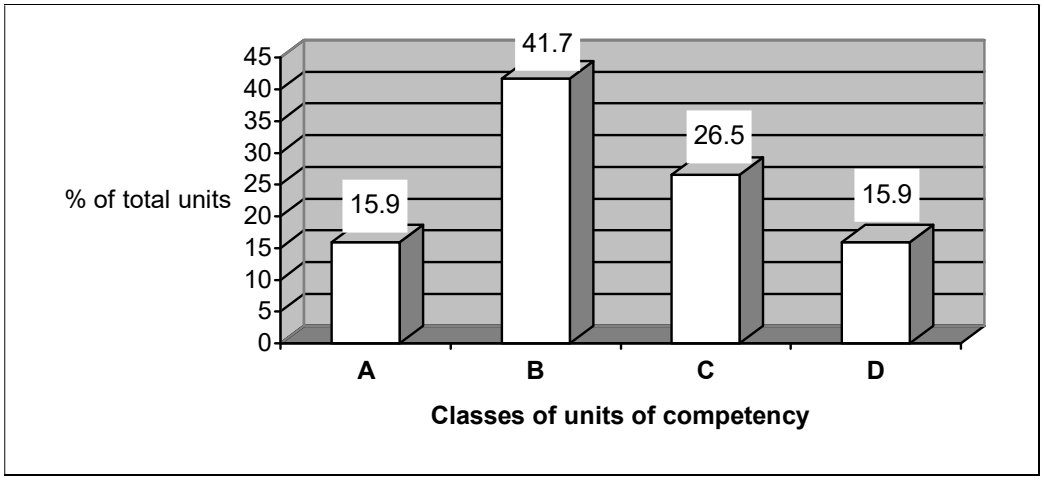
- from industry standards, not deemed important enough to assess
- that are important to performance of emerging, 'state of the art' practice, and as such have yet to be defined fully and standards of performance established
- that are difficult, uneconomic or impossible to assess in the workplace. This would include competence 'fragments'—competencies required for particular jobs that consist of only one or two elements of a larger unit of competency from endorsed industry standards.

- that may be required, but are not covered or defined by any existing competency in a Training Package or elsewhere in the Australian vocational system. These may include social, attitudinal or other non-defined 'technical" competencies.

These classes represent a continuum of assessment effort, from very formal, structured processes involving an institutional third party presence (*eg* a RTO) through to little or no assessment other than a broad intuition or feeling being pursued. Interview subjects were able to quickly grasp this four class classification system. And, when asked to review each of the units of competence they had identified as being relevant to the jobs they had chosen and indicate into what class they perceived each unit belonged, they provided what seemed cogent responses.

When competencies identified for all 72 jobs were analysed according to the above four-class classification system the results in Figure 4.1 below were obtained.

Figure 4.1: Proportion (%) of units of competency in each of the four classification categories



A = Recognised; B = Formally assessed; C = Informally assessed; D= Other

For the enterprises included in this study, assessment of competence in general is clearly important with 57.7% of all identified units of competency perceived as requiring formal and structured assessment (class "A" and "B" in Figure 4.1). Only a small proportion of those identified units of competency (16%), however, were judged by employers to require formal recognition (that is class "A" alone).

The comparison between defining and enabling competencies in terms of degree of assessment classification is detailed in Table 4.6 below.

Table 4.6: Number of competencies by degree of assessment categories and 'defining' or 'enabling' type competencies

Type of competency	Degree of assessment (% of row total)				
	A	B	C	D	Total
Defining	184 (18.9)	423 (43.5)	207 (21.3)	159 (16.3)	973
Enabling	296 (14.6)	828 (40.7)	589 (29.0)	318 (15.7)	2031
Total	480 (15.9)	1251 (41.7)	796 (26.5)	477 (15.9)	3004 (100.0)

A = Recognised; B = Formally assessed; C = Informally assessed; D = Other

The differences between the two classes of competency are slight but significant (χ^2 = 16.2, *df* = 3, $p<0.01$). The results suggest employers place greater assessment demand on those competencies that are supposedly most crucial to the 'production' processes (ie those

processes which directly produce the enterprises goods or services) of the enterprise; the defining competencies. The results in Table 4.6 lend some support also to often expressed views by employers that so called "soft" skills are as equally critical to business success as the "technical" skills (see Ridoutt and Willett, 1994; The Research Forum, 2000).

This relationship between the way defining and enabling competencies are treated remains even when industry differences are taken into account (see Table 4.7 below). Thus, even though the proportion of competencies falling into different classes of assessment varies considerably between industry sectors—for instance from virtually no formal assessment in the entertainment industry to over 75% of competencies formally assessed in the service industries—the relationship between types of competencies (within industry sectors) remains remarkably constant.

Table 4.7: Proportion of competencies by degree of assessment categories, type of competence (defining, enabling) and industry sector

Industry sector (n=jobs)	Defining competencies				Enabling competencies			
	Degree of assessment (figures represent proportion)				Degree of assessment (figures represent proportion)			
	A	*B*	*C*	*D*	*A*	*B*	*C*	*D*
Entertainment (10)	0.01	0.0	0.70	0.29	0.04	0.0	0.67	0.30
Manufacturing (45)	0.16	0.64	0.20	0.01	0.12	0.62	0.23	0.03
Service (17)	0.25	0.51	0.0	0.24	0.14	0.56	0.0	0.30

A= recognised; B= formally assessed; C= informally assessed; D= Other

A question raised by Table 4.7 though concerns the significant departure of the entertainment industry sector from the other two sectors. Comparatively, there is little or no perceived need by entertainment industry employers for any formal assessment of competence for the jobs chosen, most of which were equivalent to AQF 3 or 4 qualification levels.

Recognised competencies

Only a small proportion of the total competencies identified were perceived by employers as needing to be formally recognised (15.9%). As shown in the above sections, there is a small but significantly higher proportion of 'defining' competencies than 'enabling' competencies that need recognition.

A listing of the main groups of competencies that required recognition can be seen in Table 4.8.

Table 4.8: Competencies that required recognition

Competency group	No. of jobs that required formal recognition (%, n = 72)
Tickets, licences, etc. conferred by non training bodies	32 (44.4)
Training and assessment related	12 (16.7)
Occupational Health and Safety	21 (29.2)
Part of a tertiary qualification	10 (13.9)
Other *(job specific, site specific, communication - some companies require recognition for all the competencies required)*	9 (12.5)

All enterprises that required their employees to gain a licence or 'ticket' to perform part or the whole of the job followed the requirements set out for that legal compliance. This usually involved some form of external training, external assessment and is now more often than not, based on competency outcomes. Examples quoted for this category included: forklift driver's licence, rigging and scaffolding tickets and restricted electrical licence.

Non recognisable competencies

Interview subjects were asked to nominate competencies, outside of those provided to them in the competency lists, that they believed were important to the performance of chosen jobs. Only a small number of additional competencies were offered as follows:

- Business awareness
- Understanding the production budget
- Apply an artistic sense
- Empty the pit
- Monitor how everyone and everything else is going
- Advocacy
- Bridging the corporate goals and your area of responsibility
- Security of building
- Problem solving
- Plan and organise rehabilitation for individuals

Some of the competencies nominated (example "Empty the pit") are not really big enough to make a national competency. Others (example "Monitor how everyone and everything else is going") are arguably competency fragments which do not make up an entire national unit of competency or are encompassed by an existing unit of competency. Most though could be accommodated by importing from another Training Package (example "Plan and organise rehabilitation for individuals"), or emphasising where appropriate the development of key competencies (example "Problem solving"). Alternatively, customising existing units for enterprise specific purposes would accommodate most of the enterprise needs.

No evidence was obtained that, at least for the study population of case study enterprises, there exists a significant body of competencies outside of Training Packages that employers value.

Assessment practices

It is misleading to think of enterprises in dichotomous categories of assessment effort. The case studies revealed that there are few enterprises that fit neatly into discrete categories of "assessing" or "non assessing" effort. Rather, assessment effort should be viewed as a continuous variable, where enterprises can be placed along a continuum of assessment effort (from no effort, to assessment for competence recognition). It is also important to understand that this variation occurs equally within enterprises; that is, assessment effort varies from section to section and from job to job within an enterprise.

All the enterprises included in this study had some form of assessment in place for the jobs considered by interview subjects (although not, as described in earlier sections, for all competencies). Over half (13) of the case study enterprises had largely formalised assessment processes. The other 10 enterprises were mainly relying on informal systems.

In this context, formalised assessment was defined by written procedures, record keeping processes and accountabilities of the parties involved in the assessment process, which are

agreed upon and written down. Nine of the thirteen enterprises assessing formally mentioned they had qualified work place assessors available in-house, while another enterprise had links to external assessors via a partnering arrangement with a Registered Training Organization (RTO). Six of the enterprises with qualified in-house workplace assessment resources also had RTO assessment auspicing arrangements.

Informal systems were characterized by *ad hoc* processes and limited accountability. Some form of recording might be included, but the documentation is likely to be minimal and simply recording the judgement (rather than the assessment process or evidence of competence).

One case study company (a small chemical manufacturer) with typical informal assessment processes is illustrative. They currently conduct nearly all their training using the 'buddy' method, where a new or inexperienced worker is partnered with an experienced, 'competent' worker for a length of time. Training within this method is structured only by referring the mentor or 'competent' worker within the buddy relationship to the relevant SOPs (Standard Operating Procedures). Training (and assessment) move through five stages as follows:

> Stage 1: packing and labelling packaged (in bottles for instance) goods
>
> Stage 2: packaging non dangerous goods
>
> Stage 3: packaging dangerous goods
>
> Stage 4: mixing, making and packaging powder products
>
> Stage 5: mixing and making liquid products

Progress from one stage to the next (which in the enterprise's remuneration system equates to a promotion) is largely based on the intuition of the mentor. Thus, after an acceptable lapse of time, the supervisor asks the mentor if the 'trainee' is ready to move on, and if the answer is 'yes' then mastery of the current task is assumed complete. While competence at Stage 5 can entail high levels of safety, commercial (the cost of loss through irreversible mixing mistakes for instance), and environmental risk, the requirement for formality of assessment effort does not increase. One can only assume the 'competent' worker takes these factors into account when making a judgement, retaining the inexperienced worker in a learning situation until all doubt evaporates.

In other case study enterprises the supervisor was found to be making a judgement on a worker's ability to perform in the job.

The effect of enterprise type

Possible enterprise factors

It is conceivable that the 'culture' of an organisation has a large influence on that organisation's approach to assessment and the desired outcomes, including qualifications, from assessment effort.

Organisation culture is a nebulous concept. Many attempts to define organisation culture, at least in respect to the effect on training/learning, have not proven very fruitful. The case studies in this research revealed several enterprises that clearly had 'cultures' conducive to training, and in some cases to the pursuit of qualifications. Seeking common attributes and characteristics of these enterprises though was not, at least qualitatively, an easy task.

In an attempt to gain some insight into enterprise characteristics that might be important, the organisations involved in this study have been broadly categorised on a number of characteristics:

- technology – is the means of production or service delivery high or low technology
- history of formal qualifications – does the enterprise have a history of training or hiring people with qualifications
- type of organisation – public or private sector
- size - large or small, based on number of persons employed (>199 employees = large)
- ownership – local (that is Australian) owned or owned by an overseas company

The influence of these enterprise characteristics on the types of competencies valued, and the level of assessment effort, is explored in the next two sections.

Enterprise factor influence on type of competence

First it is important to explore the influence, if any, of these enterprise factors on the types of competencies selected by employers to make up jobs. Table 4.9 below considers the characteristic of level of technology. The data shows that high technology enterprises describe jobs with a significantly higher proportion ($p<0.01$, $\chi^2 = 10.14$, df = 1) of defining competencies.

Table 4.9: Type of competency by level of technology

Type of competency	High	Low
Defining	682 (33.9)	291 (29.3)
Enabling	1328 (66.1)	703 (70.7)
Total	2010 (100.0)	994 (100.0)

Tables 4.10 to 4.12 show that public sector organisations, locally owned and smaller enterprises also have significantly higher proportions of defining competencies in the description of the jobs of those types of enterprises.

Table 4.10: Type of competency by public/private sector

Type of competency	Public	Private
Defining	458 (37.1)	515 (29.1)
Enabling	776 (62.9)	1255 (70.9)
Total	1234 (100.0)	1770 (100.0)

($p<0.01$, $\chi^2 = 19.2$, df = 1)

Table 4.11: Type of competency by size of organisation

Type of competency	Large	Small
Defining	501 (29.7)	472 (35.8)
Enabling	1183 (70.3)	848 (64.2)
Total	1684 (100.0)	1320 (100.0)

($p<0.01$, $\chi^2 = 12.1$, df = 1)

Table 4.12: Type of competency by ownership

Type of competency	Local	Foreign
Defining	713 (34.9)	260 (27.0)
Enabling	1328 (65.1)	703 (73.0)
Total	2041 (100.0)	963 (100.0)

($p<0.01$, $\chi^2 = 18.79$, df = 1)

Where an organisation has a history of recognising competencies/qualifications (for instance in libraries), there seems to be a even higher proportion ($p<0.01$, $\chi^2 = 82.9$, df =1) of defining competencies in the jobs in those organisations (see Table 4.13).

Table 4.13: Type of competency by history of recognition

Type of competency	Has a history (%)	No history (%)
Defining	335 (46.3)	638 (30.0)
Enabling	389 (53.7)	1642 (70.0)
Total	724 (100.0)	2280 (100.0)

Enterprise factor influence on competence assessment

As discussed in an earlier section, the level of assessment judged to be required by employers is different for defining and enabling competencies (see Table 4.14). As will be shown in Tables 4.14 to 4.17 in this section, the relationship between defining and enabling competencies remains constant within enterprise groups formed on the basis of particular enterprise characteristics.

Similarly, several enterprise factors have an influence on the level of assessment of competencies chosen by employers. For instance, the level of technology used by an employer to create products or supply services (high or low) affects the proportion of competencies formally assessed (approximately 64.6% of defining competencies in organisations with high levels of technology and 57% in low technology enterprises). This difference is significantly different at $p<0.01$.

Table 4.14: Proportion of defining and enabling competencies by level of assessment and technology level

Technology level employed by the enterprise (bracket number is enterprises)	Defining competencies				Enabling competencies			
	Level of assessment (see codes below)				Level of assessment (see codes below)			
	A	*B*	*C*	*D*	*A*	*B*	*C*	*D*
High (15)	16.7	47.9	30.4	5.0	13.3	37.0	42.5	7.0
Low (7)	24.1	32.9	0.0	42.9	5.9	40.8	29.0	15.7

A = Recognised; B = Formally assessed; C = Informally assessed; D = Other

As was expected, organisations that have a history of qualifications, have a higher proportion of total (defining and enabling) competencies recognised (61.5% for enterprises with history of qualifications, 21.5% for those without)

Table 4.15: Proportion of defining and enabling competencies by level of assessment and history of qualifications

History of qualifications (bracket number is enterprises)	Level of recognition							
	Defining competencies				Enabling competencies			
	A	*B*	*C*	*D*	*A*	*B*	*C*	*D*
Yes, there is a history (4)	37.3	33.4	0.0	29.0	24.2	22.4	0.0	53.5
No, no history (19)	9.2	48.8	32.5	9.5	12.3	45.1	35.9	6.7

A = Recognised; B = Formally assessed; C = Informally assessed; D= Other

Within the case study population of enterprises, if the enterprise is a private sector organisation, large, and foreign owned, then there is a likelihood that the enterprise will be formally assessing a high level of defining competencies (>70% of total competencies). This is shown in Tables 4.16 to 4.18 below. The pattern for assessing enabling competencies is also shown to be higher for private sector, foreign owned organizations. However, size has an inverse effect, with small organisations assessing the highest proportion of these competencies.

Table 4.16: Proportion of defining and enabling competencies by level of assessment and type of organisation

Type of organisation (n)	Defining competencies (%)				Enabling competencies (%)			
	Level of assessment (see codes below)				Level of assessment (see codes below)			
	A	B	C	D	A	B	C	D
Private (17)	11.5	60.4	16.3	11.8	14.2	59.0	18.0	8.8
Public (5)	27.3	24.5	26.9	21.4	15.2	11.2	46.8	26.8

A = Recognised; B = Formally assessed; C = Informally assessed; D = Other

Table 4.17: Proportion of defining and enabling competencies by level of assessment and ownership

Ownership (n)	Defining competencies (%)				Enabling competencies (%)			
	Level of assessment (see codes below)				Level of assessment (see codes below)			
	A	*B*	*C*	*D*	*A*	*B*	*C*	*D*
Local (14)	9.2	81.5	9.2	0.0	15.6	69.4	12.9	1.9
Foreign (8)	22.4	29.6	25.7	22.3	14.0	25.6	37.5	22.9

A = Recognised; B = Formally assessed; C = Informally assessed; D = Other

Table 4.18: Proportion of defining and enabling competencies by level of assessment and size of organisation

Ownership (n)	Defining competencies (%)				Enabling competencies (%)			
	Level of assessment (see codes below)				Level of assessment (see codes below)			
	A	*B*	*C*	*D*	*A*	*B*	*C*	*D*
Large (>199 employees)	24.0	47.8	44.3	7.9	12.8	34.2	43.3	9.7
Small (<200 employees)	18.4	48.7	5.9	26.9	17.1	49.9	9.1	23.9

A = Recognised; B = Formally assessed; C = Informally assessed; D = Other

Why do these enterprise characteristics appear to influence the propensity to conduct formal assessment of competence? In some ways the results are counterintuitive. However, consideration of one particular case study might at least allow scope for supposing why these factors may be linked.

This case study enterprise, in the past a small, locally owned, private sector enterprise, had little need for formal assessment of its small number of workers. However, after being acquired by a foreign owner, and becoming part of a larger nationally distributed organisation, the need for formal, structured assessment was being reappraised. This was because the desire for uniformity and standards of competence across the expanded workforce could be controlled best through a more structured assessment approach. If this argument is followed through, then the lower emphasis in public sector organisations on formal assessment of competence, a surprising finding, could be explained by the fact that

uniformity and standards in such organisations are better enforced through well developed and followed policies and procedures.

The relationship between training & assessment

It is generally assumed that training and assessment effort is correlated. That is, an enterprise adopting a formal, structured approach to training for instance will be expected to follow the same approach to assessment (possibly resulting in recognition of competence). To test this assumption, each of the case study enterprises was categorised on the basis of their training approach. Three broad classes were applied *viz*.:

- Unstructured – training occurs but with little or no structure or formality
- Structured – training occurs in an organised way, but not related to any formal system or qualification
- Formal – training follows some formal curriculum/Training Package and leads to formal qualification.

Eight enterprises were involved in 'formal' training for their workers. They were doing so either by sending their workers to an external provider (RTO, typically TAFE), or conducting structured on-the-job training programs in partnership with an external RTO. In all cases the internal training efforts of these organisations were significant. In the case of the on-the-job training arrangements, the concerned enterprises have formed dynamic partnership arrangements, where the organisation plays a significant role in the training while the RTO basically provides specialist services and a quality audit role.

A further five case study enterprises were following a 'structured' approach to training. Of the 13 enterprises adopting a training approach which was categorised as either 'formal' or 'structured', 10 of these are large organisations. That is, most of the large organisations were using structured or formal training for their workers (83% of large organisations). Similarly, five of the six public sector organisations had taken a formal or structured approach to training. Thus, organisations that tend to have formal structures and formal procedures (large and or bureaucratic organisations) are more likely to also have structured (including formal) training. This is hardly surprising.

What is surprising though is that the seemingly strong relationship between structure and formality of an organisation 'culture' and the approach to training extends only tenuously to the approach to assessment of competence. As can be seen from Table 4.19 below, the expected pattern holds for enterprises where a formal training approach has been adopted—over 80% of competencies are formally assessed with over half of those recognised. The expected pattern though is not apparent for those enterprises adopting a structured training approach, indeed enterprises with no structure in their training are just as likely (if not more likely) to assess their workers' competence using formal, structured assessment approaches.

Table 4.19: Proportion of defining and enabling competencies by level of assessment undertaken and type of training

Type of training (n)	Defining competencies				Enabling competencies			
	Level of assessment (see codes below)				Level of assessment (see codes below)			
	A	*B*	*C*	*D*	*A*	*B*	*C*	*D*
Unstructured (9)	0.04	0.63	0.22	0.10	0.09	0.59	0.21	0.10
Structured (5)	0.05	0.50	0.45	0.00	0.05	0.44	0.49	0.02
Formal (8)	0.44	0.37	0.00	0.20	0.22	0.48	0.02	0.28

A = Recognised; B = Formally assessed; C = Informally assessed; D = Other

Why this should be so is not clear. Based on the assumed correlation between training and assessment mooted above, one would have expected a nice linear relationship in Table 4.18, with unstructured training related directly with the least structured assessment approach.

One explanation can be developed from a consideration of one of the case study enterprises—a concrete products manufacturer. This enterprise had committed to structured training (based on the relevant competency standards) on the rationale that it was a more efficient way to use their supervisor/trainer resources. In respect to assessment though, there was no compelling argument for a commitment to structure or formality. On the contrary, the types of products made in this enterprise had comparatively high tolerance levels, meaning the products could be manufactured slightly off specification yet still be acceptable to their customers. Under these conditions, the enterprise could afford to simply observe the "training outcomes" in terms of finished product, and thus informally assess competence. In another setting (for instance a cement manufacturer), the tolerances on departure from product specifications may be very low, or the cost of poor quality product very high, in which case the need for structured assessment will be pressing.

Another possible explanation is that since most of the enterprises with unstructured training approaches were smaller enterprises from the manufacturing industry sector, there is a minimum level or number of competencies that need structured assessment, regardless of how those competencies are attained.

The use (or non use) of Training Packages

Of the 23 enterprises the subject of a case study, nine claimed they were using, or about to use, a relevant Training Package to support delivery of enterprise based training. A further company was accessing formal off-the-job training for its workers, the end result of which was to be qualifications (against a relevant Training Package[10]).

This is a high proportion (just over 40%[11]) of enterprises claiming to employ the support of a Training Package for their training effort. The case study population is clearly atypical in its adoption of Training Packages. When compared with the findings of another study conducted by the authors of this report[12] (31% of enterprises), which were also deemed to be above average adopters of VET practice, the case study sample enterprises are more innovative again. This increase may in part be due to the increasing number of Training Packages available.

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[10] While the qualification was Training Package based, the company itself did was unaware that it was 'using' a Training Package.

[11] Remember that one of the 23 case study enterprises did not have an endorsed Training Package yet to access.

[12] The study titled "*Factors that influence the implementation of training and learning in the workplace*", was also funded by NCVER. It involved an intensive mail questionnaire survey of over 250 enterprises. The study has yet to be published.

Nevertheless, since each of the 22 eligible enterprises selected for the case studies had purchased a relevant Training Package, it begs the question as to why over half the case study enterprises were not using a Training Package.

The literature would suggest that non-adoption of Training Packages (in so far as it would result generally in an increased amount and type of training effort) is a rational decision made by enterprises based on an assessment of the costs and benefits. Indeed, while there is a voluminous literature on the supposed need for and inherent value of training, very few studies have been able agree on or quantify the benefits of training at the enterprise level, particularly in comparison to the more than obvious costs (Long, Ryan, Burke and Hopkins, 1996).

The interrogation of case study enterprise managers on this issue suggests less sophisticated impediments to the adoption of Training packages. Perhaps the simplest reason for not using a Training Package is ignorance about the content and purposes of Training Packages. Most of the case study enterprise managers confessed that the Training Packages were purchased with a totally different understanding of a Training Package in mind. They generally found the Training Package they received to be daunting documents, a prime reason why MLA had developed a "*Starter Kit*" for at least one of the relevant Training Packages, and is currently having "*Starter Kits" developed for its other Training Packages*.

It is possible that the pattern of adoption of Training Packages is beginning to slowly change. Several of the enterprises not using Training Packages appeared to be on the brink of doing so, or are likely to be tipped into adopting behaviour by a gradually expanding awareness/knowledge base and an appropriate change in circumstances in their workplace (in favour of adoption). Happily, the main impediments to the greater use of Training Packages seem to be assailable through smart marketing, appropriate support resources and conducive workplaces (about which more will be canvassed later).

Of equal, perhaps even more interest than reviewing the behaviour of those enterprises not adopting Training Packages, is to explore why enterprises are using (or are intending to use) Training Packages. The answers seem to fall into the following categories:

- to qualify their workers
- to train their workers
- to structure their workforce
- they are obliged to.

These are further explored below.

To qualify workers

For the majority of enterprises in this study using Training Packages, a qualification for their worker is regarded as a by-product (not unwelcome, but not particularly sought) of a process of skills upgrade for the worker. This attitude in part reflects several thought processes articulated in interviews by enterprise managers:

- when recruiting, manufacturing industry managers in particular, view qualifications as a considerably less important selection criteria than the nature and breadth of (relevant) work experience gathered, and where (what enterprise/s) the experience was accumulated
- the attainment of a qualification could lead to a wage claim, without necessarily providing enhanced value to the enterprise

- often the competencies required to perform jobs competently are less than is required to compile a qualification, especially if only defining competencies are considered crucial[13]
- in some industries, the attainment of a qualification could enhance the worker's perceived (or real) prospects of being successful in the job market (for instance gaining a better paid job)

Two of the enterprises embracing the Training Package approach were the exception to the above, in that they actively pursued qualifications for their workers. These two manufacturing companies declared their interest and involvement in formalised qualifications was driven by concern for employee morale. Both opined that the direct impact of the added skills or competence from completing a training program in order to obtain a qualification was 'expected to be low'. The benefits to the organisation would therefore not stem from the marginal increase in worker competence (in progressing from only the competence immediately required to perform a specific job to fulfilling qualification requirements), but rather the impact on the worker of the additional recognition and status of the qualification. They believed that productivity, quality and safety would improve, not directly from the knowledge or skills gained, but from the improved wellbeing of the employees gaining the qualification.

To train workers

Training of workers has historically varied between enterprises depending on the traditions and culture of the industry sector, and even the individual enterprise. Some of the more important determinants of variation (*eg* workplace change, technology, quality management, organisation size) are canvassed in Hayton *et al* (1996).

Enterprises are beginning to recognise the benefits of structuring their training around a Training Package. It would be accurate to say that a decade ago nearly all the case study enterprises, the exceptions being the libraries and one of the public sector organisations, had comparatively unstructured, informal 'buddy' type training processes. In the intervening years, these enterprises generally have added structure to their training effort, first through simple documentation of the job (job descriptions/specifications) and processes (standard operating procedures), and then second through increasingly sophisticated articulation of the skill requirements (from simple skill lists to enterprise competency statements). Several of the case study enterprises have now adopted the Training Package as a tool to structure their training. Others are considering this same path.

One case study enterprise for instance, a manufacturer in the non metallic minerals sector, had been gradually progressing from totally unstructured 'buddy' training to the use of internal 'standards' in the form of work instructions as a means of improving their training. They had moved to adopt national competency standards as the basis of their training since the internally drafted standards "were not delivering what they needed" in terms of training outcomes. As more resources structured around their relevant Training Packages become available, this enterprise believes it will reap the rewards of the investment in change.

Those enterprises using a Training Package as a training structure identified several advantages, *viz.*:

- the skill requirements are already defined
- government subsidy is available in some cases
- it links the training to an industrial relations structure

[13] This view is not supported by the evidence gathered by this research and discussed previously in this chapter.

This last point seems to be the more persuasive advantage cited for using a Training Package to structure training. Uniformity of training, and portability of qualifications, are generally seen by enterprises as being of lower importance, particularly in those enterprises with stable workforces. Being able to link training directly to remuneration is a compelling reason for using a Training Package structure. This of course presupposes that the connection between the competency standards structure of the pertinent Training Package and the relevant industrial award/agreement is robust. The Metals and Engineering Training Package provides an obvious example of competency standards closely linked to an industry award. Several companies in the case study sample were party to the Metals award.

To structure the workforce

When using a Training Package as a basis for the workforce structure, qualifications *per se* assume relatively less importance, although the Qualifications Framework is still used to guide the assembly of competency based job descriptions and define 'levels' of competency. For many enterprises with stable workforces, the key issue arising from this competency based job description is not one of training, but rather one of assessing in order to fit existing workers into the structure on some rational basis. This may lead to a skills audit and so gap training. It may also lead to up-skilling of the workforce, for instance as part of a drive for increased efficiency.

One of the plastics, rubber and cablemaking sector case study enterprises serves as an example. They had advanced competency based remuneration systems for several years, a desire with which the union had been entirely complicit through a number of enterprise agreements. The enterprise though had slowly come to realise that basing the remuneration on internally constructed competency 'standards' had resulted in serious anomalies between worker categories with some workers being rewarded at levels higher than their true value to the company (and vice versa). This enterprise was scrutinising the relevant Training Package carefully as a potential means of better aligning competence development (and assessment) with real work value levels. Moreover, the national acceptance of Training Packages could provide a way around likely union objections to change (that might stem from a need to protect some workers' existing fortunate situation).

Of course, all of the above discussion is predicated on the existence of a strong nexus between the relevant industrial relations and Training Package structures. This is not always the case. The strength of the relationship between the Training Packages relevant to the case study enterprises in this research and their respective industrial relations awards/agreements varies. While the relationship in all cases is implicitly acceptable, case study enterprises in a number of instances pointed out potentially crucial problems.

One such problem, while not fatal (indeed the enterprise had fully adopted the Training Package), concerned a large case study enterprise manufacturing plastic components as part of their broader business. This company was inclined to employ the Plastics, Rubber and Cablemaking (PRC) Training Package to drive its training effort and to define qualification outcomes. However, at the Certificate III operator level, the enterprise believes a worker requires 27 units from the current package to be fully functional in their workplace. However, the qualifications framework specifies a need for only 21 units of competency (if selected appropriately) to obtain a Certificate III qualification. What to do with the 'excess' 6 units of competence? The worker/union would be reluctant to attain these competencies without some reward (either a formal qualification or increased remuneration, or both). On the other hand, the enterprise is certainly not interested in paying almost Certificate IV level pay for what they believe is a person competent only at Certificate III level. In essence, the enterprise resolved the dilemma by directing training effort using the PRC Training Package, but remunerating competence levels according to the Metals award. It is conceivable that enterprises will in future, if the opportunity presents itself, assess Training Packages as

alternatives based on what benefits they can bring to the enterprise. Thus, a 'market' for Training Packages could be created[14].

They are obliged

At least one case study enterprise was adopting a Training Package based workplace structure which would in turn lead to Training Package based assessment of workers – not because they had perceived any need themselves to do so, but because their parent organisation had decreed that it would be so. This parent organisation was, in turn, responding to external (perceived or actual) pressure to adopt a Training Package based workforce structure.

The case study enterprise did not seem to object to this approach. On the contrary, it had perceived some benefit as it had forced an analysis and clarification of jobs. While this was an effective mechanism to increase the use of a Training Package, it is probably not an effective pathway for attaining widespread increase in the adoption of Training Packages.

Impediments to pursuing qualifications

In the previous section it was noted that most of the enterprises that are implementing a Training Package program are only marginally interested in qualification outcomes. Other enterprises, as discussed in earlier sections, while often committed to assessment effort for a significant proportion of competencies, nevertheless have limited interest in assessment for recognition purposes. Therefore, each case study enterprise was asked about the factors that would stop them from pursuing workplace based vocational qualifications (those described by Training Packages).

It is generally assumed by those 'on the inside' of the training system that the benefits of qualifications are widely understood. Much of the benefit that the VET system perceives in qualifications is underpinned by adopting a strategic, long-term (and possibly nationalistic) view. Employers in the case study enterprises take a different perspective. They are heavily focused on the 'now' issues of production, quality and deadlines, in an increasingly cost and time pressured environment. In some cases it was found that enterprises had sophisticated training, assessment and recognition systems but were not aware of, or not willing to, move to national qualifications. In most cases, qualifications were simply superfluous to their needs. Some of the nuances of enterprise opinion on qualifications are covered below.

First, five case study enterprises (two from the entertainment industry and three from manufacturing) can be gathered on this issue into a single group. All had their own in-house structured training system, but were in the process of moving towards a competency-based approach, with the standards in the relevant Training Package being adopted or actively considered. These enterprises though were not intending to proceed all the way to qualifications. The reasons for moving to competencies from the Training Packages focused on the uniformity and structure offered by this approach (see above section), but qualifications by-and-large were perceived to be of no benefit.

A second group of nine enterprises (all manufacturing except for one service organization) had internal training systems, based on their own definition of skill needs. None of these

[14] This is an interesting peripheral finding of this research that possibly deserves more investigative attention. Several of the case study enterprises can feasibly choose between a number of Training Packages. For instance, as noted in the case study example, most plastics manufacturers can choose between the PRC or MERS Packages, and some can also include the Vehicle Industry Package. Similarly, many library enterprises are in a position to choose between the Libraries & Museums and Local Government Training Packages. Employers might be tempted to adopt a Training Package seemingly unrelated to the award to which they respond. In this way, they can potentially optimise both the training effort and the human resources cost implications.

enterprises offered externally recognised qualifications. In most cases the training systems were structured and met the needs of the enterprise. Impediments to moving to Training Package based qualifications were varied in this group. Three stated it was inappropriate or saw no gain in changing, three balked at the cost or complexity of change, and the last three had no real impediments to change (but would require an incentive to make the effort).

There was a final group of four case study enterprises, none of which had any structured workplace training. However, this special group (mostly libraries) that has been mentioned before, were content to accept externally gained and bestowed qualifications in lieu of their own training effort. Mostly qualifications in these enterprises were required pre-employment, but for those employed before qualifications became *de rigueur*, encouragement was offered to attend relevant off-the-job TAFE courses part-time, or otherwise be restricted within limited career options. Paradoxically, given the strong worth these enterprises placed on the possession of qualifications, these same enterprises saw little value in workplace based training or workplace assessment for qualifications. On the job training was found to be largely *ad hoc*, very specific to enterprise circumstances, and assessed at best informally. The chief objection from these enterprises to workplace training in keeping with Training Packages principles appears to be ascribing credibility to on-the-job training and competence recognition *vis à vis* the traditional external course pathways to competence. When the credibility of workplace training is accepted, as in one of the case study libraries, cost issues, exacerbated by falling staffing levels, intervene to make practical implementation difficult.

Assessment outcomes (other than qualifications)

It was noted in a previous section (see Figure 4.1) that a high proportion of competencies identified as required to perform the selected jobs need, in the view of employers, to be assessed (86%). Interestingly though, while most competencies are seen to require assessment, including at a sufficiently formal level to require evidence and documentation (58%), only a small proportion of competencies are perceived by employers as requiring recognition.

A significant proportion (over 90%) of the total competencies designated as requiring recognition are accounted for by approximately one third (eight) of the case study enterprises, all of whom claimed vocational qualifications were a condition of employment for their workers. Three of these enterprises (large service organizations, see above) used externally gained qualifications as a pre-employment requisite (these were pre-Training Package diploma qualifications). These enterprises indicated between 50-70% of required competencies were obtained pre-employment (through the qualification). Employers accepted pre-employment qualified workers needed to broaden and enhance their competence once on the job, but they were less likely to see benefit to recognising such workplace based learning.

The remaining enterprises clearly perceive qualifications as only one of many reasons to carry out assessment in the workplace[15]. The case studies revealed the following assessment outcomes are relevant to at least some of the case study enterprises:

- Productivity/quality/safety improvements
- Award/agreement requirements
- Performance measurement/review

[15] Even the eight enterprises committed to a qualifications pathway have other reasons for valuing assessment effort.

Productivity

All the manufacturing and some of the service and entertainment enterprises mentioned productivity, quality or safety improvements as outcomes from their assessment effort. The respondents saw a direct link between the enterprise's ability to assess competence and improvements in the operation. This finding is in keeping with much of the qualitative data findings of Hayton *et al* (1996) and the companion study by this research group reported elsewhere (see Smith *et al,* 1994). In both those studies quality and productivity improvements were reported by enterprises as a major factor driving training effort[16], and clearly an (competency) outcome that would need to be measured.

Quality and productivity are interesting outcomes to measure. Both can be measured independently of competence assessment, indeed many would argue that the true measure of productivity in particular is evidence in the enterprise's 'production' (per unit of input). Of course, many of the case study enterprises are from service industries (libraries, museums, theatre companies, etc.), where organisational productivity and quality can be more difficult to measure. Maybe a proxy measure of organisational performance in these circumstances, like improvement in workforce competence, is a more attractive measure.

Award or agreement obligations

Six of the manufacturing enterprises made reference to competency assessments being conducted as part of their award or enterprise agreements. These enterprises used formal assessment against competencies to determine progression from one job or competence level to another. Generally the outcome for workers of progression was a remuneration increase.

The assessment systems in each of the six enterprises were formalised, and had procedures and agreed roles for those involved. The competencies assessed in some enterprises were internally drafted and accepted, in other enterprises the national competency standards (from the relevant Training Package) were adopted. There was observed a possible gradual movement towards supplanting enterprise competencies with national competency standards, but on the basis of the number of cases it was impossible to determine whether there was a trend, and if so if it might have any strength. It could be hypothesized though that once an enterprise progresses as far as crafting its own competencies (often by combining standard operating procedures with generic skills requirements), the right conditions for further moving to national standards can be easily facilitated.

There are sound reasons for proposing this hypothesis, and discussion of one of the case study enterprises is quite instructive. A large manufacturer, this enterprise has evolved through a number of enterprise agreements gradually improving in-house developed competencies. The enterprise has attempted to negotiate for improved workforce flexibility in return for increased financial rewards. In order to protect their negotiated gains, management has come to realise that the existing assessment mechanism (based on imprecise and unevenly constructed 'chunks' of competence) is too open to exploitation.

Many of the other case study enterprises had similar, although informal, processes in place.

Performance review

In those enterprises where awards or agreements are not competency based, performance review or appraisal outcomes can be derived from competency assessment. Some of the service enterprises and one manufacturing enterprise mentioned performance review as a formalised assessment process.

[16] Strangely though the qualitative data findings were not replicated in the analysis of the quantitative data, except in respect to a relationship between quality concerns and formality of training effort.

The few case study enterprises using competency assessment as part of performance review tended to direct their review attention more towards the 'staff' employees than the 'operators' or 'shop floor' employees. In no case was competency assessment used for performance review alone, rather it was incorporated within a context of appraisal of achievement of job, team or organisational goals, targets or service measures. These reviews were linked to the remuneration systems and sometimes the career system.

Relationships with RTOs

The training reform agenda has brought with it many promises and espoused benefits. One of these has been the promise of improved relationships between workplaces and Registered Training Organisations (RTOs). The recent changes to the vocational education and training system in Australia has brought in particular:

- User choice
- Employer obligations for work place experience
- Concept of partnerships with RTOs
- Promise of flexible delivery

What have the case study enterprises seen of these changes? Have they been able to capitalise on the freeing up of the system through these reforms? Are there still issues around the relationships with RTOs?

Only nine of the 23 case study enterprises had any history of a relationship with a RTO. This sample, while very small, nevertheless provides many interesting stories about benefits (and costs) of dealing with external training providers. None of the case study enterprises had become an RTO, although three had entertained the idea of doing so before making a decision to 'outsource', arguing that it was "not core business" to be so engaged in training matters.

In all but one of the enterprises in a relationship with a RTO, the relationship was with a TAFE institute. In the case of the three libraries, the relationship with TAFE was confounded to some extent by an overarching relationship with the Australian Library and Information Association (ALIA).

Four large manufacturing enterprises had strong relationships with a local TAFE, characterised in the words of the respective enterprises as "like a partner". At least one of these relationships was described as 'cosy', where very good cooperation had been built up between the enterprise and the TAFE college. Overall, the relationships seemed to be mature and business focused, and the benefits accruing to both partners appears to be 'following the book' in terms of ANTA expectations. In all four cases, TAFE was providing flexibly delivered off-the-job training, at the work-site. Assessments in the workplace with TAFE and enterprise assessors working together were being carried out.

In the case study enterprise where the relationship with TAFE was described as cosy, the relationship had gone beyond delivery of training and assessment services, to joint curriculum development work, and even defining of competencies for jobs as yet uncharted by Training Packages. This relationship determines the way the enterprise approaches training. It allows it to harmoniously integrate theoretical, underpinning knowledge into what ostensibly remains on-the-job training. This is done through the development and distribution of self-paced learning booklets to workers, learning which is supplemented by regular short workshops that are conducted by a relevant RTO training with an enterprise 'expert' in a team teaching approach.

One of the case study enterprises had its employees trained and assessed through an industry cooperation. The cement industry some time ago established the 'Cement School' whereby nationally recognised training and assessment is provided to the industry nation-wide. Off-the-job training is provided in Victoria for cement industry employees from all over Australia. The employees go to this program, then return to their worksites for the on-the-job components. The industry involvement is widespread and commitment to the program is reported by managers as good.

While most of the case study enterprises currently in a relationship with a RTO were satisfied, the development of the relationship was frequently via a rocky pathway. A description of the history of one case study enterprise in their search for training 'partner' is illustrative. The enterprise, a medium sized plastics manufacturer, had attempted over the years to have training adapted and customised to their specific workplace requirements. Initially, the enterprise supplemented their basic unstructured buddy training by selecting the best machine operators and sending them to external TAFE Certificate courses. From the perspective of the enterprise, the experience was poor, training being often inappropriate to their needs (both immediate and longer term), and the assessment processes dogged by low credibility[17]. The next move came with the purchase of new, technologically advanced injection moulding equipment. One of the owners and a very senior operator were sent to Germany to learn from the equipment manufacturer the best way to operate the moulding machine. Subsequently, the equipment supplier was asked to provide on-site training support to untrained workers. While the quality of the training was thought to be of a high standard, the enterprise remained disappointed because of the limited availability of the supplier. Finally, the enterprise lobbied TAFE to deliver the training on the enterprise site. This satisfies most of the enterprise's training requirements—it is specific to their operational needs; it is delivered through a mix of theoretical and practical content, with sufficient grounding in theory to develop problem solving competence; the learning results/ outcomes are clearly visible and happening "under the noses" of management.

The thinking behind this medium sized enterprise's journey towards their current relationship is interesting. As a small to medium sized business it was difficult for them to master the complexities of the vocational education and training system, except to understand there was something to be gained. As such, they have looked to external 'experts' in the past to help them master the VET maze. This, as noted above, was not always successful. However, the owners/managers of the enterprise never developed allusions as to their own ability or availability to properly deliver training. Nor did they feel their better operatives were either capable or appropriate for training, especially if this removed them significantly from the main purposes of the business. Clearly this was not an area of expertise (training) they felt they needed to master, but rather one they could (and should) 'outsource'.

For the last 4 to 5 years the enterprise has been seeking a training approach based on "on-line, on-site" external training support for existing unstructured ('buddy') training effort; and with the most recently formed relationship with TAFE, is beginning to achieve its aims. The enterprise's owners, however, remained concerned that their strong position within the relevant industry association might have given them a bargaining position with the RTO that would not be common with small to medium sized businesses.

Indeed, this is an almost subliminal theme in respect to RTO:enterprise relationships, all the case study enterprise relationships with RTOs seem to work best when the power balance resides with the enterprise. In this situation, RTOs act like all other suppliers of goods and services to the enterprise, delivering to the requirements of the specific needs of that

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[17] Criticism included the comment "TAFE never fails anyone", and this has led to the enterprise re-assessing the competence of their employees after completion of TAFE studies, and calls for the industry association to obtain RTO status and assume assessment only functions.

enterprise (otherwise a new supplier will be sought). Either because of size, political stature, or simply self confidence and persistence, the case study enterprises with RTO relationships in this research had all managed to structure the relationship to their advantage (and hopefully that also of the RTO).

Change as a motivating factor

In an earlier companion study to this research, *Factors that influence the implementation of training and learning in the workplace*, a number of organisational factors which could influence the volume and type of training were examined. A factor of high significance that emerged from that study was change. Organisations which had experienced or were experiencing change were the most likely to engage in higher training effort.

This variable was not examined independently in this study as most of the organisations were experiencing change at the time of the study. The case studies though offer a window through which an understanding can be obtained, of how change acts within enterprises to increase and structure their training effort, including moving to Training Package based training and assessment.

The first example is one of the large manufacturers. Approximately 12 months ago the enterprise underwent a powerful exercise of strategic visioning at the executive and middle management levels. For reasons which are unclear, but quite possibly because of the inclination of the consultant/facilitator, the strategic importance of the company's human resources were not only considered, but afforded high priority as potential influences on the company's future success. As a consequence, training became a major thrust in the company's strategy for staying competitive over the long term, and possibly gaining a competitive ascendancy in the medium term future. A future change in direction of products to which the enterprise was already committed only enhanced the need for a capable and flexible workforce. Reinforcing the change process, the consultant/facilitator involved in helping the company develop its strategic direction, has subsequently been employed in a training management capacity to oversee the implementation of what are in essence sweeping changes to the training/learning culture.

In practice, the enterprise has shifted towards a stance of total training, with everyone ultimately scheduled for training to minimum competency standards for quality production. To shoulder such sweeping change in training effort, and to ensure suitable benchmarks against which progress can be measured, the relevant Training Package was adopted. This meant turning from semi-structured 'buddy' type training with no formal outcomes, to qualifications referenced outcomes. The process starts with recruitment. All new recruits must have a Certificate I level qualification in an appropriate area of competency. The enterprise has invested heavily in VET in Schools programs, and recruits many of its new personnel from this source.

New employees are asked to choose a career pathway upon entry to employment (for instance in moulding, tooling, trades, etc.). After choosing, recruits are then required to be signed up under a traineeship. This entitles the enterprise in most cases to claim subsidy support. Training will then proceed to develop trainees to minimum Certificate II but generally Certificate III level in their chosen 'career'. The attainment of qualifications is seen as the most visible sign of attainment of competency, and while accepted as not without fault, is believed to be the best current approach. The enterprise believes that what qualifications lack in terms of being able to fully capture competency requirements for their jobs (at relevant Certificate levels), they make up for in delivering workers with satisfaction and giving them a sense of job security.

A second example enterprise can be described more simply, not in the least because the organisational change has occurred, but the resultant effects on training effort have not yet been felt and are still in planning. This enterprise, a medium sized manufacturer of chemical products, was until only a short time before the study a small enterprise. An acquisition by an overseas company though of the enterprise, along with similar sized companies in each Australian state (all manufacturing a similar line of chemical products), had created the medium sized enterprise. Because of the newness of the acquisition, the enterprise was still behaving, in terms of training effort, as would a small enterprise, with largely informal, unstructured training processes (and little formal assessment).

It was noted that the growth in size of the company nationally had allowed the corporate entity to employ a dedicated human resources manager. The addition of this resource would clearly provide the necessary infrastructure to support a more efficient and structured approach to training, and a more formal method of assessment. At the same time, the joining together of a number of disparate enterprise units under a common corporate label would require issues of uniformity and corporate standards to be addressed. These issues would be especially pertinent to competency development.

Chapter 5: Discussion

Introduction

This research study was based on intensive data collection and analysis at 23 separate enterprise case study sites. In some respects the study was not a 'normal' case study approach, in that significant quantitative data was collected. A specific tool was constructed to facilitate examination of jobs in terms of competencies, and to then allow investigation of competencies identified in terms of outcome expectations. This meant that observations could be made at two different levels of analysis—the enterprise or case study level and the unit of competency level. The methodology is described in more detail in Chapter 3.

The remainder of this chapter highlights a number of points of interest that arose from this study. The points of interest capture both reflections on the original research questions and new issues that arose during the course of investigations. A common thread, hopefully, is that each point in its own way introduces a new perspective on the way enterprises approach training outcomes.

Different perspectives on outcomes

The study as noted above focused on employers' expectations in respect to the outcomes of training.

The scant literature available relevant to this area strongly intimated that qualifications for workers (especially arising from enterprise based training) is not a principal concern of employers. Training is meant to contribute to the profitability of the business; anything else that derives from that is potentially welcome but secondary (Noble, 1994; Stokes, 1998).

Employers do not necessarily always have a sound understanding of the relationship between the costs of training and the resultant business benefits (Long *et. al*., 1996). Frequently they seem to work off a "gut feel" to cost/benefit assessment, something to which many of the managers interviewed in this study could easily relate. Part of the tolerance employers display in calculating the costs and benefits relates to the actual difficulty of isolating the influence of training effects and ascribing causality. An equally important part also appears to be the context in which such decisions are made; granted training decisions are frequently made with short-term even immediate ends in mind, but even then often with more strategic company and industry outcomes under consideration. This, Dockery *et al* (1997) might argue, could explain the approach of employers to trade training. By all objective measures it barely, if at all, returns a gain on the training investment over the full term of the apprenticeship, and yet, most employers *believe* trade training delivers them a financial benefit. It is a case no doubt of both (1) the cost/benefit appraisal being beyond most enterprise's capacity to easily calculate, and (2) the strategic goals of contributing to the supply of tradespersons and to perpetuate the trade skills base that underpins broader industry viability. Some enterprises may also seek to contribute, for example to their local community, on a more altruistic basis.

In lieu of well grounded measures of the immediate benefits to their enterprise from training, employers have a preference for specific outcomes from training that they relate, however indirectly, to business profitability. The Allen Consulting Group (1999) listed these as:

- improved quality;

- improved competitiveness;
- multi-skilling of employees;
- compliance with occupational health and safety legislation; and
- workplace change.

In this study, increased enterprise quality, safety and productivity were both credible and valued outcomes employers expected from training effort. Modern management theories tend to identify companies being strong in these characteristics as likely to be better performing and highly profitable. For example, Bartol, Martins, Tein & Matthews (1988) emphasise that occupational health and safety is an area of employment which is receiving increasing attention as a 'marker' for sound management practice.

Competence outcomes in quality and safety in particular are assessed formally by many of the case study enterprises. Enterprise performance in the areas of quality and safety is comparatively easy to measure, and not significantly more difficult than assessing the competence of individuals in these same areas. For instance, easy to collect statistics on loss time injuries provide a widely accepted means of measuring enterprise OHS performance. Why employers bother to assess *individual* competence in these areas and not actual enterprise performance is an interesting question. Perhaps enterprises are concerned to know not just that enterprise improvements have been achieved, but also that they can be sustained through improved worker competence. Moreover, as 'trailing indicators' of OHS performance, such as loss time injuries, become less discriminating and a poorer indicator of from where future improvements can be pried, 'positive indicators' of performance are being more strongly advocated (*eg* Hopkins, 1994) and adopted by enterprises.

Similar issues surround quality management. For instance, in non manufacturing enterprise environments such as libraries, museums, and entertainment venues, measuring improvement of an *enterprise* in quality can be an abstract exercise, and therefore assessing *worker* competence in quality is more feasible (and objective). Insufficient investigation of this issue was undertaken to do more than develop hypotheses.

Notwithstanding all of the foregoing, none of the 23 enterprises studied in this project raised objections to the pursuit of qualifications either by the worker acting independently (through attendance at training courses) or through enterprise based training effort. Some indeed made it incumbent upon workers to achieve a qualification as a pre-requisite to employment. This was particularly the case in relation to libraries. Some made recognition of some competencies a requirement of being able to perform certain parts of a job (for instance drive a forklift). Apart from these cases though, competence to perform the job, in whatever way it was assessed (see below), was the critical outcome being sought not a qualification *per se*. Those who expect vocational education and training to produce a qualifications outcome only (or even primarily), need to revisit the antecedents of the Training Reform Agenda (*eg* Dawkins, 1988) and assess what was really meant to be achieved.

The perspective of employees towards the outcomes of training was not specifically investigated in this study. The literature review revealed that the views of employers and employees are likely to be different (Allen Consulting Group, 1999), but evidence to support this contention is limited. On the contrary, like employers, workers often appear to be more concerned with being competent to perform their job well, and content to believe that rewards such as higher pay, faster promotion or improved job satisfaction will flow axiomatically from this consequence. Studies of the returns to workers from employer provided training seems to support this view, at least in respect of wage prospects (Blundell, Dearden and Meghir, 1996).

While an employee perspective was not garnered in this study, one aspect that is interesting to speculate on is the at times large discrepancies between the number of competencies identified by employers for workers to perform their jobs, and the much lower number of

competencies required to obtain a qualification. On average, employers identified a need for 15 to 20 more units of competency than required by relevant packaging rules to obtain appropriate AQF level qualifications for the job being examined. It would be tempting to ascribe this to natural exuberance on the part of the employer to expect more of workers than might be reasonable. However, this same result has been obtained in other unpublished studies by the authors at least in one similar industry (plastics, rubber and cable making) where respondents have been *employees*. In these studies too, employees have almost universally identified many more competencies required for their jobs than are required to construct a qualification from the relevant Training Package. Does this mean that both employers and employees are confident that they can obtain qualifications whenever they choose? Or that qualifications are simply 'lesser' than what is generally the accepted standard in the workplace and they are therefore undervalued? These are possible questions for another study.

Not all competencies are the same

The literature review findings highlighted that not all units of competency are treated equally by employers. There are at least two ways employers differentiate between competencies, first between critical jobs (Cutler, 1992) and second within jobs between those competencies considered more critical to productivity (Payne, 2000). It was hypothesised that employers would differentiate amongst competencies by requiring recognition[18] only of those competencies that they believed were critical to the outcomes of the business. The study found that employers do in fact discriminate in consistent ways between different types of units of competency.

First, most employers identify only a few units of competency (on average less than five) that in their opinion require recognition. There were three main types of competencies that employers consistently target for recognition:

- competencies associated with 'tickets' and licences conferred by non training bodies;
- competencies associated with training and assessment;
- competencies associated with occupational health and safety

These types of competencies listed are in many ways examples of 'negative' motivational forces. Employers are not necessarily positively disposed towards assessing and recognising competence, but they are required to do so by legislation, regulation, rule or for fear of the consequences. Examples of competencies that might be included in this group are:

- forklift drivers licence;
- rigging and scaffolding competency tickets;
- restricted electrical licence;
- workplace training and assessment qualifications
- permits for working in confined spaces.

[18] A reminder that this term is used here, as in other parts of the document, to mean formal assessment and recognition against industry competency standards as set in a relevant Training Package.

The fourth type of competency that employers believe require recognition is job specific competency [19]. There were slight (though significant) differences found between the proportion of defining and enabling competencies requiring recognition. The significant difference though was almost entirely attributable to the situation pertaining in the service industries, and overall, despite the statistically significant finding, the distinction between 'defining' and 'enabling' competencies is not clear cut. Smaller sized enterprises for instance were keener to formally assess and/or recognise enabling competencies than larger enterprises.

The absence of an unequivocal preference for defining competencies should not be surprising. Employers consistently advocate the importance of generic or so called 'soft' skills in the workplace (Ridoutt and Willett, 1994). Research conducted for ANTA's national marketing strategy found that generic skills (as compared with "job-specific skills") were more popular with employers, especially in enterprises with turnover greater than $5 million (The Research Forum, 2000). Some commentators though see any trend towards valuing 'enabling' competencies above (or instead of) 'defining' or technical competencies as a source of concern, prompting visions of large numbers of jobs from which meaningful content has been emptied (Cutler, 1992; Payne, 2000).

Second, employers generally believe that all competencies they state are required for good job performance should be assessed *at least* in a formal, structured way (if not assessed for recognition). Leaving aside competencies identified by employers in the entertainment industry, a majority (58.6%) of total competencies identified by enterprises are required to be formally assessed. Just over one quarter of the other competencies identified, required 'informal' assessment according to employers, and 16% required no assessment.

Assessment model

A simple means of classifying competencies on the basis of assessment methodology rigour was mooted in Chapter 4. The categories are arbitrary in many respects, and purport to do no more than model assessment effort in the workplace as a continuous variable. In this sense, we agree with the thoughts of Toop, Gibb and Worsnop (1994) who concluded that any assessment system is highly "context bound".

There are several aspects to note in this classification. First, the total competence requirements identified by employers for effective employment, even that part of which can be properly mapped to relevant industry competency standards (groups A, B and C), is invariably more than is needed to construct a qualification. Second, the proportion of competencies falling within each classification group varies between industry sectors, and within industries between enterprises. Even within enterprises, the proportion of competencies allocated to different categories varies between jobs and labourforce classes (*eg* trades jobs versus operative roles).

One of the difficulties with the classification model is the use of terms "formal" and informal" and "structured" and "unstructured". The terms are used widely in vocational education and training, especially in relation to training (for example, Smith, 1997; The Research Forum, 2000), although often without a precise definition.

In the domain of assessment, the terms are particularly ambiguous. Formal assessment is generally understood within VET circles as judgements of competence based on defined criteria using clear methods of assessment and documentation, but 'informal' assessment, unlike informal *training* (a term accepted even if there is little consensus on what it means), is not widely acknowledged. In this study informal assessment has come to mean judgements

[19] For instance, "operate an injection moulding machine" in the case of an injection moulder, or "screen the film" in the case of a film projectionist.

of competence formed in the workplace based on sometimes ill-defined (or poorly articulated) criteria and in the absence of any documentation.

Some will argue that this is not assessment at all. We would argue that at best (done by very experienced people) it can be a very cost effective assessment approach. Clearly, one can envisage a circumstance where a very experienced assessor with a well constructed internal 'map' of assessment criteria could conduct a more rigorous "informal" assessment (without documentation) than a less experienced person conducting a "formal" assessment using inappropriate tools. On the other hand, in the hands of an inexperienced or disorganised supervisor / mentor, informal assessment could be very subjective (and possibly inefficient). Nonetheless an assessment is still taking place. In a discussion of informal assessment in the context of RPL, a VEETAC (1993) paper suggested it served well the purpose of building self confidence and esteem, and may be suited to clarifying training or career interests.

Inevitably, the terms are used as proxies only to describe and gauge the level of assessment effort, the assumption being that 'formality' and 'structure' equate with high levels of assessment effort and methodology rigour. This may well be the case, but only if formality involves commitment to principles of fairness and validity, and structure is translated into more objective, relevant and observable forms of evidence gathering.

Terms less open to ambiguity would be preferable. Hager (1997) in arguing a strong linkage between formal on-the-job training and informal workplace learning, goes on to argue a need for:

> *"… good research on learning in the workplace especially the **informal kind** …" (Hager, 1997: 6, emphasis added)*

An equally strong case could be made for research into the forms of assessment.

A risk management approach to assessment

While the earmarking of competencies itself was not discussed at length with interview subjects (that is, the process whereby identified competencies were allocated to assessment requirement categories), some interesting observations are possible.

It appears that employers apply a risk management approach to assessment. This concept is not without support in the literature, authors commentating on assessment and RPL issues early in the history of the Training Reform Agenda seemingly quite keen to discuss the mechanics and the merits of a risk management approach (VEETAC, 1993; Gonczi, Hager and Athanasou, 1993). For instance, Conczi *et al* were of the strong opinion that:

> "*There is no universal method of performance assessment and the process of assessment is largely one of balancing conflicting demands and compromising fidelity.*" *(Conczi, et al., 1993: p. 50)*

They go on to point out that compromise will involve trading-off acceptable costs of testing against the costs of error in judgement.

In an enterprise setting, this trade-off equates to a basic question managers must ask themselves; "What are the consequences to the business if a person, in this job, is not competent in this specific unit of competency?" The consequences they probably consider in their deliberations over a unit of competency are:

- financial consequences: a poorly done job could increase the costs of production through excess time allocation or through materials wastage, or lost customers, ultimately influencing profit.

- legal consequences: operation without a licence, permit or just proper training could result in a fine or harsher legal action.
- human consequences: unsafe practice could lead to serious injury or death, leaving a trail of pain and suffering for the individual, their family, the workforce and the enterprise.

Another way of considering risk is to establish a connection between the level of risk and the degree of recognition being sought. Thus ...

> *"... claims for recognition for a few units of competency represent low risk situations because further training and, by extension, further assessment will be required. " (VEETAC, 1993: p.18)*

Unmerited recognition will in this case be 'caught' in the safety net of the next (possibly fuller) round of assessment. This conceptualisation of 'risk management' is likely to have more resonance with VET practitioners than with enterprise managers, but it still introduces the possibility of varying rigour in the assessment process. The rigour is in two forms:

> *"... the amount and quality of evidence required and the involvement of more assessors to review that evidence and make the final assessment decision." (VEETAC, 1993: p.18)*

If the consequences are dire when a worker is incompetent in a particular unit of competency, then the cost of assessing competence accurately becomes a worthwhile investment for the enterprise. The higher the risk and the more adverse the consequences, the more important becomes the assessment process and the more likely it is that a formal recognition pathway will be sought.

A risk management approach to assessment clashes with the values of most registered training organisations (RTO), both public and private, and with the underpinning philosophy of Training Packages. This philosophy tends to espouse that all units of competency that go to make up a qualification should be equally rigorously assessed. One wonders though if indeed RTO's do view all units of competency equally (VEETAC, 1993 argues not), or if in fact more emphasis is placed on both the teaching and assessing of particularly defining or technical competencies. From a Training Package perspective, would accepting different standards of assessment for different competencies simply open a 'Pandora's box' of problems, eroding efforts to develop consistent standards across AQF levels between and within industries? As noted earlier, the bases upon which employers differentiate between units of competency in their standards of assessment need to be further explored.

Who makes assessments?

The study found a range of people conducting assessments of competence in case study sites. Even within sites, different people may be assigned the task of assessing different categories of competency. For instance the situation depicted in the table below could easily exist for a single job within a single (probably larger) enterprise.

Persons involved in assessment process	Type of competencies being assessed
W. Human resources personnel	Workplace induction competencies
X. Leading hand/mentor in 'buddy' training relationship	Competencies that are deemed able to be assessed informally
Y. Mentor plus recognised workplace assessor	Competencies that are deemed to require formal assessment only
Z. Recognised workplace assessor plus external auspicing (RTO) or regulatory body	Competencies deemed to require formal external assessment and recognition *(eg for licences)*

Larger enterprises may have the resources to support the above situation, with allocation of assessment tasks to people with different responsibilities within the organisation. If they also fit the profile of the "Here and now" or even "High achievers" market segments in ANTA's national marketing strategy (see The Research Forum, 2000), they could well be amenable to increasing the proportion of total competencies in the formally assessed and recognised pools of assessed competencies. Moreover, there is a body of people (managers, supervisors, workplace trainers/assessors) in the enterprise to which marketing effort can be specifically directed, in vocational education and training terms that require little translation.

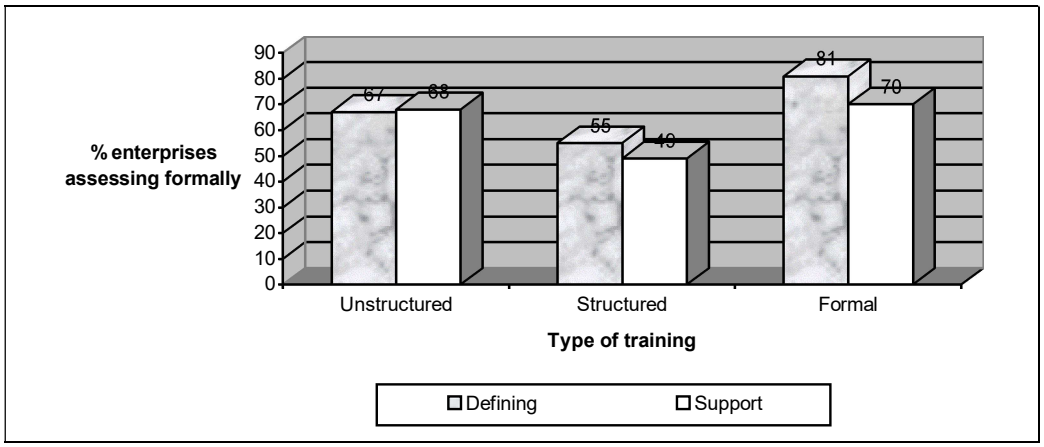
On the other hand, those enterprises where all assessment activity is occurring on the shopfloor in an informal manner (box "X" above), will be more difficult marketing targets. Assessment in such cases is conducted by a much more diffuse body of people, at lower levels of the organisation, and with qualitatively much poorer engagement with the concepts of vocational education and training. It might take significantly longer in these circumstances for the 'benefits' of Training Packages to filter down to that level of the organisation.

The link between training and assessment

One fascinating and unexpected finding of the study was the relationship between the level of formality/structure in the delivery of training and assessment processes. Most observers would expect that a leaning towards formality in training (exemplified through higher structuring of training effort, use of 'qualified' trainers, a relationship with a RTO) would be accompanied by a similar and equal leaning in assessment process. The findings describe a much less precise relationship.

Formal training *was* strongly associated with formal assessment. Of those enterprises engaged in formal training effort, between 70% and 80% of the competencies they identified for job performance were nominated as requiring formal assessment. However, it did not follow that unstructured/informal training was associated with informal types of assessment. The relationship is described in Figure 5.1 below. As can be seen from the left-hand side of the graph, enterprises whose training effort was largely unstructured were nevertheless, on average, associated with *higher* levels of formal assessment than those enterprises adopting a largely structured training approach. As noted above, one might have expected a less complicated linear relationship.

Figure 5.1: The relationship between levels of formality in training and assessment effort



The evidence in this study certainly would not allow any strong conclusions to be claimed, even that the relationship discovered could be replicated through a more powerful investigative process. However, it is interesting to ponder on how such a counter-intuitive relationship might be rationalised.

One possible explanation is that some enterprises have insufficient competence (workplace trainer) and/or resources to properly structure training, but understand still the competencies being developed are highly valued and require appropriate levels of assessment. For instance, small enterprises developing trade type competencies could adopt a 'time-served' approach to training (comparatively unstructured and inefficient), yet still recognise the importance of the competencies being developed and so prefer to assess formally the attainment of competence. In a way, from a risk management perspective, it would represent a means of overcoming deficient training processes. This explanation is by no means compelling, and this area remains an attractive focus for future research.

Demand side of training

It is a source of puzzlement that enterprises not directly involved in providing training services generally do not relate to training providers as they would to most other suppliers. If a plastics manufacturer was supplied raw materials for production other than that specified they would likely be ferocious in their demand for redress. And yet, the same standards of demand for services are rarely applied to training providers. Indeed, Ridoutt and Willett (1994) in a study of employers with metal trades apprentices, found most had no idea what was being supplied to their apprentices in their off-the-job training, and felt powerless to try to synchronise their production needs with the training of their apprentices.

This study identified four only out of the 23 case study enterprises with strong and productive relationships with a registered training organisation. The case study enterprise relationships with RTOs seemed to work best when the power balance resided with the enterprise. The Allen Consulting Group (1999) found successful enterprise-RTO relationships were built where the enterprise understood their core business (which was not training) and sought out like minded education and training providers with whom they could design focused training programs *in partnership*.

In this study, each of the four cases of enterprises with a good working arrangement with a RTO, the association between enterprise and RTO was characterised by a 'normal' market relationship. This included:

- the enterprise was clear in its demand for training services;

- the RTO observed the parameters of the service demand; and
- the enterprise was vigilant in ensuring services were supplied "to specification".

There seem to be some lessons to be drawn from these cases in respect to the proposed national marketing strategy (ANTA, 2000). While there are many laudable strategies and initiatives proposed, including improving training delivery systems, none of the strategies appears to entreat enterprises to simply behave in the training market as they would in their core business markets. More demanding enterprises could be a more powerful way of achieving desired change in institutional training provider behaviour, and giving greater effect to the broader ANTA initiatives in user choice.

Required job competencies

In an earlier section a large number of competencies were identified by employers as required for jobs to be performed well, significantly in excess of that needed to obtain a qualification at an AQF level appropriate to the job. There are a number of points to consider here, both by way of possible explanation and then to canvass what benefits this situation might hold for both employer and employee.

First, by way of explanation, it could be that vocational education and training sector qualifications need to be accepted like other sector (school, higher education) qualifications. There, they are a minimum record of a person's competence, and a key only to further learning. It is estimated by many in the higher education sector that within a year of graduation, after working in an appropriate job, persons with higher education qualifications will substantially increase their level of competence. It is to be expected that graduates from vocational education and training will gain also from their post training experiences, continually building competencies that would not be recognised. There are interesting questions here, such as, what type of competencies are built; are they competitive or complementary to those already obtained; and are they different or similar for those with varying initial levels of formal education and training?

An alternative, but not mutually exclusive explanation could be that when employers were interviewed and they were thinking about a particular job, they were also thinking about an incumbent of that job. It would not be outlandish to suppose that if a job incumbent came to mind, it would likely be a highly competent person. If it is accepted that the requirements of a job and the person in the job interact then in so far as the job itself becomes moulded over time by the incumbent and may increasingly involve duties/tasks that fully encompass the incumbent's particular competencies and interests. Thus the interview subjects could have identified jobs for description with a particular worker associated to that job, and then proceeded to describe the competencies required of that idiosyncratic job, as performed by a particular individual.

Whether this has any basis in reality or not, generally speaking a surplus of competencies to the formal competence requirements of jobs is a good workforce characteristic. This is because it promotes flexibility. Should the competence requirements of a job or role change (due to technological change, organisational restructure, etc.), then surplus competence to that required presumes that the workforce has room to move, to adjust potentially to the new circumstance.

Conclusion

This study was initiated to explore the seemingly simple question of the value of qualifications as a measure of the outcome of training effort in the eyes of enterprises. The

beguilingly simple answer is that qualifications are not significantly valued by employers as outcomes of their own training efforts, although this response varies significantly in respect to a range of variables including the types of competencies being considered. Alternative outcome measures therefore, less precise than recognised qualifications but potentially more relevant and therefore valued by employers, might be more appropriate. These could include:

- increased competence in areas designated as *critical* to a business, either in defining or enabling competencies;
- increased use of competency standards as a basis for performance appraisal, and improved performance outcomes using this tool; and
- increasingly strong relationships between qualifications frameworks and systems of reward.

Possibly more important than the issue of outcomes, and equally deserving of further research, are issues that have been identified through this study around the thoroughness of acquiring and assessing of competencies, and how the degree of thoroughness might vary according to context and inherent qualities of the competency itself. These issues have great significance for VET policy. Borrowing words from a rather acidic opinion article by Jonathan Payne, the implications are:

> *"First, ... that the VET system must come to terms with the fact that both the **categories** and **levels** of skill being demanded of it are widely divergent, thereby confusing policy makers as to the precise targets and delivery mechanisms to be adopted... Second, policy claims surrounding universal 'up-skilling' now become increasingly meaningless and contested unless it is clear what 'skills' are actually being enhanced." (Payne, 2000: p.362)*

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