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Generic skills in vocational education and training

Research readings

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Geof Hawke has worked in the VET sector for over 30 years as a counsellor, researcher, manager and policy adviser. A member of the Vocational Education, Employment and Training Advisory Committee (VEETAC) Competency-based Training Taskforce and the Mayer Committee Secretariat, he was later chief executive officer of the National Community Services and Health Industry Training Advisory Board. Since 1995, Geof has been a researcher in the Research Centre for Vocational Education and Training (RCVET), now OVAL RESEARCH, at the University of Technology, Sydney.

Tess Julian is director of Ratio, a company she started in 1991, involved in the research and development of products and services for the VET sector, and services related to organisational development and innovation. She was the executive officer of the National Assessors and Workplace Trainers Body from 1998–2000. She led a team of consultants in developing the *Innovation–Ideas that work* materials, funded by Australian National Training Authority (ANTA) and has completed a range of work around generic and employability skills for ANTA.

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Overview

Jennifer Gibb and Penelope Curtin

Discussion of generic skills is topical and there are constant new developments and initiatives considering how best to teach them and create environments in which they can be learnt. This volume of readings summarises some of the research undertaken into generic skills in 2001–02 as it relates to vocational education and training (VET). Since that time there have been further developments in terms of specifying generic skills in training packages and wider promotion and discussion of these skills.

In addition to these research readings, the National Centre for Vocational Education Research (NCVER) has developed comprehensive resources on generic skills. These include material on the NCVER website[1], two research summaries (NCVER 2003a; NCVER 2003b) and the 'stories from the field'[2] which describe practitioners' experiences in implementing, teaching and assessing generic skills. Some of this material has been drawn upon to prepare this overview.

Introduction

GENERIC SKILLS, ALSO known as employability skills (Australian Chamber of Commerce and Industry & Business Council of Australia 2002) and once known by the term 'key competencies' (Australian Education Council, Mayer Committee 1992) are those skills essential for employment and for personal development, fulfilment, community life and active citizenship.

In today's economy, knowledge, information, customer service, innovation and high performance are at a premium and generic skills are essential to gain employment and to progress in employment throughout one's lifetime. They are developed throughout life and career and can be acquired at work, through study and through participation in family and community life.

[1] <http://www.ncver.edu.au/teaching/21013.htm>
[2] <http://www.ncver.edu.au/pubs/stories/generic/index.htm>

This volume of readings comprises 11 chapters, which cover four main topics:

- defining and specifying generic skills, with chapters by Curtis and by Curtin
- the provider perspective on these skills, with chapters by Callan; Julian; and Dawe
- the workplace perspective on generic skills, with chapters by Smith and Comyn; Virgona and Waterhouse; and Hawke
- assessing these skills, with chapters by Curtis; Clayton, Blom, Meyers and Bateman; and Denton.

Defining and specifying generic skills

In Australia and internationally, generic skills are known by a number of terms including core skills, key skills, essential skills, basic skills and workplace know-how. In some countries they are specifically employment-related, while in others, greater emphasis has been placed on the social relevance of generic skills. As Kearns notes:

> *It is desirable to find agreement on terminology that is acceptable to all stakeholders—schools, VET, higher education, employers, individuals, and communities and which recognises that the new agenda of generic skills for the 21st century is about essential life skills as well as enterprise and employability skills.* (Kearns 2001, p.85)

In addition to there being a number of terms used to describe generic skills, there are also many different lists of generic skills. However, the various lists all seem to share six common elements as outlined in table 1.

Table 1: Common elements of various listings of generic skills

❖ *Basic/fundamental skills*: such as literacy, using numbers, using technology
❖ *People-related skills*: such as communication, interpersonal, team work, customer service skills
❖ *Conceptual/thinking skills*: such as collecting and organising information, problem-solving, planning and organising, learning-to-learn skills, thinking innovatively and creatively, systems thinking
❖ *Personal skills and attributes*: such as being responsible, resourceful, flexible, able to manage one's own time, having self-esteem
❖ *Business skills*: such as innovation skills, enterprise skills
❖ *Community skills*: such as civic or citizenship knowledge and skills.

In Australia an interest in generic skills was first evidenced in the 1980s and was re-invigorated in the late 1990s and again in 2001–02. Employers have played a key role in emphasising the importance of these skills and defining them.

The Mayer Committee report of 1992 is a major milestone in the establishment of generic skills in Australia, making many key decisions which continue to impact on education policy on generic skills. The Mayer Committee defined key competencies as:

> *… competencies essential for effective participation in the emerging patterns of work and work organisation. They focus on the capacity to apply knowledge and skills in an integrated way in work situations. Key Competencies are generic in that they apply to work generally rather than being specific to work in particular occupations or industries. This characteristic means that the Key Competencies are not only essential for participation in work, but are also essential for effective participation in further education and in adult life more generally.*
>
> (Australian Education Council, Mayer Committee 1992, p.7)

The committee articulated principles which would guide the acceptance of specific skills proposed as key competencies. Proposed skills had to:

- be essential to preparation for employment
- be generic to the kinds of work and work organisation emerging in the range of occupations at entry levels within industry, rather than being occupation- or industry-specific
- equip individuals to participate effectively in a wide range of social settings, including workplaces and adult life more generally
- involve the application of knowledge and skill
- be able to be learned
- be amenable to credible assessment.

During the mid-1990s considerable effort was expended in implementing the Mayer key competencies in Australian schools and VET programs. However, attention was diverted from the key competencies to other reforms.

It was Australian industry which refocused attention on generic skills in recent times. Higher education institutions have also paid explicit attention to these skills recently (Business/Higher Education Round Table 2003). In 1999, the Australian Industry Group commissioned a report into the training needs of Australia's industries (Allen Consulting Group 1999).

Building on this work, the Australian Chamber of Commerce and Industry and the Business Council of Australia undertook a comprehensive study of generic 'employability' skills in Australia and elsewhere (Australian Chamber of

Commerce and Industry & Business Council of Australia 2002). This study defined as employability skills:

> *… skills required not only to gain employment, but also to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprise strategic directions. Employability skills are also sometimes referred to as generic skills, capabilities or key competencies.*
>
> (Australian Chamber of Commerce and Industry & Business Council of Australia 2002, p.3)

Their report proposes an Employability Skills Framework made up of eight major skill groups and a variety of personal attributes as listed in table 2.

Noteworthy features of the Employability Skills Framework are:

- It incorporates the Mayer key competencies within the major skills.
- It adds personal attributes to the scope.
- It includes skills relating to self-management, learning to learn and enterprise and initiative.
- Each of the major skills has been elaborated through lists of 'elements'. This acknowledges that major skills vary in detail between different work contexts, while retaining the central concept of broadly applicable generic skills.
- It allows for the fact that to achieve some work-related skills, combinations of generic skills are needed. For example, customer service involves both communication and problem-solving.
- It does not comprise an exhaustive list of skills. It is a framework and as such, it identifies a common set of skills which, in combination, lead to high job-related performance.
- It does not feature basic or fundamental skills such as literacy and numeracy explicitly. These skills are implicit in the other major skills listed.

Table 2 compares the list of employability skills with the Mayer key competencies. As the education sector with a direct relationship to the world of work, vocational education and training is adopting the industry-identified employability skills as the generic skills on which to focus in the future.

Table 2: Summary of ACCI–BCA employability skills compared with Mayer key competencies

Employability skills		Key competencies
Communication skills	that contribute to productive and harmonious relations between employees and customers	Communicating ideas and information
		Using mathematical ideas and techniques
Team work skills	that contribute to productive working relationships and outcomes	Working with others and in teams
Problem-solving skills	that contribute to productive outcomes	Solving problems
Initiative and enterprise skills	that contribute to innovative outcomes	
Planning and organising skills	that contribute to long-term and short-term strategic planning	Planning and organising activities
		Collecting, analysing and organising information
Self-management skills	that contribute to employee satisfaction and growth	
Learning skills	that contribute to ongoing improvement and expansion in employee and company operations and outcomes	
Technology skills	that contribute to effective execution of tasks	Using technology
Personal attributes		
Loyalty	Personal presentation	
Commitment	Commonsense	
Honesty and integrity	Positive self-esteem	
Enthusiasm	Sense of humour	
Reliability	Ability to deal with pressure	
Balanced attitude to work and home life	Adaptability	
Motivation		

Note: ACCI = Australian Chamber of Commerce and Industry
BCA = Business Council of Australia

In his chapter on international perspectives on generic skills, Curtis examines how different countries, including Australia, have approached the issue of generic skills. He compares initiatives relating to generic skills pre-1995 and post-1995 and discusses how different groups—industry leaders, human resource managers and academic researchers—have conceived these skills. He notes that there have been developments in thinking regarding these skills over time, and that they are conceived differently in various countries, as well as by different groups within one country.

Curtin provides an overview of the Employability Skills Framework (describing both the individual skills and all the elements of these skills) developed in 2002 by the Australian Chamber of Commerce and Industry and the Business Council of Australia. She also describes the drivers and influences on the development of this framework which is being promoted across all education sectors—schools, vocational education and training and higher education. The new framework links with, and enhances, the work undertaken by the Mayer Committee. In addition to the skills proposed, a series of attributes have been identified which employers believe are central to employability.

The provider perspective

There are two issues covered from the perspective of training providers. The first describes the views of teachers and learners within providers as to the relative importance of particular generic skills. The second covers how generic skills are documented in training packages. Training packages describe the nature of work for the variety of jobs in a particular industry and form the basis for the training programs providers develop.

What we find is that most of the activity to date has centred around the Mayer key competencies and their incorporation in training packages. However, during 2003 much work was undertaken by the VET sector on the Australian Chamber of Commerce and Industry and Business Council of Australia employability skills and how best to integrate those in full in training packages.

Generally, good practice in teaching and learning generic skills in training providers involves providing a large variety of experiences and learning opportunities and integrating the development of skills, knowledge, values and attitudes. The importance of generic skills needs to be promoted by the institution and authentic experiences should be used when teaching these skills. Examples of strategies successful in training organisations are workplace projects, practice firms, problem-based learning, reflective learning and workplace practice.

Teacher and learner views

Callan's chapter focuses on students' as well as teachers' attitudes to generic skills in the VET sector. He finds that teachers and students have broadly similar perceptions about the importance of these skills and which of them are most important. The important skills are being able to solve problems; collect, analyse and organise information; work with others, and speak and communicate well with other people. In addition, attitudes such as being motivated, being ethical and being adaptable to change at work are identified as very important.

Callan also explores what contributes to learners acquiring these skills and draws attention to three main factors: the role played by highly experienced

teachers who apply adult learning principles; how clearly these skills are identified in training packages; and how these skills are assessed. Callan concludes by discussing the need for:

- professional development of VET teachers, and the importance of industry involvement
- promotion of the value of generic skills and their more explicit inclusion in training packages.

Training packages and generic skills

Training packages aim to describe the full range of work activities for each level of job within an industry, and contain the endorsed national competency standards, assessment guidelines and qualifications at different levels of the Australian Qualifications Framework (AQF). The competency standards comprise units of competency, the range of variables statement and an evidence guide for assessment. They can be developed for industries or specifically for enterprises. They may be discrete units of competency but may also be incorporated implicitly. While there are advantages in highlighting particular generic skills at the unit of competence level, an integrated approach to their description which contextualises and deals holistically with both technical and generic skills is also critical.

Julian acknowledges the changes in the work environment and in the nature of work which have brought about an increased focus on generic skills. She also describes how generic skills are currently incorporated in training packages. In some training packages, generic skills are described in dedicated units of competence. However, in other training packages they are embedded in units of competence by being specified in the performance criteria, the evidence guides or in the description of underpinning skills and knowledge.

The author notes that, in the majority of training packages, the 'established' employability skills (those defined originally as Mayer key competencies) are reasonably well described. However, the new skill areas such as 'manage own learning' and 'managing self' are not generally addressed. The chapter concludes with some new ideas for incorporating the full range of employability skills in training packages.

Dawe studied ten training packages in detail to find out how the generic skills are addressed and what approaches are being used to foster the development of these skills. Dawe finds that communicating, working in teams and following occupational health and safety procedures are skills that are apparent in all training packages she studied. This chapter also describes the strategies which employers are using to ensure that learners acquire these skills. Formal induction processes and combining technical and generic skills training are favoured in industry. A key feature of effective teaching of generic skills is to have strong management commitment to training.

Overall, the research suggests that generic skills need to be incorporated into training packages in a way which makes it easy for practitioners to interpret and provide a range of strategies to teach them. Thus revisions to training packages should explicitly identify their existence within the package and provide more extensive guidance on delivery and assessment approaches.

The role of the workplace in developing generic skills

In the workplace, generic skills are a key feature of job descriptions and the recruitment process. For new staff the workplace can use a range of ways to help familiarise staff so they learn what the organisation expects in terms of employability skills, standards of work and the attributes expected of employees. Induction programs, rotation of tasks, buddy or mentoring approaches, improvement teams, work-based projects, and staff performance management are all ways in which the workplace can encourage the development of employability skills.

Smith and Comyn focus on how teenage workers develop generic skills in their first jobs. In Australia many young people commence formal part-time work as early as 13 and 14 years of age and thus generic skills are not necessarily developed at school—many young people gain these skills primarily through their part-time jobs. The chapter notes that employers of young people accept their role in helping young people to develop these skills and see the benefits of doing so. The chapter highlights the range of approaches which employers use to encourage the development of these skills and confirms the importance of the workplace as a site for learning them.

Virgona and Waterhouse report on how workers who lost their jobs as a result of work restructuring or downsizing view their generic skills. In particular, these workers were asked to give their views on the nature of generic skills in the workplace today, where they felt they acquired these skills and the value of the experience of managing their own careers. This study confirms that generic skills are developed continually through life—in family life, education and community contexts as well as in the workplace. However, the primary context for the development of these skills is considered to be work and the primary mode of acquisition is experiential learning. This chapter discusses the notion of transferability as well as what workers value in the workforce today and how important they feel it is to manage one's career in times of change.

This section ends with a chapter by Hawke, who undertook case studies of four companies committed to training in the 1990s and which had gone through changes in ownership resulting in a reduced workforce. As a result, commitment to training had faded and the limited training which does occur tends to be specific and not reflect a priority on generic skills. Hawke investigates how generic skills are perceived by employees and by management

in these companies, as well as by the training providers who train for these companies. He finds that there is a view amongst learners and many in management that these skills cannot be learned, and thus while they are important considerations in the selection process, they are not a prominent feature of workplace learning or training.

Assessing the generic skills

The assessment of generic skills involves well-informed professional judgement by assessors and assessor teams which include teachers and experts in the workplace. Learners can contribute to the assessment process by gathering evidence of their performance and presenting this in a portfolio of their work. It is important that generic skills are assessed in the context of 'whole-work' tasks. This approach seeks to combine knowledge, understanding, problem-solving, technical skills, attitudes and ethics into assessment tasks. However, many assessors are more confident assessing generic skills when they occur as discrete units of competency rather than when they are embedded into vocational units of competency.

Curtis draws on the literature to provide a review of the purposes of assessment and discusses key features of assessment, such as validity, reliability, authenticity, levels of assessment and the issue of transfer. He then compares the four broad approaches to the assessment of generic skills—holistic judgement, student portfolios, assessment based on work experience, and assessment using purpose-developed instruments—and identifies the strengths and weaknesses of each. Curtis ends the chapter with a description of a new assessment tool for assessing problem-solving.

Clayton, Blom, Meyers and Bateman describe how generic skills are understood and how trainers and assessors incorporate the assessment and certification of these skills into their programs. The authors discuss the different ways in which these skills are incorporated in training packages and the need for making them more explicit in these packages. This is important for the process of assessment as well as for reporting and certifying generic skills. These authors also emphasise the importance of the learners' ability to assess themselves as well as having information to support assessment decision-making, such as guidelines for evidence collection. Underpinning all of the processes and systems must be a good understanding by all parties of the value and nature of generic skills.

At present there is no national policy which requires training organisations to formally record, report and certify generic skills and thus there is a considerable amount of generic skills assessment going unreported. There are, however, a few training providers who are doing this and who have developed systems which enable them to do so, such as Torrens Valley TAFE in South Australia.

The volume ends with a chapter by Denton which describes the assessment approach used in the Electrotechnology Training Package delivered by the Electronics and Information Technology Program at Torrens Valley TAFE in South Australia. Students can choose to apply for explicit assessment and recognition of one or more key competencies as part of any existing course assessment. The assessment involves self-assessment, the production of a comprehensive portfolio of evidence, and validation. It results in certification in the form of a statement of attainment which lists all key competencies attained and the performance levels achieved. Denton describes in a practical way the key processes and procedures of the assessment system and the range of support that this approach requires. He concludes by noting that it is possible to offer explicit assessment of key competencies and involve the student in the process.

In summary

Generic skills are important because there have been significant changes in the economy and in the way organisations operate which require workers to have these skills. Jobs today require flexibility, initiative and the ability to undertake many different tasks. They are not as narrowly prescribed and defined as they once were, and generally they are more service-oriented, making information and social skills increasingly important.

Much of the research reinforces that good practice in delivering generic skills training is based on adult learning principles and the provision of a variety of experiences and learning strategies. This ensures the development of generic skills and facilitates the transferability of skills to new contexts. Generic skills are best acquired when taught in a real-life and/or real-work context.

Like the other education sectors, the VET sector has an important role to play in ensuring that a wide range of people gain and develop generic skills. These could include people who study in technical and further education (TAFE) colleges, private training organisations, community colleges or who learn through structured training in the workplace. Training programs which emphasise these skills offer their learners a comparative advantage in the labour market. However, these skills are not gained and developed through formal training programs alone. Employers and workplaces also have a very significant role to play in fostering and maintaining the generic skills of their workforce.

Education providers emphasise generic skills because they are significant components of initiatives to improve teaching and make students more reflective about their learning, as well as encouraging them to become self-directed learners.

Teachers and trainers have a responsibility to provide a learning environment in which their students acquire specialist technical skills as well as the generic skills they need in order to gain employment or to progress within their careers. Teachers can alert students to what generic skills are and provide

opportunities for them to gain them. However, teachers are not entirely responsible for the acquisition of these skills—employers and the learners themselves are partners in this process.

Learners have to be able to assess their own level of skills, create and manage experiences to develop them and play a role in documenting their skills and achievements. Thus they have to recognise the importance of generic skills and be responsible for their own development and career path.

The workplace is an important environment in which to gain generic skills and thus employers play a vital role in providing an atmosphere in which these skills are supported and promoted. The development of generic skills is a matter of mutual obligation involving both employer and employee. Employees need to demonstrate team work, problem-solving, the capacity to deal with non-routine processes, to handle decisions and responsibility and communicate effectively. Proficiency in the broad range of generic skills has become the main basic equipment for the modern worker.

However, these skills are developed outside the workplace and educational institutions and hence the community also has a role in fostering their development. Partnerships between individual learners, parents, employers, education and training providers and within many other settings are needed to create the environments in which a person acquires generic skills. Employers and workplaces in particular have a very significant role to play in fostering and maintaining the generic skills of their workforce.

Each sector of education—school, TAFE, adult and community education (ACE), higher education—also has a role to play in helping people to develop these skills. Partnerships between these players makes the development of these skills more effective. The Australian National Training Authority (ANTA) has established the Employability Skills Cross-Sectoral Coordination Group which is examining the respective roles each education sector should play in relation to fostering the development of generic skills among their students.

Successfully using suitable combinations of generic skills can help learners in their response to many of life's situations. Hence, it is important to recognise that generic skills have wider applicability than just to employment—they are essential to active citizenship, community and family life.

What needs to happen next?

To ensure that people who learn in VET programs and workplaces gain the generic skills they need for ongoing employment, study and community life, the research suggests that a number of actions need to be taken:

- Improve the documentation of generic skills in training packages—this is a goal of ANTA.

- ❖ Ensure that all parties—teachers, trainers, employers, supervisors, individual employees and students—gain a better understanding of generic skills and acknowledge the role they play in fostering the development of these skills.
- ❖ Share good practice in the teaching and learning of generic skills.
- ❖ Develop better formal processes to certify and record generic skills to help ensure they are valued.
- ❖ Provide professional development for teachers and trainers to raise their levels of confidence and ability in promoting, fostering and assessing generic skills in the programs they teach.

Further information on generic skills and the VET sector can be accessed through the following websites:

<http://www.ncver.edu.au/teaching/21013.html>

<http://www.anta.gov.au>

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International perspectives on generic skills

David D Curtis

This chapter examines recent developments in conceptions of generic skills in Australia and similar developments overseas. Three approaches are used in this review. First, two periods of generic skill initiatives are distinguished: those that occurred before 1995 and those that have been advanced since that time. Second, various national schemes are compared and they reveal differences in key issues that remain unresolved in Australia. Third, generic skills are defined by different groups (industry leaders, human resource mangers and academic researchers from various disciplines) and these groups produce different conceptions of generic skills. Each of these perspectives can inform current policy debates.

Several key issues emerge from the analysis of Australian and overseas generic skills initiatives. First, their scope and definition have varied over time and between countries. Second, effective methods for teaching or otherwise developing these skills remain to be articulated. Third, methods for the valid and reliable assessment of generic skills in all sectors of education are required. Finally, forms of recording, certifying and reporting are of current concern and are addressed in some of the schemes.

Emergence of generic skills in Australia

THE QUALITY OF EDUCATION Review Committee, chaired by Professor Peter Karmel, was convened after a long period of sustained increases in educational attainment (Quality of Education Review Committee 1985) accompanied by concern about the quality and relevance of the education that was being offered to students. The committee's terms of reference noted the increasingly competitive environment of Australia's industries, and the importance of basic skills as preparation for further education and for the changing work environment.

The committee recommended that, in order to improve the relevance and quality of compulsory education, attention be paid to students' 'general competences', identifying information skills, thinking skills, and working

independently and in groups as necessary generic skills (Quality of Education Review Committee 1985, p.201).

The Finn Committee (Australian Education Council, Finn Review Committee 1991) was the next major review charged to consider, among many very wide-ranging terms of reference, the role of generic skills. Indeed the term 'key competencies' was used in the committee's terms of reference.

This committee noted the emergence of new demands for multi-skilling and adaptability brought about by both structural economic change and increasing global competition.

The Finn Committee considered the issue of generic skills and suggested six key areas of competence: language and communication, mathematics, scientific and technological understanding, cultural understanding, problem-solving, and personal and interpersonal skills. The committee also appreciated the complexity of this task, and recommended that a separate group be established to address this matter.

The committee established following the Finn recommendation was chaired by Eric Mayer and a major milestone in the development of generic skills in Australia was the publication of the Mayer report (Australian Education Council, Mayer Committee, 1992).

The Mayer Committee recommended that seven key competencies be recognised. These are well known and will not be reiterated here (see chapter entitled 'Employability skills for the future' by Penelope Curtin). The committee also recommended that each of these key competencies be assessed at three performance levels. However, there are other aspects of the Mayer report which distinguish it from comparable reports.

The Mayer Committee was careful to establish a set of principles that guided its selection of key competencies and their intended implementation. They defined key competencies as being:

> *... competencies essential for effective participation in the emerging patterns of work and work organisation. They focus on the capacity to apply knowledge and skills in an integrated way in work situations. Key Competencies are generic in that they apply to work generally rather than being specific to work in particular occupations or industries. This characteristic means that the Key Competencies are not only essential for participation in work, but are also essential for effective participation in further education and in adult life more generally.*
>
> (Australian Education Council, Mayer Committee 1992, p.7)

The committee established a set of required characteristics for a proposed generic skill to be acceptable as a key competency. They had to:

- be essential to preparation for employment
- be generic to the kinds of work and work organisation emerging in the range of occupations at entry levels within industry rather than be occupation- or industry-specific

- equip individuals to participate effectively in a wide range of social settings, including workplaces and adult life more generally
- involve the application of knowledge and skill
- be able to be learned
- be amenable to credible assessment.

(Australian Education Council, Mayer Committee 1992, p.12)

Many submissions made to the committee had urged the inclusion of values and attitudes and other personal qualities. About these, the committee said:

> *Both the principles and characteristics the Committee has used to construct the set of Key Competencies preclude the inclusion of values and attitudes.*
>
> (Australian Education Council, Mayer Committee 1992, p.13)

The principles and characteristics outlined by the committee circumscribed the scope and definition of key competencies. While the first four characteristics are quite broad in scope, the last two constrain those attributes that are acceptable. In much recent discussion about the incorporation of key competencies into education and training, the requirement that they are 'able to be learned' has been transformed to 'able to be taught' and there has been discussion on how generic skills can be 'delivered'. Many skills and attitudes are acquired through experiences in the family and in the community generally, as well as through formal education and training programs, so the questions of how they might be acquired, and separately, how they might be verified, are posed.

The requirement that key competencies be 'amenable to credible assessment' is a reasonable demand, although what constitutes credibility in assessment is contested, and this matter is discussed in another chapter in this volume (see chapter entitled 'The assessment of generic skills' by David Curtis).

If the original form of words used by the Mayer Committee is accepted; that is, that key competencies must be 'able to be learned' rather than formally taught, and if key competencies must also be assessable, a question arises about whose responsibility it is to assess those attributes that may have been learned, but not taught through formal education and training. The question is: Should education and training providers be required to assess all desired employability attributes, including those which have been delivered through their programs as well as those which learners may have acquired through life experiences?

Before considering this question further, it is profitable to examine comparable developments overseas.

International generic skills perspectives

Generic skills schemes have been developed in many countries. Only a few of them are examined in this chapter, and they have been selected because they

illustrate the issues of current concern to practitioners and policy-makers in Australia. Those which are reviewed are listed in table 1. For a brief discussion of developments in some European countries, see Curtis and McKenzie (2002, appendix 2).

In addition to transnational differences in generic skills schemes, in most countries the schemes have been revised or replaced, and so there are differences across time. There was considerable activity in the countries reviewed in the late 1980s and into the early 1990s and another period of activity in the late 1990s which continues to the present. The hiatus in activity is more noticeable in Australia than in some other countries, for example, in the United Kingdom, where activity appears to have been continuous. For convenience, activity prior to 1995 is compared with efforts since that time.

The reviews of the schemes listed in table 1 are in summary form only and are restricted to those elements that inform current debate within Australia.

Table 1: Generic skills schemes by country and over time

Country	Activity before 1995	Activity since 1995
United States	SCANS	SCANS 2000 21st Century Workforce Commission
United Kingdom	Core skills	Key skills
Canada	Essential skills	
	Employability skills	Employability Skills 2000+
DeSeCo (OECD international)		DeSeCo (generic competencies)
Australia	Key competencies (Mayer)	Australian Industry Group Business Council of Australia and Australian Chamber of Commerce and Industry

Note: SCANS = Secretary's Commission on Achieving Necessary Skills

Generic skills schemes have been developed in many countries. The early Australian experience appears to have been influenced most strongly by developments in the United Kingdom and the United States. However, developments in Canada and the international DeSeCo project sponsored by the Organisation for Economic Co-operation and Development (OECD) provide useful resources for current debate within Australia.

United States

The Secretary's Commission on Achieving Necessary Skills

The Secretary's Commission on Achieving Necessary Skills (SCANS) report (1991) sought to document the skills and attributes which school leavers required in order to enter the United States workforce successfully. The

commission's remit was to identify the skills required for employment, to propose levels of proficiency in them, to suggest effective ways to assess them, and to disseminate its findings. On the basis of analyses of the skills required in a range of jobs and in-depth interviews with workers from five major industry groups, the report did define what it called 'workplace know-how' which comprised a set of five workplace competencies and three foundation elements (see table 2).

Table 2: Summary of SCANS workplace know-how components

Workplace competencies	Foundation skills
Effective workers can productively use: ❖ Resources (time, money, materials, personnel) ❖ Interpersonal skills (teamwork, lead, negotiate) ❖ Information (acquire, evaluate organise data) ❖ Systems (social, organisational, technical) ❖ Technology (use technology, diagnose faults)	Competent workers in high performance workplaces need: ❖ Basic skills (literacy, numeracy, communication) ❖ Thinking skills (decision making, problem solving) ❖ Personal qualities (responsibility, self-esteem, integrity)

Note: SCANS = Secretary's Commission on Achieving Necessary Skills

The early 1990s was a period of high youth unemployment in the United States, and there were considerable concerns both about this and the general competitiveness of American industry. The skills and attributes of workplace know-how were promoted in the expectation that schools would incorporate them in curricula. The assessment strategies were directed at schools with formal assessment of the Secretary's Commission on Achieving Necessary Skills competencies suggested at grades 8 and 12 (Secretary's Commission on Achieving Necessary Skills 1991, p.17).

The elements of workplace know-how were derived from an analysis of the requirements of numerous jobs listed in the Department of Labor's *Dictionary of occupational types* and through interviews with workers in five major industry groups.

The report of this project included basic skills (literacy, numeracy, and communication) and personal attributes. The personal attributes were a mixture of behaviours, dispositions and attitudes, which included politeness, friendliness, empathy, application of effort, perseverance, goal-setting and positive self-worth.

Five performance levels were recommended: preparatory, work-ready, intermediate, advanced and specialist. The preparatory level was described as being suitable only for unskilled work, while the highest level, specialist, was for experienced employees in specialised positions. However, by the time the

report was released, the committee had not undertaken the work necessary to specify assessment strategies or detailed standards for the competencies or foundation skills.

SCANS 2000

The work of the Secretary's Commission on Achieving Necessary Skills has continued in a series of projects run through the SCANS 2000 Center at Johns Hopkins University.[1] The set of workplace competencies and foundation skills continue to be used in SCANS 2000 programs.

School-to-work transition remains a strong focus and a range of assessment tools have been developed to document and certify students' achievements of the competencies. The center has conducted a variety of projects itself and has generated related projects in other organisations. The SCANS 2000 Career Transcript System includes workplace simulations which provide opportunities for assessment of workplace know-how and a secure online repository in which individuals can build a resumé of skills acquired through courses and on the job.

In a Secretary's Commission on Achieving Necessary Skills-related project, a set of assessment tools has been developed by the Comprehensive Adult Student Assessment System (CASAS).[2] The Workforce Skills Certification System consists of instrumental test batteries to assess basic skills and some project-based tasks and worksite performance ratings with corresponding scoring rubrics, all of which contribute to a portfolio, to assess workplace competencies.

Many agencies at the federal, state and district levels and many industry organisations at local levels are involved in assessment projects and certification systems. However, there is no dominant certification system.

21st Century Workforce Commission

In another initiative which sought to address the skills required by industry, then Vice President (Al Gore) established the 21st Century Workforce Commission (21st Century Workforce Commission 2000b). This commission was established in response to concerns about America's competitiveness as a result of technological change and globalisation. Its goals were: to build an education and training system to meet the emerging needs of industry; to improve access to education and training for all, including those in low-skill and low-wage jobs; to promote flexibility of access to education; and to increase individuals' awareness of and motivation to undertake education and training.

[1] <http://www.scans.jhu.edu>
[2] <http://www.casas.org/casasnewweb/index.cfm>

Initially, the commission built upon the Secretary's Commission on Achieving Necessary Skills foundation, but in a second report (21st Century Workforce Commission 2000a), there was a much stronger emphasis on information technology skills. It argued that America's future competitiveness lay with growth in the information technology sector and it defined '21st century literacy' around information technology facility. This might be seen as an extension of the original Secretary's Commission on Achieving Necessary Skills recognition of the importance of basic skills. That report also included emphases on teamwork and communication, but its focus became rather narrower than the original Secretary's Commission on Achieving Necessary Skills proposal.

What it added to Secretary's Commission on Achieving Necessary Skills was a set of strategies for building a national commitment to lifelong learning and it introduced the idea of 'lifelong learning accounts' and other entitlements to ongoing education and training, and it attempted to include low-skill, low-wage workers in this scheme. In this sense it bears some similarity to the United Kingdom policy emphasis on lifelong learning.

United Kingdom

Core skills

An account of the evolution of generic skills in the United Kingdom is complicated slightly by differences between policy in Scotland and in the remainder of the United Kingdom. Here, events in England are taken as indicative of the United Kingdom scene.

Werner (1995, pp.41–7), noted that the Confederation of British Industry wanted to include values and integrity, personal and interpersonal skills, and a positive attitude to change, but these proposals were rejected by the National Curriculum Council. The set of core skills were:

- communication
- problem-solving
- personal skills
- numeracy
- information technology
- competence in a modern (foreign) language.

Five performance levels were proposed for this set of skills. They were: foundation, craft, technician/supervisor, higher technician/junior manager, and professional/managerial.

Core skills initiatives were aimed at the 15 to 19-year-old age group, that is, new entrants to the workforce. The core skills were intended to be integrated into national vocational qualifications and into higher school education courses and to be assessed as parts of those courses, rather than to become the basis of specific courses themselves. However, specific units of work for the core skills were developed for use within courses. Since the core skills were assessed as part of the national vocational qualifications which had no formal examinations, but which required that evidence of performance be presented, there was no mechanism by which proficiency in the core skills could be certified.

'Key skills'

The core skills were revised and became known as 'key skills', comprising:

- communication
- application of number
- information technology
- working with others
- improving own learning and performance
- problem-solving.

A subset of communication and application of numbers—literacy and numeracy—defined at lower levels, comprise the set of basic skills. The separation of basic skills from the key skills may reflect a concern which arose out of the International Adult Literacy Survey (OECD & Statistics Canada 1995) which revealed that a large proportion of adults (up to 45 %) in many Organisation for Economic Co-operation and Development (OECD) countries, including the United Kingdom, the United States and Australia, had low levels of functional literacy and numeracy.

A national key skills qualification, based upon the first three key skills, has been available. Assessment for this qualification uses both an internal (to the training provider) portfolio of learning tasks or work experience and an external test in each of the key skill areas. This qualification is in effect a profile of achievement across the three key skill areas and performance levels reported are the lowest three of the National Qualifications Framework. Recently, Turner (2002) has reported that training providers and employers have become disenchanted with the key skills qualification. They believe that it does not guarantee the level of skill desired and it has been onerous to administer. In Scotland, a different approach was taken. A new Scottish qualifications certificate was developed to include both school and vocational college attainment and it is expected to include a core skills profile.

Neither the core or the key skills schemes incorporated personal attributes, despite pressure from the Confederation of British Industry for their inclusion

initially during the formulation of core skills and more recently (Confederation of British Industry 1998). The list of skills endorsed in the United Kingdom was constrained to quite a modest size compared with the North American schemes.

The core and key skills included a substantial emphasis on the basic skills of literacy, numeracy and information technology.

The United Kingdom experience with a single national qualification is not an encouraging one for those in Australia who might want to pursue this option. The key skills qualification was narrowly based and had a centralised and highly prescriptive format. Its narrow focus limits its use and probably adds little that is not already apparent in reports of school performance. Further, the qualification was typically taken at an early stage in the transition to work. This once-and-forever result does not acknowledge any subsequent learning, either formal or informal, and therefore is not consistent with many other United Kingdom initiatives in lifelong learning.

Canada

Employability skills

In the early 1990s, the Conference Board of Canada developed the Employability Skills Profile (ESP) which identified the generic academic, personal management and teamwork skills which are required, to varying degrees, in every job (Conference Board of Canada 1992). Three broad domains of employability skills were identified.

Table 3: Summary of the Employability Skills Profile (1992)

Academic skills	Personal management skills	Teamwork skills
Skills needed to get, keep and progress in a job	Personal skills, attitudes and behaviours to get, keep and progress in a job	Skills needed to work with others to achieve the best results
Communicate	Positive attitudes and behaviours	Work with others
Think	Responsibility	
Learn	Adaptability	

Each of the three broad domains comprised a further 3–4 sub-domains and a number of more specific skills (for example, 'Write effectively in the languages in which business is conducted'). The 1992 version of the employability skills profile comprised 26 specific skills.

The Employability Skills Profile was aimed specifically at new entrants to the workforce and it was adopted by all provinces in their education curriculum planning.

Essential skills

Human Resources Development Canada initiated the Essential Skills Research Project (ESRP) in 1994. The work of this organisation led to nine essential skills being identified. These were:

- reading text
- document use
- writing
- numeracy (mathematics)
- oral communication
- thinking skills (problem-solving, decision-making, job task planning and organising, significant use of memory, and finding information)
- working with others
- computer use
- continuous learning.

These skills were described as enabling the learning of other more job-specific skills. The focus of the project was on enhancing the skill levels of workers in relatively low-skill jobs—those requiring no more than completion of secondary schooling. The emphasis on document use, reading texts, writing, and numeracy reflects concerns arising as a result of the International Adult Literacy Survey which found that many workers lacked the basic skills that would enable them to enjoy sustained employment security and contribute to national economic growth.

Two assessment strategies were developed to support the Essential Skills Research Project. The Test of Workplace Essential Skills built upon the work undertaken by Statistics Canada for the OECD in the International Adult Literacy Survey. In these tests, which were customised for particular industries but maintained a common core of items to enable cross-industry skill demands to be made, authentic workplace materials were used to assess literacy and numeracy. The Essential Skills Portfolio Developer provided a mechanism by which students and workers could construct a portfolio that incorporated a profile of their essential skills. This tool provided a means of promoting the importance of essential skills among both potential employees and employers.

Employability Skills 2000+

The Conference Board has recently published Employability Skills 2000+ (Conference Board of Canada 2000a). This enhanced framework has built on the experiences with the 1992 Employability Skills Profile and the work of the

Essential Skills project of 1994. It is an extensive set of 56 skills and attributes and a synopsis of it is presented in table 4. The set of 1994 'essential skills' were quite similar to the 'key skills' of the United Kingdom. Basic skills (literacy, numeracy and information technology) were represented; thinking skills were presented in a traditionally cognitive way; interpersonal skills were present in working with others; and continuous learning was included. Personal attributes were absent.

Table 4: Summary of Employability Skills 2000+

Fundamental skills	Personal management skills	Teamwork skills
Skills needed as a base for further development	Personal skills, attitudes and behaviours that drive one's potential for growth	Skills and attributes needed to contribute productively
Communicate	Demonstrate positive attitudes and behaviours	Work with others
Manage information	Be responsible	Participate in projects and tasks
Use numbers	Be adaptable	
Think and solve problems	Learn continuously	
	Work safely	

The Employability Skills Profile (1992) had a greater role for personal attributes such as self-esteem, integrity, initiative, and a positive attitude to change than did the set of Essential Skills.

It is instructive to analyse the changes between the 1992 and 2000 versions of Employability Skills. Both employ the same basic structure of three major domains and detailed skill specifications, but there are some significant differences.

The 2000 version emphasises to a much greater extent, the skills needed to progress in the world of work, and not just to enter it. The later version emphasises application beyond work. The categories, manage information; use numbers; work safely; and participate in projects and tasks, have been added. The more recent version is also much more specific, listing 56 skills and attributes compared with the 26 of the original scheme. The additions are a mixture of attitudes and higher levels of thinking skills, such as monitoring and evaluating.

The assessment regime suggested in Employability Skills 2000+ is based around the Employability Skills Toolkit (Conference Board of Canada 2000b). This is a suite of tools designed to assist individuals to build portfolios of evidence of their skills.

Disciplinary perspectives

The DeSeCo Project

The DeSeCo project (the Definition and Selection of Competencies) is an important generic skills initiative for several reasons. First, it deals in great depth with generic skills—an issue which continues to exercise the thinking of policy-makers and practitioners in all sectors of education in many countries. Second, it is supported by the OECD and is therefore likely to be a very influential project as member countries and others watch the progress of this project. Third, a very different approach has been taken in this project in defining generic skills compared with most of the national projects described above. Many past generic skills initiatives can be described as consensual in that they represent the considered opinions of informed business leaders. In the DeSeCo project, perspectives from a range of relevant disciplines have been sought and experts from those disciplines have been asked to define the concept of competence and to list the elements of generic competence.

Experts from five major disciplines—anthropology, sociology, economics, psychology and philosophy—outlined those skills they considered to be generic. Haste (1999), a psychologist, suggested five competencies: technological competence; dealing with ambiguity and diversity; finding and sustaining community links; managing motivation, emotion and desire; and agency and responsibility. Economists Levy and Murnane (1999) suggested a conventional set of competences which included the basic skills of literacy and numeracy, communication, teamwork, interpersonal skills, and information technology facility. Other contributors suggested competences that revealed a strong community and citizenship orientation, rather than a workplace one.

In addition to definitional statements, the project has identified four major conceptual elements of generic competences. Key competencies:

- are multi-functional. They meet a range of different and important demands of daily life. They are needed to achieve different goals and to solve multiple problems in different contexts.
- are relevant across many fields. They are relevant for participation in school, the labour market, political processes, social networks, and interpersonal relationships, including family life and for developing a sense of social wellbeing.
- refer to a high order of mental complexity. They assume a mental autonomy which involves an active and reflective approach to life.
- are multi-dimensional. They are composed of know-how, analytical, cultural and communication skills, and common sense.

These characteristics of generic competences are reflected in the views of several researchers who have investigated generic skills in an Australian context.

The DeSeCo project has an orientation which is broader than workforce participation and includes strong personal fulfilment and community involvement objectives. The scope of its competencies is therefore broader than many national generic skills schemes. It includes personal attributes, but limits them to constructs that are accepted in psychological and sociological discourses. At this stage the project has not dealt directly with issues of assessment, but there appears to be an intention to use the DeSeCo outcomes in an extension of the Programme for International Student Assessment (PISA) project (Lokan, Greenwood & Cresswell 2001). If this occurs, robust assessment of selected competencies can be expected.

A human resources perspective

Spencer and Spencer (1993) outlined an analysis of workplace competence based on the work of McClelland (1973). He had observed that traditional aptitude and intelligence test performance did not correlate well with on-the-job performance and he redefined competence in terms of what worked at work:

> *A competency is an underlying characteristic of an individual that is causally related to criterion-referenced effective and or superior performance in a job or situation.* (Spencer & Spencer 1993, p.9)

Key elements of this definition of competence are: that it is a latent trait and therefore not directly observable; it must be shown to be correlated with criteria of performance that have been defined in terms of observable behaviours; and that it must be correlated with superior job performance.

Five types of competency characteristics are recognised: motives, traits, self-concept, knowledge and skills. Two general levels of competency are recognised: threshold competencies necessary for effective performance, and differentiating competencies necessary for superior performance. The elements of competence and the types of competency recognised in this work have important implications for assessment.

Spencer and Spencer identified six competency clusters:

- achievement and action
- helping and human service
- impact and influence
- managerial
- cognitive
- personal effectiveness.

These were elaborated through 20 competencies. The authors reported that this set of competencies accounted for 80–95% of job competencies. The remaining competencies are specific to particular jobs and are therefore not generic.

The competencies defined in this work are used in the analysis of job requirements and for recruitment, selection, performance management and promotion. Because the definition of these competencies was specifically job-related, it is not certain that they would apply to the broader personal and social dimensions of competence. The assessment regime involves interviews based on critical incident analysis, and while this is feasible for recruitment, it is probably not a viable large-scale assessment strategy.

Recent Australian initiatives

Australian Industry Group report

In 1999, the Australian Industry Group commissioned a report into the training needs of Australia's industries (Allen Consulting Group 1999). The views of 350 companies from the manufacturing, construction, and information technology sectors were canvassed. Among many findings, the report noted that 'an increasing premium is being placed on generic skills, both "hard" (notably IT skills) and "soft" (e.g. problem-solving, team skills, willingness and ability to adapt) to be developed prior to recruitment' (p.v). The report then outlined the skills that are required by Australian industry if it is to remain globally competitive (p.xi). These included, in addition to job-related technical skills, the skills and attributes shown in table 5.

Table 5: Summary of the Australian Industry Group proposed set of generic skills

Generic 'core' or basic skills	Interpersonal or relationship skills	Personal attributes
Literacy	Communication	Capacity to learn
Numeracy	Team working	Willingness to embrace change
Information technology capability	Customer focus	Independent problem solving and reasoning capability
Understanding of systems relationships	Project and personal management	Practicality and a business-orientation

Companies are focusing more on recruiting and are using more rigorous and structured approaches to recruiting. They emphasise up front, the key core skills, interpersonal skills and personal attributes they seek more than specific technical skills, which can often be gained through further training (Allen Consulting Group 1999, p.32).

The Australian Industry Group identified 'achieving, high-performing companies' and among them found the following characteristics. They:

- recruit people with key, generic work-related skills

- ❖ recruit people from education and training programs that emphasise key generic skills
- ❖ place a priority on developing direct relationships with education and training institutions (Allen Consulting Group 1999, p.92)

These views have implications for policy-makers and practitioners in all sectors of education. A greater focus on skill development, of both technical vocational skills and generic skills, is required. Providers that add value to their education and training programs by targeting generic skills will provide a comparative advantage to their graduates in the labour market and be similarly advantaged themselves through direct relationships with companies and in attracting future learners.

Business Council of Australia and the Australian Chamber of Commerce and Industry

More recently, the Australian Chamber of Commerce and Industry (ACCI) and the Business Council of Australia (BCA), with support from the Australian National Training Authority (ANTA) and the Commonwealth Department of Education, Science and Training, undertook a comprehensive study of generic employability skills in Australia and elsewhere (Australian Chamber of Commerce and Industry & Business Council of Australia 2002).

The report from this study reiterated many of the previously identified contextual factors which are expected to continue to influence Australia's competitiveness. These include a demand for greater profitability, increasing global competition, increased complexity, innovation, and flexibility.

The report proposed an Employability Skills Framework, and recognised the importance of the Mayer key competencies as a basis for continuing work in this area. However, the report also identified the need to expand the scope of employability skills to include personal attributes and supported a more extensive list of skills than had been recognised in earlier work. The major skill groups identified are: communication, teamwork, problem-solving, initiative and enterprise, planning and organising, self-management, learning, and technology. Important workplace abilities, such as customer service and leadership, result from combinations of elements of the major skills. The Employability Skills Framework provides a coherent list of attributes and skills while providing scope for enterprise-level flexibility (see chapter entitled 'Employability skills for the future' by Penelope Curtin).

Several noteworthy features of the Employability Skills Framework are:

- ❖ It includes extensive lists of skills and attributes and broadens the scope of the employability skills concept compared with the Mayer Committee's recommendations.

- Each of the skills has been elaborated through lists of skill 'elements', and these provide an opportunity for each skill to be contextualised, thus acknowledging the variation in skill requirement of different work contexts, while retaining the central concept of broadly applicable generic skills.
- The report asserts that some work-related skills are, in reality, combinations of more central key skills. For example, customer service involves both communication and problem-solving. An important implication from this is that it is not necessary to develop an exhaustive list of skills: it is more productive to identify a common set of skills which, in combination, lead to high job-related performance.

Key issues

The review of national schemes, their variation over time, and the perspectives from other disciplines is informative in seeking answers to Australia's current policy questions on generic skills. Many issues require resolution, and some of these issues are partly addressed in the review.

Principles

The Mayer Committee is one of few which explicitly addressed criteria for acceptance of a proposed skill as a key competency. While such principles would have been debated in framing their schemes, it seems important to articulate them and to use them to establish acceptable generic skills and priorities for their implementation. The Mayer Committee's criteria seem conservative when the range of skills accepted elsewhere are considered. The Canadian Employability Skills 2000+ initiative suggests that much more accommodating criteria were in operation.

Scope and definition

It is clear that the scope and definition of generic skills have differed considerably between countries and over time. The United Kingdom and Australia adopted a conservative approach in defining generic skills in the early 1990s. The Essential Skills scheme in Canada was similarly conservative. In North America, the United States Secretary's Commission on Achieving Necessary Skills workplace know-how and the Canadian Employability Skills Profile were less conservative and included personal attributes. In Canada, the revised generic skills scheme (Employability Skills 2000+) is a much more diverse set with an even stronger representation of personal attributes. In the United States, the Secretary's Commission on Achieving Necessary Skills scheme has been retained, while the work of the 21st Century Workforce Commission reflects a narrowing of focus on the 'new literacies' for an economy increasingly dependent on information technology. The schemes proposed

recently in Australia by the Australian Industry Group and jointly by the Australian Chamber of Commerce and Industry and the Business Council of Australia clearly support a more open definition of competence that includes personal attributes.

The work of the multidisciplinary DeSeCo project provides support for a more encompassing definition. However, the reason for the broader approach is the wider scope of this project in which generic competencies are seen as important for reasons of personal development and community engagement, as well as for participation in productive work. The human resources perspective, while very focused on entry to and advancement in jobs, shows a strong orientation to personal characteristics.

There is considerable variation between countries, over time and across disciplinary perspectives, over what constitutes a coherent set of generic skills. There is evidence of a conservative approach in which a concern for the 'teachability' and 'assessability' is apparent. The views of peak employer organisations and the human resources perspective support the inclusion of a broad range of personal attributes. These views indicate that such attributes are important. What now needs to be shown is that these can be assessed in a credible and efficient way. The DeSeCo project may be able to do this.

Assessment and certification

The national projects have shown varying levels of concern with assessment. For the Mayer Committee, it was an important consideration and indeed, a framing principle. A variety of approaches to assessment have been tried. The most common approach is to rely on a portfolio to illustrate individual achievement, and this has occurred in Canada and the United States. Instrumental assessment has been tried in Canada and the United States, but where this has worked well, it has been restricted to basic skills. Recent work in Australia on graduate skills assessment has shown that this approach can be extended to other skill domains (see chapter entitled 'The assessment of generic skills' by David Curtis).

Assessment continues to be one of the most difficult issues surrounding generic skills implementation. A broad consensus is beginning to emerge on definitional issues, but successful implementation depends on credible, reliable and efficient assessment. This is an area where much more work is required. This should not stop attempts to implement generic skills, but it may suggest priorities for a progressive roll-out of generic skills in education and training.

The Key Skills Qualification in the United Kingdom and to a lesser extent, the Test of Workplace Skills in Canada are examples of attempts to certify achievement of generic skills. The United Kingdom experience is not encouraging. Its scope was too restricted, as credible assessment was only available for basic skills, and the higher-order thinking skills, interpersonal

skills and personal attributes, which are of interest to employers, were not tested. Instead of a single national test, it may be more productive to develop a devolved system of assessment, as occurs in Australia in all education sectors, but to consider also methods of quality assurance, such as those being implemented in the higher education sector, to validate reported achievement.

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Employability skills for the future

Penelope Curtin

This chapter* provides an overview of a research project which was undertaken by the Australian Chamber of Commerce and Industry and the Business Council of Australia and funded by the Department of Education, Science and Training and the Australian National Training Authority (ANTA). The project report provides a consolidation of research undertaken with small, medium and large-sized enterprises during 2001. The development of an employability skills framework has been a major outcome of the project. This chapter describes the drivers and influences on the development of this framework. The framework itself and its links with the Mayer key competencies are described, as well as the role that enterprises play in encouraging the development of generic skills and how employers assess whether employees have these skills.

Introduction

THE AUSTRALIAN ECONOMY has grown substantially over the last decade to become the fourteenth largest in the world (International Monetary Fund 2001). An appropriately skilled community of workers capable of contributing to economic prosperity and productivity will ensure the continuation of such growth. The entry of young people to the workforce is obviously crucial to this process and there has been broad agreement that these young people require skills to prepare them for entry into the workforce; however, what has been less explicit is how these skills should be framed in the context of the challenges facing Australian industry.

The Business Council of Australia and the Australian Chamber of Commerce and Industry considered that it was timely to canvass the views of industry—across a broad spectrum of size and types of enterprises—to assist in the

* A summary of the report *Employability skills for the future* (Australian Chamber of Commerce and Industry & Business Council of Australia 2002).

identification of the key employability skills as well as the job-specific or technical skills required by both new entrants to the workforce and established employees.

In order to inform government research and policy development in this area, the Department of Education, Science and Training commissioned the study to provide advice on:

- possible new requirements for generic employability competencies that industry requires or will require since the Mayer key competencies (Australian Education Council, Mayer Committee 1992) were developed
- clear definitions of what Australian industry and leading businesses mean by the term, 'employability' skills
- a proposed suite of employability skills, including an outline of assessment, certification and reporting of performance options to suit both industry and education
- industry reactions to the proposed suite and reporting options
- a report on the case studies involving 13 large enterprises
- a report on focus group research with small and medium-sized enterprises.

Terminology

The reference group recognised that a number of definitions were commonly used to describe the term 'employability skills', and that there was a need to differentiate between technical skills, job-specific skills, and the more general skills related to employment. To assist in this process, the group developed the following working definition for the project, based on research from the Australian Council for Educational Research.

> *Employability skills are defined as skills required not only to gain employment, but also to progress within an enterprise to achieve one's potential and contribute successfully to enterprise strategic directions.*

Industry research and analysis

The project adopted a largely qualitative approach to capturing the views of a sample of enterprises. Factors contributing to this decision included a lack of clear definition and terminology relating to employability skills, the difficulties incurred by enterprises in predicting their future, and the changing nature of the workplace.

A comprehensive literature review, undertaken as the first step in the project, provided an overview of key developments and issues relating to employability skills both in Australia and overseas, including the notion of key competencies

developed by Mayer. The literature review was used as the basis to inform the approach taken to the case studies and focus group activities which constituted the remainder of the research.

Firstly, focus groups were held with a sample of small and medium-sized enterprises across all industry sectors and located in metropolitan, regional and rural environments. Individual interviews were also undertaken. Secondly, 13 detailed case studies were conducted in large enterprises located in both metropolitan and regional Australia across a range of industry sectors. The result of the research was the Employability Skills Framework.

The aim of the focus groups and interviews with small and medium-sized enterprises was to determine the views of these enterprises on the employability skills required within the enterprise. An open-ended questionnaire was used to elicit enterprise views on strategic issues which impact on employability skills; the details of employability skills required; enterprise approaches to developing, tracking and assessing employability skills; and views about the role of educational providers in developing employability skills. The purpose of the case studies was to determine from large enterprises their views on employability skills required within an enterprise of this size, using the project definition of employability skills as a basis.

The final stage of the project involved a validation process whereby the Employability Skills Framework developed through stages two and three was tested across 150 enterprises and employer groups to ascertain the level of support for the framework.

Skill development and economic growth

Recent government reports have highlighted Australia's potential position as an international player in the 'knowledge economy' and the need to continue building Australia's capacity to operate effectively in this economy, noting the importance of knowledge workers to Australia's success in this context. At the same time government and industry are emphasising the importance of 'human capital'—the knowledge and skills embodied in workers and crucial to information-intensive industries.

Moreover, in an environment with a focus on adaptation, cost reduction, increased productivity and/or new products and services, there is an increasing requirement for employees who have the capacity to support the demands of this environment. Enterprises are seeking a more highly skilled workforce where generic skills are broadly distributed across the organisation. The Organisation for Economic Co-operation and Development (OECD) argues that employees will be required to demonstrate teamwork, the ability to cooperate in an ambiguous environment, problem-solving, the capacity to deal with non-routine processes, the ability to handle decisions and responsibilities,

communication skills, and the capacity to see workplace developments in a broader context (OECD 2001, p.99).

The Mayer key competencies (Australian Education Council, Mayer Committee 1992) developed nearly a decade ago offered a clear recognition of the importance of generic skills and have played a significant role in the development of government policy in this area, most particularly in the vocational education and training (VET) sector. The Mayer Committee identified the key competencies as:

> *… competencies essential for effective participation in the emerging patterns of work and work organization …* [which] *focus on the capacity to apply knowledge and skills in an integrated way in work situations. Key Competencies are generic in that they apply to work generally rather than being specific to work in particular occupations or industries. This characteristic means that the Key Competencies are not only essential for participation in work, but are also essential for effective participation in further education and in adult life more generally.* (Australian Education Council, Mayer Committee 1992, p.7)

Table 1: Mayer key competencies

Key competencies	Descriptors
Collecting, analysing and organising information	The capacity to locate information, sift and sort the information in order to select what is required and present it in a useful way, and evaluate both the information itself and the sources and methods used to obtain it.
Communicating ideas and information	The capacity to communicate effectively with others using a whole range of spoken, written, graphic and other non-verbal means of expression.
Planning and organising activities	The capacity to plan and organise one's own work activities, including making good use of time and resources, sorting out priorities and monitoring performance.
Working with others and in teams	The capacity to interact effectively with other people both on a one-to-one basis and in groups, including understanding and responding to the needs of others and working effectively as a member of a team to achieve a shared goal.
Using mathematical ideas and techniques	The capacity to use mathematical ideas, such as number and space, and techniques, such as estimation and approximation, for practical purposes.
Solving problems	The capacity to apply problem-solving strategies in purposeful ways, both in situations where the problem and the desired solution are clearly evident and in situations requiring critical thinking and a creative approach to achieve an outcome.
Using technology	The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.

Source: Australian Education Council, Mayer Committee (1992, pp.8–9)

At the time of the development of the key competency framework, the Mayer Committee excluded the consideration and inclusion of attributes and attitudes. However, more recent overseas work has included these factors in models of generic or key competencies.

Employers and employability skills

Australian employers through employer associations such as the Australian Chamber of Commerce and Industry, the Australian Industry Group and the Business Council of Australia have provided advice to government and education and training institutions on the skills necessary for a productive and effective economy. A report for the Australian Industry Group undertaken by the Allen Consulting Group, identified, from a survey of 350 enterprises, a set of employability skills believed by employers to be essential to enterprises' performance and which built on the skills originally identified by the Mayer Committee (Allen Consulting Group 2000). The report also noted that enterprises would need these skills in addition to technical skills relevant to specific jobs.

The Australian Council for Educational Research literature review (Curtis & McKenzie 2001) undertaken as part of this research project also identified issues for employers in relation to generic employability skills, namely:

- the central importance of generic employability skills in contributing to competitive, high-performance workplaces
- the extent to which these skills are sought and developed through recruitment and training
- the definition of these skills
- the effectiveness of the education and training leading to the development of these skills
- the perceptions of the extent to which recruits demonstrate these skills
- the responsibility for ongoing development of these skills.

Education and training and employability skills

Since the advent of the Mayer competencies, significant progress has been made in the integration of generic skills into curricula and student assessment in all sectors of Australian education and training. State and territory and non-government education authorities have introduced the key competencies across curriculum areas, particularly in the post-compulsory years of schooling. The key competencies were introduced into the VET sector in the early 1990s but some implementation difficulties have been experienced, largely in the

appreciation and differentiation of generic competencies as opposed to occupation-specific competencies.

In relation to the VET sector, the Australian National Training Authority (ANTA) has developed new guidelines for use in training package development. The new training package development handbook (Department of Education, Training and Youth Affairs 2001) contains a chapter on generic competencies which includes a section on the key competencies. Universities use a range of terms to describe their graduate outcomes. Implicit in these terms is a recognition that graduates will have attained the capacity to exhibit higher levels of performance of the key competencies as well as demonstrate additional competencies.

The literature review (Curtis & McKenzie 2001) revealed that the United States, the United Kingdom, Canada and the European Union also emphasise the development and assessment of generic employability skills, showing many similarities with the work being undertaken in Australia.

Key findings of the research undertaken by the Australian Chamber of Commerce and Industry and the Business Council of Australia

Enterprises participating in the case studies, focus groups and interviews articulated a vision of the economy and their own enterprises that would continue to be characterised by change. Enterprises, irrespective of their size, emphasised that the future would require a focus on:

- the bottom line with an increasing expectation that all employees understand aspects of the enterprise's financial situation
- customer relationships and customer service with the expectation that employees would understand the nature and importance of long-term customer relationships and greater emphasis on solutions for customers
- community requirements and expectations with regard to enterprise performance; for example, shareholder value, equal employment opportunity, occupational health and safety, environmental requirements
- globalisation factors, such as increased international competition or move/expansion into global markets
- increasingly complex operating environments as a result of regulatory, legislative and financial changes
- innovation and process improvement either to drive cost-effectiveness or to create new products and services

- ❖ flexible enterprise structures; for example, flatter, more autonomous structures
- ❖ time constraints, whereby customer demands and market competition require products and services in shorter timeframes.

Several of the large enterprises noted three additional factors they considered to be relevant to the future; namely, an increased devolution of decision-making, a growing focus on learning—particularly self-managed learning—and greater system-wide reliance on data management systems.

Employability Skills Framework

The Employability Skills Framework developed as a result of this project reflects the views of employers across all industry sectors and has been developed through research with small and medium-sized as well as large enterprises. The following are a number of critical features underpinning the framework.

- ❖ The framework, developed through research with enterprises, builds on the Mayer key competencies which are largely recognised by enterprises and integrated into jobs.
- ❖ Employers have identified the importance of personal attributes contributing to employability and indicate that these are required as a component of employability skills.
- ❖ Small, medium and large enterprises have all identified the same critical mix of skills as being relevant to the employability and ongoing employment of individuals.
- ❖ The skills identified as critical to employability are broadly consistent across industry sectors.
- ❖ The priority of these employability skills varies from enterprise to enterprise, subject to the job level and requirements.
- ❖ The employability skills identified are as relevant as job-specific skills.
- ❖ The employability skills identified are relevant to entry-level and established employees. The elements of skills and their complexity will vary from job to job.
- ❖ There is a strong recognition of the role of lifelong learning in skill development.
- ❖ Employer views in relation to leadership are significantly different from those emerging from other research, with some employers suggesting that the skills identified by the framework underpin an employee's capacity to lead.

- It is recognised that customer service is not a discrete skill but the outcome of the integration of a number of other skills; for example, communication and problem-solving.
- Interviewees from enterprises also argued throughout that the employability skills identified had a much broader application to life in general.

A range of terms emerging from the project are used in the framework and are explained as follows:

- *Personal attributes*: used to describe a set of non-skill-based behaviours and attitudes which employers felt were as important as the employability skills and other technical or job-specific skills.
- *Skills*: used to describe the learned capacity of the individual and used instead of 'competencies', to reflect the language used by the enterprises and to avoid confusion with other uses of the term.
- *Elements*: used to describe facets of skills employers regarded as important; their mix, priority and level of sophistication would vary from job to job.

The framework may be used in a range of ways for enterprises:

- The skills and elements could provide the basis of job descriptions and interview approaches in the recruitment and selection process.
- The flexibility of the elements section means that employers can identify the relevance to their enterprise of these or other elements to particular jobs over time.
- On-the-job training can be focused on a mix of relevant skills and elements.
- Its potential use for those developing curricula, courses and training programs, learning aims and objectives, and learning tools for schools, vocational education and training and higher education is substantial.

Table 2: Employability Skills Framework

Personal attributes that contribute to overall employability	❖ Loyalty ❖ Commitment ❖ Honesty and integrity ❖ Enthusiasm ❖ Reliability ❖ Personal presentation ❖ Common sense	❖ Positive self-esteem ❖ Sense of humour ❖ Balanced attitude to work and home life ❖ Ability to deal with pressure ❖ Motivation ❖ Adaptability
Skill	**Element**	
Communication that contributes to productive and harmonious relations between employees and customers	❖ Listening and understanding ❖ Speaking clearly and directly ❖ Writing to suit the needs of the audience ❖ Negotiating responsively ❖ Reading independently ❖ Empathising ❖ Using numeracy effectively ❖ Understanding the needs of internal and external customers ❖ Persuading effectively ❖ Establishing and using networks ❖ Being assertive ❖ Sharing information ❖ Speaking and writing in languages other than English	
Teamwork that contributes to productive working relationships and outcomes	❖ Working with people of different ages, gender, race, religion or political persuasion ❖ Working as an individual and as a member of a team ❖ Knowing how to define a role as part of a team ❖ Applying teamwork skills to a range of situations e.g. futures planning, crisis problem-solving ❖ Identifying the strengths of team members ❖ Coaching, mentoring and giving feedback	
Problem-solving that contributes to productive outcomes	❖ Developing creative, innovative solutions ❖ Developing practical solutions ❖ Showing independence and initiative in identifying problems and solving them ❖ Solving problems in teams ❖ Applying a range of strategies to problem-solving ❖ Using mathematics, including budgeting and financial management to solve problems ❖ Applying problem-solving strategies across a range of areas ❖ Testing assumptions taking the context of data and circumstances into account ❖ Resolving customer concerns in relation to complex project issues	
Initiative and enterprise that contribute to innovative outcomes	❖ Adapting to new situations ❖ Developing a strategic, creative, long-term vision ❖ Being creative ❖ Identifying opportunities not obvious to others ❖ Translating ideas into action ❖ Generating a range of options ❖ Initiating innovative solutions	

Planning and organising that contribute to long-term and short-term strategic planning	❖ Managing time and priorities—setting timelines, coordinating tasks for self and with others ❖ Being resourceful ❖ Taking initiative and making decisions ❖ Adapting resource allocations to cope with contingencies ❖ Establishing clear project goals and deliverables ❖ Allocating people and other resources to tasks ❖ Planning the use of resources including time management ❖ Participating in continuous improvement and planning processes ❖ Developing a vision and proactive plan to accompany it ❖ Predicting—weighing up risk, evaluating alternatives and applying evaluation criteria ❖ Collecting, analysing and organising information ❖ Understanding basic business systems and their relationships
Self-management that contributes to employee satisfaction and growth	❖ Having a personal vision and goals ❖ Evaluating and monitoring own performance ❖ Having knowledge and confidence in own ideas and vision ❖ Articulating own ideas and vision ❖ Taking responsibility
Learning that contributes to ongoing improvement and expansion in employee and company operations and outcomes	❖ Managing own learning ❖ Contributing to the learning community at the workplace ❖ Using a range of media to learn—mentoring, peer support, networking, information technology (IT) courses ❖ Applying learning to 'technical' issues (e.g. learning about products) and 'people' issues (e.g. interpersonal and cultural aspects of work) ❖ Having enthusiasm for ongoing learning ❖ Being willing to learn in any setting—on and off the job ❖ Being open to new ideas and techniques ❖ Being prepared to invest time and effort in learning new skills ❖ Acknowledging the need to learn in order to accommodate change
Technology that contributes to effective execution of tasks	❖ Having a range of basic information technology skills ❖ Applying information technology as a management tool ❖ Using information technology to organise data ❖ Being willing to learn new information technology skills ❖ Having the occupational health and safety knowledge to apply technology ❖ Having the appropriate physical capacity

Source: Australian Chamber of Commerce and Industry & Business Council of Australia (2002, p.8)

Validation with Australian Chamber of Commerce and Industry members

The Australian Chamber of Commerce and Industry surveyed approximately 150 enterprises to seek their views on the framework. Overall, there was unreserved support for its general concept. The validation exercise confirmed the research findings with some additional points and minor variations. The following comments on the detail of the framework are the most significant:

- ❖ The framework could appear complex unless further explanation is provided and its flexibility is emphasised.

- There were differences of opinion relating to how much detail should be included in the framework.
- It was suggested that the elements component may need further development to differentiate various levels of management.
- Not all of those entering the workforce for the first time may necessarily display the range of elements given by the framework; employers may want different skills depending on the job level.
- Individual enterprises may have difficulty assessing the skills.
- Enterprises emphasised the importance of the 'personal attributes'.
- Enterprises stressed that employees should have sufficient mathematical ability to understand basic financial information and to see the link between this information and enterprise performance.
- The employers surveyed indicated that they used a range of formal and informal techniques to assess whether a person had the requisite employability skills.
- A large number of employers indicated that they would prefer to teach a new employee technical skills rather than employability skills. Therefore, those who possess employability skills are more likely to obtain and maintain employment.

Employability Skills Framework and Mayer key competencies

Employers noted that the employability skills required in today's workforce incorporated many aspects of the Mayer key competencies but have expanded the list at two levels. Firstly, they have placed a priority on personal attributes; and, secondly, they have expanded the skill set to include areas which were formerly only implicit in the key competencies.

The research undertaken for this project suggests that enterprises today seek more complex elements within each skill. For example, the communication skills requirement has moved beyond basic reading, writing and verbal communication capacities to include listening and understanding, speaking clearly and directly, writing clearly, negotiating responsively, reading independently, emphasising and persuading.

The changes occurring in the workplace have also caused a redefining of aspects of Mayer key competencies. Some areas which were discrete under Mayer can now be subsumed by others; for example, mathematics is now covered by problem-solving. Conversely, competencies not explicit under the Mayer framework should now be made explicit; for example, self-management and learning.

Table 3: Comparison of Mayer key competencies and Employability Skills Framework

Component	Mayer key competencies	Employability Skills Framework
Attributes	Nil included	Personal attributes
Skills/competencies	Collecting, analysing and organising information	Planning and organising
	Communicating ideas and information	Communication
	Planning and organising activities	Planning and organising
	Working with others and in teams	Teamwork
	Using mathematical ideas and techniques	Problem-solving
	Solving problems	Technology
	Using technology	Learning
		Self-management

Source: Australian Chamber of Commerce and Industry & Business Council of Australia (2002, p.50)

Developing employability skills

The research has shown that enterprises expect that schools, the VET sector and universities will all play a role in contributing to the employability skills of their graduates, with the extent of the role depending on the level of education and training of the sector.

In the context of enterprise provision of entry-level skill development, all of the large enterprises indicated that they provided entry-level employees with initial induction training to assist in the transition to work. These organisations also have comprehensive approaches to formal training, using a combination of in-house and externally provided training. In the small and medium-sized companies interviewed, the training strategies were less formal but still viewed seriously, relying largely on a range of mentoring schemes for entry-level employees. As far as ongoing skill development is concerned, most of the large enterprises had introduced some form of performance management and development system to link skill formation with business strategy and performance outcomes.

Assessing employability skills

In interviews with enterprises, discussion took place about the assessment needs of enterprises and the tools used to determine skill levels of new and established employees. Enterprises identified a range of resources used for this assessment process which are shown in table 4.

All of the large enterprises and many of the small and medium-sized enterprises indicated that their assessment process began at the point of application for the job, with the interview being an important starting point.

The approach taken by large enterprises to assessing ongoing skill development was to use the organisation's performance management system. Tools for assessment included skill and performance review, assessment in an online program or as part of face-to-face training, feedback from observation, logbooks, coaching and mentoring and portfolios of evidence.

Small-to-medium-sized enterprises adopted less formal approaches to assessment, including observation of performance in everyday work situations, feedback from supervisors, peers, mentors and online tutors, self-evaluation, performance in on-the-job training programs and logbook and company exercises.

How the assessment and validation of employability skills for individuals, students and employers are reported and maintained over time remains an area requiring further investigation.

Table 4: Strategies used to judge employee's skill level in specific areas

Personal attributes	❖ Personal contact including: – informal face-to-face contact – formal interviews, often more than one – initial telephone contact ❖ Work experience reports ❖ School and training reports showing competencies and achievements ❖ References from previous employers and others in the community
Communication and teamwork	❖ Evidence of involvement in community activities and other extracurricular activities ❖ Samples of school projects/work ❖ References from school advisors and employers ❖ Testimonials from community members ❖ Interview performance
Problem-solving initiative and enterprise	❖ Previous work history ❖ Qualifications and course attended ❖ Hobbies, experiences, education ❖ A trial in the company
Planning and organising	❖ Social activities ❖ References ❖ Previous work history
Self-management, learning and technology	❖ Professional development history/plan ❖ Goals and dreams for the future ❖ General interests

Source: Australian Chamber of Commerce and Industry & Business Council of Australia (2002, p.54)

Conclusion and recommendations

This project has identified those key generic employability skills which enterprises argue that individuals should possess along with job-specific or technical skills. Furthermore, the enterprises argue that personal attributes play a critical role in the employability of individuals. The framework, developed as

a result of the project, builds on the Mayer key competencies and reflects the personal attributes and employability skill needs of enterprises seeking to grow and compete in an era of globalisation. An important future role for the Employability Skills Framework lies in its potential to inform the policy and curriculum development of the Australian education and training system. In this context the following recommendations were made:

- The Department of Education, Science and Training should refer the report *Employability skills for the future* to relevant agencies including:
  - Transition from School Taskforce of the Ministerial Council on Education, Employment, Training and Youth Affairs
  - Australian Vice-Chancellors' Committee
  - National Training Quality Council.

  It is recommended that these agencies be requested to respond to the Department of Education, Science and Training regarding implications for policy development and programs in schools and in the VET and higher education sectors, as well notifying the department of their strategies and timelines for the implementation of the framework in the various sectors.
- At their meetings during 2002, it is recommended that the Ministerial Council on Education, Employment, Training and Youth Affairs and the ANTA Ministerial Council note that the report, *Employability skills for the future*, provides the employer view of the employability skills necessary for the future success of Australian business, industry and employees. It is suggested that they also note advice from the relevant agencies about possible strategies and timelines for the implementation of this framework in an integrated manner across the three sectors of education and training.

Postscript

The report of this research, *Employability skills for the future*, was publicly released by the Minister for Education, Science and Training, The Hon Dr Brendan Nelson MP, on 23 May 2002. The report was also specifically referred by the department to those agencies specified in the recommendations.

The Ministerial Council on Education, Employment, Training and Youth Affairs at its meeting of 18–19 July 2002 requested that ANTA coordinate a collaborative cross-sectoral approach to assessing the feasibility of implementing the Employability Skills Framework in an integrated and phased manner across the formal education and training sectors as well as in the broad community.

The ANTA Employability Skills Cross Sectoral Co-ordination Group was established with representatives from the Australian Chamber of Commerce and Industry, the Enterprise and Career Education Foundation, the Ministerial

Council on Education, Employment, Training and Youth Affairs Taskforce on Transition from School, the Australian Vice Chancellors' Committee, ANTA and the Department of Education, Science and Training.

This group is following through on the Ministerial Council on Education, Employment, Training and Youth Affairs' request and is sharing information, aiming for consistencies and complementarity of activities where possible. It is planned that the group will provide a report on employability skills to the ANTA Ministerial Council (MINCO) and the Ministerial Council on Education, Employment, Training and Youth Affairs in 2003.

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VET teacher and student attitudes about generic skills

Victor Callan

This chapter* focuses on teacher and student attitudes to generic skills in the vocational education and training (VET) sector. Based on the responses of more than 700 TAFE students and over 100 TAFE teachers to a questionnaire, as well as interviews with 25 senior managers and teachers, it details which generic skills are valued by industry, and which ones are taught well compared with those which are not. The chapter also discusses how generic skills are best fostered, highlighting the importance of professional development for teachers, industry involvement, the need to promote the value of generic skills, and to update existing training packages to specify these skills more clearly.

Introduction

A MAJOR CHALLENGE TODAY is that Australia and its workforce continue to prosper in a global economy in which individuals are expected to have well-developed technical skills, as well as generic skills that allow high levels of flexibility, adaptability and an ability to work across a range of jobs. The interest of the Organisation for Economic Co-operation and Development (OECD), International Labor Organisation (ILO) and the European Union in generic skills highlights the desire of many of our competitor nations to develop people who have a high level of employability in a global and rapidly changing workplace. Individuals need to leave our vocational education and training system as people who can not only take up immediate employment, but who also possess high levels of employability which enables them to adapt to the demands of various jobs throughout a lifetime. Central to this employability is a solid foundation in generic skills.

* A summary of the report *Generic skills: Understanding vocational education and training teacher and student attitudes* (Callan 2003).

Generic skills include a set of generic core/basic 'hard' skills, interpersonal/relationship 'soft' skills and personal attributes. This broad framework of generic skills is similar to the generic skills identified in the United States Secretary's Commission on Achieving Necessary Skills of 1999, core and generic skills from New Zealand and several reports emanating from the United Kingdom (see Green 1999; Marsh 1997). Recently in Australia, Kearns (2001) has defined generic skills as 'the skills which can be used across a large number of different occupations. They include the key competencies or key skills but extend beyond these to include a range of other cognitive, personal and interpersonal skills which are relevant to employability'.

We have much to learn about how VET teachers and students perceive generic skills, their utility, and the success of institutions in facilitating the development of generic skills in their current students. This chapter reports upon the results to emerge from a series of interviews and national surveys to determine the attitudes that teachers and students in VET have about generic skills. In doing so, the research explored the levels of similarity and difference in attitudes, as well as levels of knowledge. Few studies have directly compared the views of teachers and students about generic skills. A second purpose of the research was to examine how VET institutions in Australia are facilitating in students the development of the range of cognitive, personal and interpersonal skills which are perceived to be relevant to employability. In summary, this research project examined two central questions:

- To what extent are generic skills understood and valued by students and VET teachers?
- How are generic skills being facilitated through VET subjects, VET courses, and in traineeships and apprenticeships?

Interviews, focus groups and national surveys

The research involved:

- interviews with 25 senior managers and teachers in Queensland, New South Wales, Victoria and South Australia
- a survey of teachers from nine technical and further education (TAFE) institutes which resulted in 105 responses
- a survey of students which resulted in 755 responses.

Findings

Understanding

In interviews, teachers used various descriptors to define generic skills, including 'soft skills', 'people skills', 'transferable skills', 'work skills', 'core skills', 'Mayer

competencies' and 'core competencies'. Despite the variety of terms used to describe generic skills, most teachers appreciated the variety of terms as part of a long history of debate in the fields of education and training. Overall:

- Teachers had no agreed-upon definition of generic skills.
- 80% of teachers reported that they knew and fully understood the concept of generic skills.
- They also reported high levels of recognition of the terms 'core skills', 'transferable skills', 'work skills', 'employability skills' and 'life skills'.
- They indicated considerably lower levels of recognition of terms such as 'Mayer competencies', 'soft skills' and 'hard skills'.

Students, on the other hand, had:

- a lower level of awareness of the term 'generic skills' than did teachers
- heard of the terms 'employability skills' (75%), 'key competencies' (73%), and 'core skills' (68%).

Teacher and student attitudes about generic skills

Teachers and students rated a number of statements to provide more detailed information about their opinions on the importance of generic skills, their assessment, and how they were presented in training packages. The vast majority of teachers reported that:

- They promoted to students the importance of learning generic skills, and that students understood the assessment of these skills.
- Students were more focused upon learning technical rather than generic skills.
- They believed that training packages could do more in embedding generic skills, and in helping students to be employable in a range of jobs in different industries.

Students were also asked to rate a number of attitude statements in the questionnaire to expand further upon a number of issues raised in the earlier interviews. The vast majority of students:

- were very positive about the skills of their teachers in explaining why certain skills need to be learned, and in helping students to develop new skills
- wanted to learn skills that allowed them to change jobs.

However, 58% of students who were surveyed wanted to learn skills only relevant to the industry they hoped to work in. This finding generally supports the opinions among teachers that students are often narrowly focused upon the more technical skills.

Teachers' views on student attitudes to skill development

In the interviews, teachers believed student attitudes toward skills development would vary depending upon whether they were TAFE students, or involved in traineeships and apprenticeships. Trainees and apprentices were focused upon the need to gain immediate on-the-job skills. Apprenticeship and traineeship students were judged to have overall skill levels that were much higher than students who were straight from Year 12. They have much more 'developed skills in hands-on diagnostic work, practical problem-solving skills and related skills', reported one director of studies. The industry, as well as the individual learner, had little patience for topics not linked to an immediate 'real world' application. It was generally agreed among teachers that generic skills needed to be built more explicitly into certificate I and II courses for most industries. Current courses at this level were highly technically focused.

On the other hand, Year 12 graduates who had little or no industry experience were judged by several teachers in the interviews to have quite basic skills in many of the generic 'soft skills', especially an understanding of customer focus and the importance of good workplace relations and teamwork. TAFE students in hospitality, business and similar programs were seen to be not as 'on-the-job focused, and are more likely to be the groups who will broaden their career horizons later in life'.

Generic skills that are taught well, poorly and those that are important to industry

In the interviews, teachers confirmed the view that employers wanted graduating students who have core skills that are transferable from one job or position to another. In terms of this 'wish list', as teachers described it, employers wanted employees who have good interpersonal and team skills who could add value from their first day at work. Employers expected employees to be adaptable and quick to learn, and they were looking for employees who will become a part of the organisation's future. Therefore, employers desired employees who will be innovative, able to deal with change, and who will be willing to learn new skills and knowledge as the business and the business environment around them grows and changes.

There was a great deal of discussion among teachers about the breadth of their 'brief' from employers, especially in developing positive attitudes about work. As one respondent reported: 'Employers tell me. You give them the attitude, and we'll teach them the content'. At the same time, while teachers believed they could 'train skill development', 'training in attitude development' in their view was a complex and unrealistic expectation by employers.

Most teachers in the interviews believed that employers:

- were most dissatisfied with the interpersonal, team and general communication skills of recent graduates from the VET system, as well as their levels of motivation and general job attitudes
- needed staff to have a solid set of broad communication skills that demonstrate both oral and written communication skills, and a basic understanding of communication/information technology.

Table 1 summarises teachers' ratings and table 2 presents from the national surveys, students' ratings of skills that they viewed as 'very important' for the type of job students wanted to gain. In order to differentiate between the skills, the two tables reveal the extent to which each skill in the generic set of skills presented to teachers and students was rated at the top of the scale, that is, 'very important'. The students' table also differentiates between certificate I and II students and other students.

Table 1: Ratings of skills—teachers

	% listing each skill as 'very important'	%
1	Being able to read, spell and write well	58.1
2	Being able to use mathematical ideas and techniques	32.4
3	Being able to solve problems	65.4
4	Being able to use information technology	28.8
5	Being able to understand how ideas and systems are linked to each other	32.4
6	Being able to collect, analyse and organise information	50.5
7	Being able to speak and communicate well with other people	65.7
8	Being able to understand and communicate with people from other cultures	34.3
9	Being able to work with other people in teams	63.8
10	Being able to build and manage a team of people	19.2
11	Being able to solve conflicts	36.2
12	Being a good manager of their time	49.0
13	Having a customer focus	43.8
14	Being creative and innovative in their thinking	36.2
15	Being able to reflect upon what and how they learn	38.5
16	Being able to plan and organise activities	44.8
17	Having work and study skills	45.7
18	Having a practical focus	50.0
19	Being self-confident	47.6
20	Being able to change how they think and behave	42.3
21	Being able to complete a task when there is incomplete information	31.7
22	Knowing how they learn best about new skills or ideas	33.3
23	Being ethical	65.7
24	Being able to challenge how things are done	33.3
25	Being motivated	74.0
26	Being adaptable to change at work	57.3

Table 2: Ratings of skills—students

	% listing each skill as 'very important'	%		
		Cert. I & II	Cert. III+	Total
1	Being able to read, spell and write well	58.5	71.9	69.4
2	Being able to use mathematical ideas and techniques	51.1	36.9	39.5
3	Being able to solve problems	58.5	60.4	60.1
4	Being able to use information technology	46.6	37.7	39.4
5	Being able to understand how ideas and systems are linked to each other	49.6	40.0	41.8
6	Being able to collect, analyse and organise information	39.6	52.4	50.1
7	Being able to speak and communicate well with other people	63.4	77.1	74.6
8	Being able to understand and communicate with people from other cultures	35.1	50.5	47.7
9	Being able to work with other people in teams	64.4	65.8	65.6
10	Being able to build and manage a team of people	41.5	43.1	42.8
11	Being able to solve conflicts	41.5	49.4	48.0
12	Being a good manager of their time	55.2	64.2	62.6
13	Having a customer focus	48.5	47.1	47.4
14	Being creative and innovative in their thinking	44.4	49.7	48.8
15	Being able to reflect upon what and how they learn	37.3	42.4	41.4
16	Being able to plan and organise activities	33.6	46.3	44.0
17	Having work and study skills	53.0	53.3	53.2
18	Having a practical focus	49.6	51.2	50.9
19	Being self-confident	61.7	64.7	64.2
20	Being able to change how they think and behave	42.9	45.8	45.3
21	Being able to complete a task when there is incomplete information	47.4	43.3	44.1
22	Knowing how they learn best about new skills or ideas	47.4	42.0	43.0
23	Being ethical	44.7	50.8	49.7
24	Being able to challenge how things are done	37.0	36.5	36.6
25	Being motivated	68.7	72.9	72.1
26	Being adaptable to change at work	62.2	60.5	60.8

Results reveal that:

- Teachers and students rated the importance of the same list of generic skills.
- The overwhelming majority of teachers and students believed that all of the skills listed were at least important or somewhat important.
- Teachers and students have broadly similar perceptions about importance. Overall, both groups rated highly (50% or more of respondents) the need for the skills: being able to read, spell and write well; being able to solve problems; being able to collect, analyse and organise information; being able to speak and communicate well with

other people; being able to work with other people in teams; having a practical focus; being ethical; being motivated; and being adaptable to change at work.

In addition, the majority of students added to these skills those related to being a good manager of their time, having work and study skills and being self-confident.

In the survey, teachers and students working from the same list of generic skills were asked to nominate the five skills that were:

- being taught well
- taught poorly
- most important for a job in their industry.

For teachers and students the generic skills which were taught well were:

- solving problems
- collecting and analysing information
- communicating well
- working in teams
- having a practical focus
- planning and organising
- self-confidence
- being motivated.

Generic skills which were poorly taught according to teachers and students were:

- reading, spelling and writing well
- using mathematical ideas
- communicating with persons from other cultures
- building and managing a team
- solving conflict
- being able to change
- dealing with incomplete information
- challenging how things are done.

The generic skills which teachers and students believed are important to industry were:

- being able to read, spell and write well
- problem-solving

- being able to collect and analyse information
- using information technology
- speaking and communicating well with people
- working in teams
- being motivated
- being self-confident
- being adaptable to change.

How are generic skills being facilitated through VET subjects, VET courses, and in traineeships and apprenticeships?

The vast majority of teachers interviewed believed that generic skills were being facilitated through:

- teachers' learning strategies
- access to highly experienced teachers
- training packages
- the assessment.

Teachers' learning strategies

In almost all of the interviews teachers discussed whether the successful facilitation of generic skills required the application of principles of adult learning. However, one departmental head believed that too much was being expected of teachers today by some industries. He went on to say:

> *We just don't know how to teach them this wish list of employer skills. Employers expect too much from teachers and students, given the conditions we are working under. We are willing to continue to change, but we will need professional support and development if we are to fully adopt more student focused or adult models of learning.*

Similarly, an institute director believed that while VET was moving more towards the wider acceptance of adult learning models and student-focused teaching, 'many teachers just don't know how to get there'.

There was general agreement that the quality of interactions with students was fundamental to the success of this learning process. Whether as a 'teacher as expert' or 'teacher coach', the teacher had the authority to model and shape the learning environment. As one teacher explained:

> *Whatever the teaching model, to develop good communication, problem-solving or related generic skills, it is up to you. First, gain the permission of students. A*

good teacher can … make up for the shortcomings of a training package, the quality of the classroom environment or a poor workplace experience that students might have with an employer. Where the generic skills are implicitly rather than explicitly stated in the training package, a skilled teacher can cluster the competencies, and design the assessment and classroom activities to make it all work. Unfortunately, there are some teachers with only basic training who just don't know how to do this.

In the interviews, students reported that they wanted their teachers to be more explicit in telling them what certain skills were essential or useful. Currently they felt that the process was too subtle. Some students felt that they were left to guess or infer the actual importance of many skills for the type of employment or career they wanted to follow.

Access to highly experienced teachers

A number of those interviewed believed that more effort needed to be expended in teacher training to encourage the adoption of more student-focused, facilitative forms of classroom learning in VET. Across institutions, those interviewed emphasised the high level of technical skills and technical competence of existing teachers. However, some senior managers and teachers felt that the broader development of teachers in the areas of teaching and learning strategies had been disregarded. It was argued that in institutions facing tough times, the professional development of many teachers had been ignored in recent periods of cost cutting.

One institute director, however, expressed a different view. He believed that some teachers have become so focused upon efficiency, effectiveness and control of costs, that it was now a challenge for senior staff to interest teachers in debates about teaching and learning philosophies. 'Lost in the activity of teaching', he commented. He believed that some teachers did not know a great deal about recent debates post-Mayer. It was a topic of conversation among faculty and departmental heads, but he believed that frontline teachers were not brought into the debate due to time and related constraints.

In discussing the quality of teachers, there was some criticism of the skill level of workplace assessors and certificate trained teachers. They were labelled as 'unsophisticated', 'unable to understand the learning process and the learning journey', and 'unable to comprehend the importance of the educational process'. It was argued that fundamental to the success in developing more generic skills was the need to have highly skilled teachers who understood student learning styles, competency mapping, learning theory and the wide range of assessment strategies. Learning models were seen to be the basis for helping students to learn about how to learn. It was felt that those teachers with more in-depth professional training in education and teaching would have more success marrying together the technical as well as more generic skills required by students and their employers. However, others strongly disagreed with these

opinions. By contrast with more qualified teachers, many certificate IV qualified teachers were judged to be highly motivated. In particular, they were perceived to be more motivated by the desire to serve their industry and by the more intrinsic rewards of teaching.

The teacher interviews revealed that several teachers believed that student attitudes about the importance of specific skills are strongly shaped by teacher attitudes to these skills. If a teacher promoted a skill as being important, there was a strong likelihood that students would think similarly. A number of teachers, however, believed that students were quite traditional in their view of learning. As one said, describing her experiences:

> *You have got to get the permission of many students, especially those from non-Anglo backgrounds, to move into new modes and non-technical areas of skill development. Teaching students from different cultural backgrounds really adds another level of complexity to skill development.*

Students talked about the importance of having teachers with real-life experience, who inspired them to get a job in their chosen profession. They believed that good teachers helped them develop their special technical, as well as broader life skills. They understood that their teachers had considerable industry experience, and regularly visited the workplace to maintain currency. Good teachers were judged to be passionate, enthusiastic, knowledgeable, approachable, and well-organised. They enjoyed teachers who set different forms of assessment, away from report or assignment writing, to assessment that took a more portfolio approach.

Students spoke positively about self-paced packages, especially the flexibility, speed and applied focus of such packages. They felt many of the exercises in self-paced learning made them reflect upon their broader development of skills. These packages helped them to develop a more personal relationship with their instructors.

Training packages

Training packages are a major device for facilitating the development of generic skills in learners. In interviews with VET teachers and administrators, many believed that the generic skills had been embedded quite successfully into the content of the training packages they worked with. The advantage of successful embedding was that the content flowed. Others, however, felt the embedding was too subtle. All interviewees believed that there was tremendous variety across packages and across industries. But the consensus was that more recent training packages were 'doing a better job' in successfully embedding more generic skills either in the content, process or through the assessment exercises within the training package.

Some felt that an alternative model was needed in which generic skills were introduced earlier in students' studies, typically as a front piece that covered the general skills required to operate effectively as employees firstly, and subsequently, as employees in a specific industry. The risk was that such 'add-on' or 'bolt-on' modules would not be taken seriously as they were not integrated into the content of the course.

However, it was believed that generic skills modules such as these are successful when they are actively promoted by teachers. In line with this approach, the generic skill packages would need to be linked with industry speakers and industry exercises, and with a level of assessment that encouraged students to take them as seriously as more technically based modules. It was felt that, unless they were assessed, students would not take the content of any generic skills module seriously. The key generic skills to be targeted in these introductory modules would include literacy and numeracy, basic communication and report-writing skills, and study or cognitive skills.

Many proposed that teachers and workplace assessors had taken too narrow a view of training packages. A frequently cited example was responding to literacy and numeracy problems that might emerge with certain students. While the training packages no longer allowed coverage of such skills in packages, there were other options that could be used from within the VET system (for example, access to learning support). A number of New South Wales respondents spoke about the training package merely providing 'a statement of skills or outcomes that you weave into an approach to impart those skills'. To them, the real driver behind classroom activities and student interaction was the use of the curriculum, not the training package. Similarly, Queensland respondents described how institutions now met to discuss specific training packages to ensure similar interpretations of the goals of a package and appropriate forms of assessment.

More experienced teachers seemed to have more positive attitudes about training packages. While accepting that many training packages present core skills implicitly rather than explicitly, they believed that experienced teachers with solid backgrounds in industry 'knew where the training packages were coming from'. As many of the skills were implicitly presented in packages (for example, team building skills), the person delivering the package was seen as responsible for deciding 'how to bring those skills forward'. Some respondents were also critical of 'the very ad hoc mapping to the Mayer competencies. I doubt if teachers really take much notice of this mapping'.

Assessment

In the interviews, students talked about the need to place skill development and assessment within a work context. They wanted to be 'street wise', and were motivated to learn skills for a specific job or industry. On the other hand, they

did not feel that their teachers spent much time explaining how certain 'life skills will help me if I decide to change jobs and positions' (female business student). Students also wanted more time to reflect upon work-based experiences. Some reported that there was little use of reflective processes in which they could report upon the experiences of working, for instance, with others as part of a team, or their experiences and learning in solving a problem.

Students supported a portfolio model of assessment for more generic skills. As some teachers observed, a portfolio model of assessment is sometimes preferred for generic or 'hard to quantify skills' (as one teacher remarked), which can include teamwork, innovation or a willingness to challenge assumptions. The portfolio approach, as teachers explained, allowed the use of a wide range of qualitative and quantitative indicators to show that students were competent in a skill.

Many students who were interviewed perceived the assessment load for some existing key competencies already to be too onerous in a number of training packages. A related challenge is how the additional assessment of generic skills will be built into packages where the assessment is already perceived to be onerous.

Improving the facilitation of generic skills

In their questionnaire, teachers were asked: 'In your opinion, how can generic skills be better facilitated through VET subjects, VET courses, and in training packages?' The specific comments of teachers indicated that they saw a need for greater specification of the skills. This included: 'clearer specification of the generic skill in the course outcomes'; 'more detailed content, clarification and examples' and 'generic skills need to be more explicitly embedded in the course but not to the extent that they take the place of vocational skills'. Related to this level of specification was the view that generic skills need to be taught in discrete units, with in-depth content and underpinning knowledge. At present as they exist in training packages, many teachers believed that they are lost and not seen to be important.

On the issue of special packages, various teacher responses included: 'perhaps we need to develop a generic skills subject or module that all students must achieve to gain the qualification'; and 'generic skills need to be taught and identified as separate competencies (as per the national communication skills modules)'. In addition, teachers suggested the need for greater collaboration between the developers of training packages and teachers of general education (those who focus upon the development of generic skills), and employers (who know the generic skills that are most valued in the workplace). Other teachers emphasised the need for generic skills to be assessed on a more regular basis. These and other actions would, as one teacher wrote, give 'more emphasis … on their importance'.

Concluding comments about strategies for enhancing generic skill development

In this final section, a variety of strategies for consideration in the further development of generic skills in VET are outlined. These insights emerge both from the review of the literature and the findings of the current project. In summary, these strategies are focused upon:

- VET teacher professional development
- continued industry involvement
- greater promotion to learners of the value of generic skills
- updating of existing training packages.

VET teacher professional development

The current research, together with other reports (for example, Down 2002; Jasinski 1997; Mitchell & Young 2001) highlights the need for the effective professional development of VET staff, including sessional staff. The current research reveals that a student-focused approach to learning, delivered by highly skilled teachers, is central to the successful development of generic skills in learners. Teachers need to have the training and skills to be able to deliver in class effectively, and to be able to use training packages and related assessment to their maximum advantage. There is a need for improved teacher training for new teachers, and professional development for current teachers in the use of a wider range of models of teaching and learning, including student-focused and flexible learning modes in which the teacher is an enabler or coach rather than the expert.

In this project teachers have reported that, to enable the successful introduction of the concept of generic skills, the teacher needs to be more flexible and skilled in a wider variety of learning strategies whereby they can identify those students requiring assistance in their development of generic skills. Teachers also need staff professional development to provide consistent assessment of generic skills. In particular, the use of portfolio assessment, which students in this project favoured, requires support packages to enable teachers to assist students to develop evidence-based portfolios.

Industry involvement

Related to this is the need for teachers to have more regular contact with industries to determine the requisite generic skills, and the learning and assessment processes on and off the job which can be used to develop those skills in students. Teachers will need additional help and support in developing

the knowledge and skills to integrate generic skills more effectively into current teaching practices. Continued partnerships with industry will be critical to identifying the key generic skills required for their employees by employers. The creation of strategies for developing generic skills in learners for implementing on and off the job is another area for potential industry collaboration.

Greater promotion to learners of the value of generic skills

There is a need for greater promotion of the value and importance of generic skills to teachers and students. There is currently some confusion about the wide range of terms being used, and students do not recognise the term 'generic skills' as readily as teachers. The sector needs to decide upon either 'employability skills' or 'generic skills' as its preferred term before a more active promotional campaign begins.

A major finding from the current project is that teachers and students have shared ideas about which generic skills are currently taught well, which are being taught poorly and those which are more important to industry. This listing of skills should be incorporated into frameworks being promoted to identify the generic skills requiring robust integration into VET programs and into training packages. While the better promotion of the benefits of higher levels of employability and career mobility as a result of possessing generic skills is suggested, fostering generic skills requires changes to the motivations of students. Learners need to take responsibility for their own learning, especially if their personal goals involve establishing the habits of lifelong learning. The Business Council of Australia and Australian Chamber of Commerce and Industry report (2002) also suggests a number of strategies to address this issue: if employers demand evidence of employability skills among job applicants, these job applicants will pressure training providers to teach, assess and to certify these skills more effectively than at present.

While this might be labelled the 'stick' approach, we need to better understand other ways or incentives (the 'carrots' approach) that will encourage students to be better motivated to acquire more generic skills to aid their employability and prospects of securing the jobs they want. In the current project, students favoured learning technical skills over generic skills. One strategy is to introduce students to models and ideas about how learning takes place. Once students better recognise their preferred learning style or approaches to learning, their motivation to understand and to be more involved with their teachers in the learning process will improve. Understanding how they learn should encourage a more holistic approach that gives increased attention to the value of generic skill development.

The assessment of generic skills encourages less motivated students to put more effort into developing not only technical but also more generic skills. Assessment reinforces the validation of what students learn, and is a key

learning device. In the current project teachers focused upon the challenges of assessing more generic skills. Once again, here is an instance where staff professional development is required to build teacher confidence about assessment methods in this area. Separate assessment of generic skills would also make more explicit the transferable nature of these skills, and would contribute to building the levels of confidence among students, and in turn, among employers, that students are mastering the complexities of generic skills; for example, being an effective team member, communicator and problem-solver.

Updating current training packages

Developers of training packages need guidelines which describe which skills are important and how generic skills can be built into training packages. A related issue involves guidelines about the assessment and reporting of generic skills. Clayton (2002), for example, has recommended the need for products which provide advice on quality evidence, moderation of assessment, and the provision of quality assessment tools. In addition, materials are required to support training and professional development for assessors who are assessing not only technical skills but increasingly, more generic skills. Overall, there is a need now to move beyond debates about the definitions of generic and employability skills to the strategies for helping teachers to identify, promote, assess and certify generic skills.

Moreover, a planned approach to the targeting and updating of existing training packages in order to improve the identification and facilitation of generic skill development would seem to be a worthwhile goal. Linked to this suggestion is a reminder of the importance of the learner. In particular, there needs to be increased support for learners in determining what skills they possess, and in developing a plan for further development of these skills.

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Developing generic skills in training packages

Susan Dawe

This chapter* reports on the results of the 2001 generic skills research study, which specifically looked at how these skills were addressed in ten national training packages and implementation approaches which foster the development of generic skills.

This study found that the generic skills which are apparent in all training packages analysed in the project are communicating, working in teams and following occupational health and safety procedures. The case studies revealed the importance of generic skills to recruitment practices and provided examples of strategies used in the workplace and formal training to ensure that learners acquire the generic skills as well as technical skills, knowledge and the relevant attitudes which are all integral to competence.

Introduction

THIS STUDY AIMED to investigate the ways in which the Mayer key competencies and other generic skills have been incorporated into national training packages, and to assess whether or not there is sufficient focus on the attainment of generic skills. The study also examined ways to enhance the delivery of these skills so that students are better prepared for the new demands of the workplace.

The methodology for the study included:

- a review of relevant literature
- an investigation of the implementation of training packages in the following industries:
  - Administration/Business services
  - Agriculture/Horticulture
  - Australian Red Cross Blood Service
  - Entertainment
  - Hospitality
  - Information technology

* A summary of the report *Focussing on generic skills in training packages* (Dawe 2002).

- Community services
- Construction
- Metal and engineering
- Retail

❖ case studies of training providers with a reputation for 'good' practice within each industry. The case studies involved interviews with workplace learning managers and trainers to find out the approaches used to assist trainees and workers to further develop or enhance their generic skills.

Key competencies and generic skills in Australia

In 1992, the Mayer Committee developed a set of competencies to detail the necessary or key skills and attributes all young people should have on entering the workplace (Mayer 1992). In the Mayer report, the seven key competencies included:

❖ collecting, analysing and organising information

❖ communicating ideas and information

❖ planning and organising activities

❖ working with others and in teams

❖ using mathematical ideas and techniques

❖ solving problems

❖ using technology.

In addition to defining the key competencies, Mayer identified three performance levels. Level 1 referred to the competent following of instructions, level 2 required the selection of the appropriate methodology and resources to achieve the desired outcome, and level 3 involved the creation of new approaches to achieving a specific outcome or improved outcome. These key workplace competencies were to be incorporated into secondary and higher education programs, and subsequently into the vocational education and training (VET) training packages. Although the key competencies have been described as discrete entities, it is important to note that they are overlapping and interrelated and are not separate skills or processes (Hager et al. 1996).

Towards the end of the 1990s, there was a slight shift in how employers viewed the generic skills considered to be essential to successful workplace performance. Studies conducted by ACNeilson Research Services (2000) and the Allen Consulting Group (2000) found that generic skills desired by employers included interpersonal skills relating to business communication, customer focus, teamwork, building relationships and networking. They also noted the importance of personal attributes, which included the desire to learn and apply learning, personal responsibility, time management, critical analysis, flexibility and adaptability.

The recent emphasis in Australia seems to have shifted towards 'behavioural competencies', 'new' generic skills required for the knowledge worker, and skills for lifelong learning and future employability.

Behavioural competencies

The 'behavioural competencies' identified by McClelland (1973) are listed in table 1. They are often used by companies as a basis for selection of staff. For example, the 'behavioural event interview' is used by many high-performance companies to select staff with these attributes. It is based on the 1970s work of Harvard University Psychology Professor David McClelland and associated researchers as reported by Spencer and Spencer (1993).

Table 1: McClelland's 20 behavioural competencies (1970s)

1	Self-control	11	Initiative
2	Self-confidence	12	Interpersonal understanding
3	Organizational commitment	13	Customer service orientation
4	Flexibility	14	Impact and Influence
5	Expertise	15	Organizational awareness
6	Information seeking	16	Relationship building
7	Analytical thinking	17	Directiveness
8	Conceptual thinking	18	Developing others
9	Achievement motive values	19	Teamwork and cooperation
10	Concern for order	20	Team leadership

Source: Spencer & Spencer (1993)

Generic skills for the knowledge worker

Brelade and Harman (2001) defined the knowledge worker as 'someone whose basic "tools of the trade" are the knowledge, skills and abilities they possess'. Knowledge work includes a set of specific attributes related to expert knowledge and the management of one's own learning. The five skills necessary for the knowledge worker have been called the 'five Cs'. They include:

- Confidence—to take on new tasks and projects
- Curiosity—to understand and find things out
- Co-operativeness—to share information and ideas with others
- Commitment—to learning new skills and new information
- Creativity—to connect different ideas and experiences.

(Brelade & Harman 2001, p.12)

Skills for lifelong learning and future employability

Bowden et al. (2000) included the 'capability to work with a global perspective' in their set of generic capabilities required for lifelong learning and future employability. Developed for university graduates, these nine generic capabilities include:

- knowledge
- critical analysis
- creativity
- communication
- teamwork
- leadership
- responsibility—for own learning and behaviour and makes informed decisions
- environmental awareness
- international orientation.

In his comprehensive research review of generic skills, Kearns (2001) noted that, in the absence of international consensus on what constitutes the essential generic skills, there was a need to strengthen the existing key competencies and develop a broader, more holistic set of key generic skills required for the information-based new economy. Kearns notes that this set of skills would also apply to lifelong learning, maintaining employability and creating a culture that supports learning, enterprise, innovation and creativity.

Brelade and Harman (2001) also noted that for innovation and creativity to occur in the workplace, enterprises needed to adapt and support a culture of learning. They described managers as needing to apply a 'training methodology' which included:

- encouraging collaboration
- making ideas accessible
- exploring conflicts
- encouraging dialogue
- suspending judgement on occasions and being tolerant of different viewpoints
- encouraging a sense of community, common interest and trust.

(Brelade & Harman 2001, p.12)

Developing training packages

The training package for each particular industry contains the endorsed national competency standards, assessment guidelines, and qualifications and titles at different levels of the Australian Qualifications Framework (AQF). Competency standards are developed by combining units of competence into groups, which have meaning in terms of roles within the workplace. Each unit of competence comprises:

- unit title, which describes the broad area of competence, like 'duties' in a job
- elements of competency, which describe discrete actions of outcomes
- performance criteria, which describe essential aspects of performance
- range of variables, which specify the range of contexts and conditions
- evidence guide, which covers the critical aspects, underpinning knowledge and assessment context.

Thus, competency standards describe the knowledge, skills and personal attributes needed in a specific area of work and the standard of work expected. This allows workplaces to customise training programs according to needs. Individuals and their employers can decide on the combination of training and assessment pathways they will follow. This means that people can learn on the job and/or off the job and achieve a national qualification.

In addition, training packages make it possible for individuals to acquire recognition through assessment-only processes, which include the gathering of evidence to show competence. By way of example, Sydney Opera House staff have acquired recognition through these assessment processes under the Entertainment Industry Training Package.

The training packages are endorsed for three years and the review process usually commences 18 months after endorsement. This is because a comprehensive industry and stakeholder consultation and a formal report submitted to the Australian National Training Authority (ANTA) are required. In the second stage, changes recommended in the stage 1 review report are developed for consultation before the revised training package is submitted for endorsement. ANTA has published extensive guidelines for the development and review of training packages (ANTA 1998).

The national VET system, through training packages, encourages multiple pathways for delivery of VET training through a choice of public and private providers, VET in Schools, work and a combination of on-the-job and off-the job training through New Apprenticeships. The Australian Qualifications Framework includes the qualifications covered by training packages from entry level to supervisory and management levels (Australian Qualifications Framework, levels one to five) within the industry sectors (for example, Certificate I, II, and III in Retail Operations, Certificate IV and Diploma in Retail Management).

Training packages are progressively being implemented in all industry sectors and across industries through a process of development, review and/or identification of competency standards and national qualifications. The first training package was endorsed by the National Training Framework Committee in July 1997. By January 2001, 56 industry and seven enterprise-specific training packages had received endorsement. By September 2002, this had increased to 70 industry training packages and seven enterprise-specific training packages (National Training Information Service 2002).

Incorporating generic skills in training packages

The ANTA guidelines for training package developers require the incorporation of the Mayer key competencies and their related performance levels for each unit of competence. Although the Mayer key competencies are identified as essential at all Australian Qualifications Framework levels, performance levels are expected at higher levels for higher Australian Qualifications Framework qualifications. The Mayer key competencies were all incorporated into the training packages analysed for this study. They were identified as competencies or skills which underpinned the competency standards. Two key competencies, 'using technology' or 'using mathematical ideas and techniques', were not specified in some units of competency but they were still essential in all industry sectors. However, interviews with teachers and trainers indicated that the performance levels established for the identified key competencies were causing confusion. In some cases these performance levels had been totally ignored.

In addition, compulsory competencies and elective units were identified for each Australian Qualifications Framework qualification. For certificates I and II, the compulsory competencies were related to generic skills and the key competencies identified for them were generally required at performance level 1 or 2. At AQF levels III and IV, compulsory competencies generally related to management and supervisory roles, and so key competency performance levels expected were higher (that is, levels 2 or 3).

Compulsory units of competency were developed to cover essential skills which included generic skills and basic technical skills. In this analysis of training packages, three generic competencies were found to be compulsory in all ten packages. These included:

- working with colleagues or in a team
- communicating in the workplace
- following occupational health, safety and security procedures.

In the majority of the ten industry sectors, there were another four essential skills:

- customer service
- professional behaviour, grooming and work ethics

- ❖ planning daily work routines
- ❖ developing or updating industry knowledge.

While important for all industry sectors, 'acting to minimise emergencies or use hazardous substances safely' was a compulsory competency in training packages for the agriculture, construction and retail industries, and the Australian Red Cross Blood Service enterprise.

Information to guide assessment

The training packages encourage the use of a variety of learning strategies and evidence-based and work-based assessment. Assessment guidelines in the training packages suggest that assessment of units of competence should reflect the clustering of units of competence into logical work activities. The assessment of such clusters requires an integrated holistic approach to be used where possible, to ensure that assessment is not narrowly based on tasks but embraces all aspects of workplace performance. This approach seeks to combine knowledge, understanding, problem-solving, technical skills, attitudes and ethics into assessment tasks. In addition, the means for collecting evidence for assessment of units of competence should meet the principles of validity, equity, authenticity and sufficiency.

From discussion with VET practitioners, it was found that experienced teachers and trainers are required to ensure that the key competencies are integrated into the teaching and assessment of technical skills. VET practitioners indicated that the Mayer key competencies should be more explicit in the performance criteria and evidence guide for each unit of competency. They also suggested that more examples of techniques for including generic skills in the assessment tasks should be provided in the assessment guidelines, and that the review of training packages should focus on including this information to ensure generic skills are assessed.

Learning resources have also been published to assist VET practitioners implementing training packages. However, most teachers and trainers reported that they needed to adapt these learning resources for specific enterprises or courses and prepare additional learning resources.

Integrating generic and technical skills training

The findings in the literature indicate the effectiveness of an integrated approach to learning. If competency is the ability to perform 'whole work roles', then it is clear that workers will be expected to perform a number of tasks at the same time amid interactions with customers, colleagues or supervisors (Gibb 1992). This means that generic and technical skills and knowledge will need to be integrated. This is especially the case for interpersonal skills and time-management skills.

Gonczi (1998) expressed his opinion that 'the capacity to bring together knowledge, values, attitudes and skills in the actual practice of an occupation is the kernel of the integrated concept' (p.36). Enterprise training managers interviewed for this study supported Gonczi's claim for integration.

Down (2000) identified learning strategies to support the development of key competencies and recommended their use in all training, ranging from entry-level training to management training. These strategies have been incorporated into the latest ANTA guidelines for developers of training packages. They have also been used in the revision process for training packages. Down's learning strategies included:

- workplace projects
- use of critical incidents to focus discussion and problem-solving
- investigation or enquiry-based learning
- problem-solving learning
- project learning
- reflection on learning and workplace practice.

The implementation of collaborative and guided approaches to learning is also supported by Billett (1999) whose model for workplace learning is based on:

- a logical sequence of workplace activities of increasing complexity and accountability
- the goal or product of the workplace activities being accessible to learners
- direct guidance for learners from more expert fellow workers
- informal guidance provided by others, learners listening to and observing other workers, and the physical environment.

The good practice examples investigated in this study were found to use a variety of learning strategies as identified by Down (2000) and the collaborative and guided approaches as suggested by Billett (1999). A large variety of experiences was also found to assist learners to apply generic skills and technical skills to new contexts.

VET practitioners reported that they were required to interpret the training packages, develop new learning materials and use a variety of learning strategies, including collaborative and guided approaches with which they were not so familiar. Practitioners on the other hand, were familiar with written assessments, but they were not as comfortable with evidence-based and work-based assessments.

Generic skills training in industry

A particular focus of this part of the study was to investigate how generic skills are being acquired and developed in companies. The case studies were selected as examples of good training practice in the industry. Table 2 lists the companies and/or registered training organisations included in this study. In general, the companies in this study tended to acquire employees with particular generic skills through their recruitment processes, and expected them to further develop their generic skills through specific on-the-job and off-the-job training and development activities. The institution-based case studies followed a similar model for training apprentices or implementing compulsory work-based assessment for students at the institute.

Table 2: Selected case studies in the ten industry sectors

Training package	Good practice case study
Hospitality	Accor Australia & New Zealand hotel group
Administration	aDMIT Solutions practice firm—Douglas Mawson Institute of TAFE
Community services—aged care work	Baptist Community Services—NSW & ACT
Civil construction	Thiess Construction Pty Ltd
Metal and engineering	Gateway to the Trades, Brisbane Institute of TAFE
Agriculture—beef cattle production	Australian Agriculture Company
ARCBS—enterprise-specific	Australian Red Cross Blood Service (ARCBS)
Entertainment industry	Sydney Opera House Trust
Information technology	Aspect Computing—SA
Retail	Coles Supermarkets Australia—SA

Recruiting staff

It was common for companies to select new staff based on presentation, personality and attitudes. From experience with employees, the human resources staff in these comparisons had found that personality, attitudes and values were difficult to change. For entry-level positions, the specific skills and knowledge for most jobs could be taught on the job. Thus, they believed it was preferable to select staff who already had the desired personality traits, attitudes and values.

Generic 'people skills' were also often sought by human resource staff when interviewing applicants. These skills most often referred to effective communication skills, customer courtesy and the ability to work in a team. They also included displaying respect for individual clients and colleagues, and sensitivity to cultural diversity and disability, and the ability to respond to the needs of clients, colleagues and the organisation.

Applicants for positions also needed to demonstrate that they had an interest (preferably a career interest) in the particular industry. In addition, they were required to demonstrate a willingness to learn.

The role of on- and off-the-job training

Companies in this study were found to use formal induction processes to further develop the generic skills of new staff. The registered training organisations, including enterprises and technical and further education (TAFE) institutes, supported the integration of generic and technical skills training and development in both on- and off-the-job training. They also supported a variety of learning strategies to develop generic skills in employees. Findings also indicated that there was a substantial senior management commitment within these companies to the development and maintenance of an organisational training and learning culture.

Induction processes

It was common for companies to develop the generic skills of new staff or trainees through a formal off-the-job induction or orientation training session. In many companies a 'buddy' system was used to assist the supervisor to induct new staff on the job. The 'official buddy', an experienced colleague, became a mentor to the new employee by explaining why certain things were to be done in specific ways and providing answers to queries.

Generic skills included in induction training were skills in communication, working as part of a team, customer service and professional behaviour. Job-specific skills, such as handling of tools and equipment and appropriate hygiene processes, were also dealt with during induction. At induction, individuals were informed of the need to take responsibility for their own learning, and were provided with information on the qualifications and training they would have to undertake in their job, to be promoted or obtain a different position.

Off-the-job induction training generally covered a number of generic competencies, for example, workplace health, safety and security. At times, this also included a focus on learning skills, such as how to find the most recent occupational health, safety and welfare legislation or other up-to-date information. Similarly, issues related to industrial relations, including working conditions and equal employment opportunities, were also covered. Generally, companies felt that the training package did not cover sufficiently the topics of industrial relations and equal employment opportunities.

Integration of generic and technical skills

Although combining training in generic and technical skills is more complex in terms of its teaching, it is also perceived to make generic skills more relevant, which in turn increases the motivation for learning. The findings from the case studies indicate that industry supports the integration of generic and technical

skill development because it is felt to be closer to the real experience of the workplace. In addition, it was believed that the transfer of generic skills to the workplace was more likely if these skills were taught in the context of the required technical skills. For example, at Aspect Computing, information technology professionals have been able to improve their communication skills, including negotiation, presentation, and business communication, by working on a technical project for a client, and being guided through this by a trained mentor. This learning strategy has enabled them to learn about communication skills and easily transfer them into practice in their work activities.

In some cases, generic skills, such as specific language, mathematics or learning skills, may need to be taught separately and prior to the delivery of further training in technical or specialist skills. This was particularly relevant to engineering programs at the Gateway campus of Brisbane Institute of TAFE where students undertaking specific pathways required more advanced mathematics skills to understand and apply concepts than the majority of students in other streams for which the core competencies had been designed.

Training managers interviewed believed in the importance of integrating knowledge, values, attitudes and skills in training sessions and emphasised that the assessment of each competence must cover all four areas. For example, at Baptist Community Services (New South Wales and Australian Capital Territory), aged care workers could not be assessed as competent in tasks, such as 'showering a client', unless they also displayed empathy with the client in their communication and approach.

Training managers also believed that it was crucial to integrate training and practice and to align training with job responsibility. For this reason, work placement and school-based traineeships were particularly supported by Coles Supermarkets, and the Certificate IV in Retail Management was undertaken by employees on first becoming departmental managers.

The integration of generic and technical skills was highlighted in the Douglas Mawson Institute of TAFE (DMIT) Information Technology Department model of work-based assessment. This model integrated typical classroom-based delivery, structured support classes and a final year project which required a work placement in the industry. The practice firm, 'aDMIT Solutions', was used as an alternative to classroom-based delivery. For some students, the practice firm was used as an introduction to the workplace. It allowed other students, who were unable to be placed in industry placements, to demonstrate competence in a workplace context.

A variety of learning strategies

Good practice in delivering generic skills training is found to be based on the provision of a large variety of experiences and learning strategies. These approaches were used to ensure the acquisition of conceptual, technical and generic skills and the transferability of skills to new contexts. Thus, successful

generic skills training was found to be based on a variety of learning strategies as identified by Down (2000) and the collaborative and guided approaches as suggested by Billett (1999).

In aged care work the most important generic skills were found to be teamwork, communication and problem-solving. This is because it is essential that carers understand the verbal and non-verbal communication of their clients and use their knowledge and problem-solving skills to respond appropriately. Training in generic and technical skills is integrated, particularly through a variety of learning strategies. Learning strategies include:

- one-to-one or small group training on-the-job
- workshop activities
- a 'buddy' system
- case conferences
- workbooks to use on the job
- self-directed learning using video and learning material
- role plays
- experiential learning activities.

Carers in one particular nursing home included mature-aged women, persons with non-English speaking backgrounds, university students, and volunteers. They are required to provide appropriate care to clients with a variety of disabilities. In one experiential learning activity used at the home, the participants must assume the role of a nursing home resident for a day. The trainer assumes the role of a carer and attends and treats them as she has seen other real residents being treated. For example, participants are asked to wear glasses, which have been smeared with vaseline to obstruct vision, or partially covered with tape to resemble tunnel vision. They are then placed in a wheelchair and wheeled backwards quickly. They are also fed cold food without being informed of what they are eating.

When the training is over, the trainer conducts the de-briefing on a one-to-one basis and helps participants talk about their training experience, empathise with clients and identify the practices and habits they will need to change. This activity is particularly successful for the subtle behavioural changes that are required by some staff. However, due to cultural sensitivities, it is conducted on a voluntary basis.

Collaborative approaches to training and learning were also highlighted in the case studies. In these approaches, mature-aged workers spoke about their experiences in the workplace to bring added interest to learning situations. They also assisted in the facilitation of the learning group. Worker empowerment was also provided in the self-managed project learning teams at Thiess Construction. For cultural diversity training for trainees at Accor hotels, staff of Asian background provided first-hand knowledge in how to communicate with Asian people.

Management commitment to training

Case study enterprises tended to have structures in place to promote a learning culture, and a commitment by senior managers to training. This ensured that training, learning and assessment were promoted as normal workplace activities to reflect and improve workplace performances. All managers and supervisors were also involved in training and assessment.

Typically, there was a qualified workplace trainer in each department or work group and support for learning teams. This enabled a collaborative and guided approach to skills acquisition and provided a mechanism for learning to transfer generic skills to new contexts. It also highlights the importance in the workplace of trained mentors and coaches to support learning.

Where employers were not trained mentors, or the workplace did not exhibit a commitment to training and provide a variety of experiences to support learning, it was even more important for institution-based learning managers or trainers to regularly visit the workplaces to perform the role of mentor for apprentices or trainees. This was particularly the case in the metal and engineering programs where many apprentices were employed in small enterprises. The TAFE staff were also concerned that managers and supervisors often lacked the generic competencies which the new apprentices were required to develop.

An example of strong senior management commitment to training was found in the Australian Agriculture Company which produced and exported beef products. All Jackaroos and Jillaroos (apprentice stockhands) were enrolled in Certificate II in Agriculture (Beef Cattle Production). The head stockmen in this company were required to complete Certificate III in Agriculture (Beef Cattle Production) and Certificate IV in Workplace Training and Assessment. They were able to provide the motivation and encouragement that the apprentices required to complete their training.

Having company staff gain national qualifications has helped the company to obtain consistency in training across properties in different states. This has meant that the company has been able to fulfil quality assurance objectives and retain staff.

Conclusion and implications

The findings from the examination of the selected training packages support the conclusion that these ten training packages have sufficient focus on the attainment of generic skills. The key competencies underpin all units of competency and may also be included as compulsory units of competency. The training package review process enables continuous improvement of the training packages and revised and new training packages have been found to provide more explicit descriptions of generic skills in the evidence guide for

each unit of competency and in the assessment guidelines. However, the generic skills in training packages should continue to be monitored. In addition, it was noted that the performance levels indicated for the key competencies in the training packages are poorly understood and often ignored by trainers.

Training package developers need to understand the importance of generic skills in the identification and development of competency standards. The case studies reinforce the fact that good practice in delivering generic skills training is based on the provision of a large variety of experiences and learning strategies to ensure acquisition of conceptual, technical and generic skills and the transferability of skills to new contexts. The training packages, through assessment of outcomes, encourage the use of a variety of learning strategies. In addition, learning resources and professional development for teachers and trainers should emphasise the incorporation of generic skills in a large variety of experiences and learning strategies, and assessment tasks.

The report highlights the importance of integrating the delivery of generic and technical skills training. It also highlights the need for teachers to devise appropriate learning strategies and assessment tasks to promote generic skills as essential components of any job.

Implications for VET practitioners

A number of implications for the vocational education and training system can be drawn from these findings.

- Training package developers should understand the importance of generic skills in the identification and development of the competency standards. These include personal attributes, values, attitudes, work ethics and information on industrial relations.
- There need to be adequate professional development processes in place for ensuring that teachers and trainers are provided with training in appropriate methodologies to develop and assess the generic skills of students and workers. This is to ensure that learners are provided with the variety of experiences and learning activities to enable them to acquire the conceptual, technical and generic skills necessary for jobs and for the transferability of these skills to new contexts.
- Research into the adequacy of the performance levels identified for the Mayer key competencies should be conducted.
- An examination of the assessment guidelines should be conducted to ensure that they include direction for the assessment of generic skills, personal attributes, values, attitudes and work ethics. It is also important for VET practitioners to identify methods for assessing the key competencies and generic skills which provide valid results and meet the principles of equity, authenticity and sufficiency.

- ❖ For enterprises to benefit from trained workers, and especially for innovation and creativity to occur in the workplace, senior management should be committed to training, and organisational structures and culture should support learning.

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Employability skills

Balancing the equation

Tess Julian

The Australian National Training Authority (ANTA), aware of the need to provide guidance and advice to industry and training providers, has funded research to translate these very real needs into training solutions compatible with training packages.

Ratio Pty Ltd has been involved in this work, and this chapter* provides an overview of the research so far, some of which is examined in order to identify a clearer picture of the employability skills mix. The chapter discusses ways in which employability skills can be incorporated into training packages, how they are currently represented, and finally, some of the options for future development.

The chapter describes how the generic skills are currently incorporated in training packages through dedicated units of competence and by being embedded in units of competence. Generic skills are also located in training packages in performance criteria, evidence guides or in descriptions of underpinning skills and knowledge. The authors conclude that the most critical factor is the learning process. Teachers and trainers need to have the skills to use innovative learning strategies to ensure that the generic skills are learnt in context and that learners thus become competent.

Introduction

ONE OF THE most enduring and pressing questions for educators in the vocational education and training sector (VET) is how to balance the need for the range of skills relevant to work within an education and training program.

Figure 1 represents the spectrum of skills which might be required in such a program.

The task of analysing the skills and attributes needed for work, describing them in a way which is meaningful for education and training professionals,

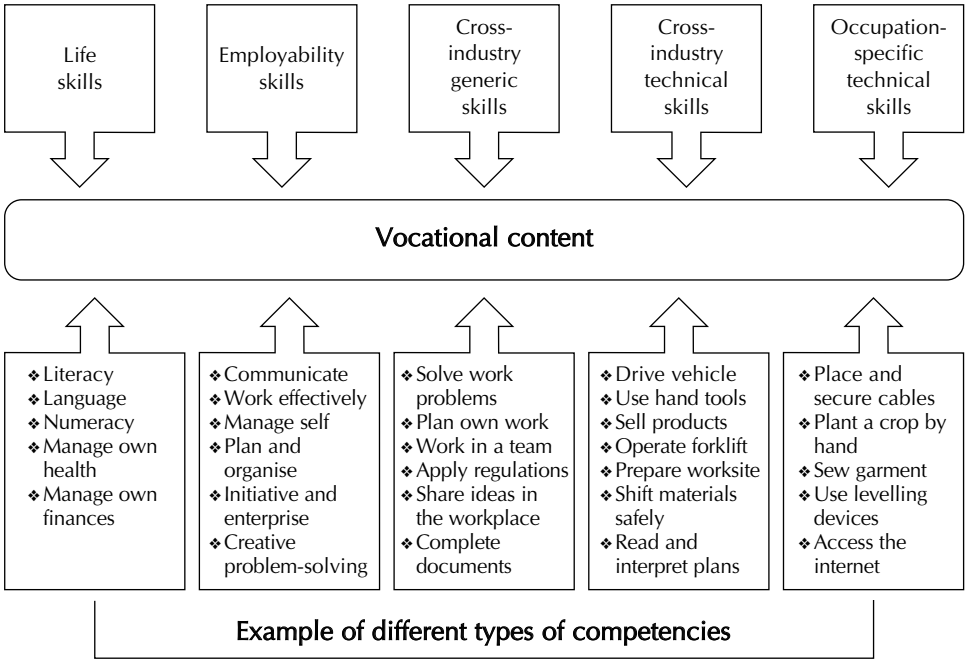
* A summary of the report *Employability skills in training packages* (Ratio Pty Ltd & Down 2002).

and providing support and guidance for their delivery and assessment, is the subject of much work currently being undertaken in all educational sectors.

Training packages, which aim to capture work outcomes and provide benchmarks for training, are grappling with this challenge. On one hand, competency standards need to describe work in achievable and recognisable chunks; however, developers are acknowledging the importance of representing the complexity of the human factor in work. This relates to those skills and attributes which can make the difference to work performance, referred to in this chapter as employability skills.

However, these skills and attributes are not easy to identify or describe. Their relationship within work is not straightforward and both their development and their assessment is complex.

Figure 1: Spectrum of skills



Source: Unpublished research undertaken by David Rumsey for ANTA

What are employability skills?

A number of reports have identified the skills to which we are currently referring as 'employability skills'. A summary of one such framework is provided in figure 2.

Employability skills are not usually discrete functions of work, although at times they can be. They operate within and between work functions and underpin work and integrate the different aspects of work. They are often not related to academic performance or technical performance and are closer to emotional intelligence than to traditional notions of intelligence. Employability skills are context-specific and cannot be accurately assessed away from a specific application; for example, working in a team cannot be assessed outside a team engaged in meaningful work; problem-solving at work can't be assessed outside a work problem.

They are not a package of skills, but operate in many different ways, for example:

- *They can be an integral part of a specific technical competency*.

  It is one thing to know how to set up lights for a function, but competency means having the capacity to improvise when equipment fails, to keep calm when the deadline is brought forward, to reassure a new team member and so on. These aspects are employability skills.

- *Employability operates across tasks as well as within them*.

  The skills serve to link a number of work tasks. Skills such as working together, time management, multi-tasking and the capacity to transfer across contexts are core skills used in any kind of work rather than skills relevant to one task only, so expressing them within one competency standard ignores the fact that they are relevant to most. Expressing them in every competency standard devalues them. Expressing them as a separate competency standard removes the context within which they are used.

- *Employability skills are needed by individuals to manage their work life*.

  While there is debate about whether many of the attributes can be taught, they perhaps suggest that young people in particular need guidance with behaviours appropriate for a work environment which are not sufficiently explicit in training programs at the moment. These also are defined as employability.

  What is more, everyone needs the skills to be able to manage themselves at work and between jobs, to identify what they need to learn and access the learning that they need.

- *Employability also includes new skills needed by organisations and individuals to survive the new global commercial landscape*.

  Increasingly, employees need to learn new cognitive and interpersonal skills. It is now as important for everyone to learn how to think as it is to learn what to think, to learn the skills for lifelong learning and adaptability and to learn to deal constructively with diverse colleagues, markets and products.

Figure 2: The Employability Skills Framework

Communication skills that contribute to productive and harmonious relations between employees and customers.
Team work skills that contribute to productive working relationships and outcomes.
Problem-solving skills that contribute to productive outcomes.
Initiative and enterprise skills that contribute to innovative outcomes.
Planning and organising skills that contribute to long-term and short-term strategic planning.
Self-management skills that contribute to employee satisfaction and growth.
Learning skills that contribute to ongoing improvement and expansion in employee and company operations and outcomes.
Technology skills that contribute to effective execution of tasks.
Personal attributes that contribute to employability.

Source: Australian Chamber of Commerce and Industry & Business Council of Australia (2002)

Why are employability skills important now?

Employability skills have always been recognised as an important part of the skill equation and there have been various attempts to develop them in a systematic way. Today however, the call for a greater emphasis on these skills is an international phenomenon, one which is related to the fundamental challenges presented by social and economic change. The world of work is changing more rapidly than ever before and the training and education systems used to service these workplaces have to change in response.

Key changes to the skill development debate

Changing work demands

The business landscape has changed in significant ways over recent years. There is greater competition, more competitors, greater accountability, and more choice. This has added a new dimension to work. It is no longer sufficient to perform in a narrow job role, and it is now the responsibility of the whole workforce to be service-oriented. This new orientation places demands on all levels of the workforce across industries, resulting in the need for a much broader range of skills. Council workers, for example, may have seen themselves as accountable to their supervisors in the past. Today ratepayers are likely to expect responses beyond the mere performance of a job. Teachers used to see themselves as accountable to the government or school committee. Now they are increasingly answerable to students and parents. Food service operators would once have viewed a customer complaint as the responsibility of their supervisor. Now they are now encouraged to resolve a complaint themselves if they can.

Research suggests that employers recognise that they need these broader skills; for example, the Australian Chamber of Commerce and Industry and Business Council of Australia report *Employability skills for the future* (2002) is quite specific about what is required, and the same theme is articulated in the recently released Board of Vocational Education and Training report, *Beyond flexibility skills and work in the future* (2001). As this report notes:

> *The exact nature of this development (employer interest in soft skills) generally as the form it took varied by sector. For example, in retail banking there is a growing interest in employees acquiring a 'sales' or 'retail' mindset. In IT [information technology] a number of interviewees referred to the need for more workers in the area to have business acumen. Contract cleaning employers want workers to take more responsibilities on the job. Construction employers are especially interested in workers who show initiative and are prepared to take on multiple tasks. In Metal and Engineering, there is a growing interest in team work, and workers with skills to perform in an environment with fewer supervisors and take more responsibility for overseeing and solving production problems.* (Board of Vocational Education and Training 2001)

Changing work environments

There has been much discussion about the types and levels of skills required by workers in this new work context. There is evidence to suggest that often it is not the level of technical skills which is increasing; in many instances, the actual level of skill for technical work is decreasing. Take for example, many production processes, which are now computerised rather than manually operated. The increase in skill level is needed not because of the work itself, but because of the work environment, how work is carried out, or the work processes.

> *Occupations and skills are undergoing change. Boundaries are blurring between occupations and the concept of 'skill' is expanding to reflect employers' need for a range of 'soft' skills … International research findings indicated accelerating growth in the use of cognitive and interactional skills and decline in the use of motor skills.* (Board of Vocational Education and Training 2001, p.20)

Even in lower-level jobs, where previously people would have been employed for their motor or manual skills, there is an increasing demand for creative and critical thinking, as well as other higher-order skills.

Changing individual needs within new employment contexts

There also seems to be a shift in the way people are employed. Employees move more quickly between jobs, employers and industries. It is far less likely that an individual will stay and grow within one organisation. This makes demands on

the individual's capacity to find work, adapt to new contexts and transfer skills from one context to another.

As illustrated in figure 1, there is also a set of skills which underpins these and is collectively referred to as 'life skills', including language, literacy and numeracy and personal hygiene.

The personal attributes such as loyalty and honesty are also important in this context.

> *The SCANs report (in Moy 1999, p.12) found that school leavers and workers required solid three part foundation, or fundamental skills comprising: basic literacy and computational skills; thinking skills (including creative decision making, problem solving, learning to learn and reasoning) and personal qualities including responsibility, self esteem, sociability, self-management and integrity/ honesty.* (Board of Vocational Education and Training 2000, p.14)

Summary

In this context, the way that we approach training and education needs to change.

Any program aiming to develop vocational skills must acknowledge the following key points:

- The work environment has changed. In general it is no longer possible to rely on continuous, let alone permanent employment. The individual's capacity to manage themselves in relation to finding, keeping and negotiating work is increasingly important.
- There is constant change within workplaces. This means that employees at all levels of organisations need the capacity to adapt to new jobs, new routines, new technologies, new procedures and new teams.
- There is an assumption that lower-level workers need multi-skilling, when in fact they need the skills to transfer between many low-level tasks (multi-tasking).
- Intermediate skills are diminishing, creating a wider gap between the higher-level knowledge worker and lower-level worker. While the technical skill level demands of the high-level 'knowledge' worker have increased, the technical skill levels in a large number of entry-level and lower-level jobs have decreased.
- Occupational boundaries are becoming blurred, so that the distinctions between jobs and industries have become far less clear and the individual is increasingly being required to move between functions within broad occupations.

Training issues

The implication for training is that technical skills are the straightforward and relatively easy part of the skill equation. Given the contexts described above, the critical part of the equation is the body of skills needed to work—the employability skills.

The challenge for educators is to articulate work standards in a way which appropriately acknowledges the role of employability skills and behaviours, providing benchmarks for assessment, and also helps trainers guide the development of those behaviours and skills.

The trainers who are the best teachers of technical competency may themselves be poor models of employability skills. Those who can best guide others in the behaviours required by the modern workforce may not be identifiable by their qualifications.

As stand-alone modules of learning without a context of application in work, the employability skills are of little value; however, when they are completely embedded they can be ignored. Finding the balance is critical at this stage of the development of the training system.

Current strategies in training packages

While the debate about employability skills has intensified over the past few years, the need for them has been acknowledged for some time. This is reflected in the range of existing strategies developed to ensure that they are included in training packages, as described below. The findings of our research suggest that these are used to various effects in a range of packages.

The Mayer key competencies

The Mayer key competencies have gone along way towards defining the nature of employability skills and are a useful guide in a number of the current training packages. However, research suggests that the key competencies and their assigned levels are not well understood by many and are often ignored.

The situation is compounded by the fact that the key competencies are located at the end of the unit of competency, creating the impression that they are an add-on, rather than a critically central component of competency.

Dedicated units

The dedicated unit which focuses on a employability skill function normally encompasses all industries. The employability skill is usually the name of the unit, for example ‘communicate in the workplace’, or ‘apply occupational health and safety’.

The advantage of dedicated units is that the process and skill requirements are spelled out clearly. As a stand-alone unit it demands an appropriate allocation of resources just like any other unit of competency. It can also be taught by an employability skills specialist.

The disadvantage of dedicated units is that teaching and assessing the skill can take place in isolation from other technical work functions, outside a specific context. Taught in this way, the employability skill is seen to lack relevance for learners and industry, and over time loses value.

Embedding in units

An embedded unit combines the employability skill with a technical or work function, for example, 'negotiate a contract', 'plan and manage conferences', 'create advertisements'. This is a highly effective way to teach and assess the skill and is perceived to be relevant. Training packages in general have most often opted for this approach.

The main advantage of this technique for providing employability skills is that the teaching and assessment of the skill becomes highly relevant and contextualised. It is therefore easy to learn and interesting. The industry can also see the relevance and value of the employability skill.

The disadvantage of this technique is that the employability skill can become subsumed in the technical function; for example, in the unit 'create advertisements' there will often be more emphasis on the advertisements, and little if any on the process of design and creativity. Although the employability skill is indicated through the unit title, the unit often does not spell out the process in a meaningful way.

A further disadvantage of this approach is that only one application of the skill will be taught within one particular context. For example, negotiating a contract may be covered, but it may not be clearly understood that the process involved should be transferable to negotiating a pay rise or any other kind of situation where negotiating skills are needed.

In addition, when choosing teachers for these units, technical specialists will normally be preferred over employability specialists, which compounds the problems of losing the employability skill.

References in units

Yet another model for incorporating employability skills into training packages is by embedding a reference to the skill in the performance criteria or in the evidence guide, or in the underpinning skills and knowledge.

The advantage of this approach is that it acknowledges that the skill is required and avoids having to spell it out many times. It can also be effective if the unit is delivered and assessed in conjunction with a unit which

appropriately spells out the skills and processes required. The disadvantage is that it makes the skill very easy to ignore or forget about.

Findings from the research

In the majority of training packages, employability skills are reasonably well described when they are appropriate to the industry. In some cases packages contain dedicated units supported by units in which the skill is embedded. In other cases they contain applied units.

- *Communication skills* are represented comprehensively. They have been well described through standards and curriculum over a number of years. Training package developers clearly have a good understanding of the skills and processes required for communicating. Nevertheless, there are still some training packages which the reviewers felt were lacking even in communication skills.
- Other *established*[1] skill areas such as planning and organising, technology and teamwork, had reasonable coverage and understanding. Some training packages, however, had low coverage of these areas.
- The *new dimensions*[2] of the established skills were present only through inference or reference. In general they were not described in a way that would be meaningful to an assessor or trainer.
- The *new skill areas*[3] were covered to a certain extent in units such as 'manage self' and 'manage own learning'. However, this was not widespread and it seems that a better understanding of the skills sets required in these areas is needed.
- Some categories in the skill area of 'personal values' are ambiguous and are not commonly understood. These categories were not included in the training package analysis as more research is required to clarify their meaning.

While there have been serious attempts to appropriately incorporate employability skills into training packages, there is a need for improvement. This means that:

- There are significant gaps which need to be filled.
- There is a need for greater clarification of the skill/behaviour in some areas.
- The issue of delivery and assessment in a context needs to be addressed.

[1] Established employability skills, for example, those defined through the Mayer key competencies, such as communications, problem-solving.
[2] New dimensions to established skills, for example, creative problem-solving and communicating with empathy.
[3] New skill areas altogether, for example, learning and self-management.

- More work should be done to ensure that trainers and assessors have the skills and tools to appropriately address employability skills in whatever format they appear.

New ideas for addressing employability skills

That employability skills and behaviours are not a cohesive package of skills which can be picked up and inserted in any training program is one important emerging issue. They are central to competency and they operate in a range of ways within work.

The table below shows the relationship between employability skills and typical entry-level office work.

Table 1: Ways of incorporating employability skills

Embedded in various ways	New class of competency descriptor	New units of competency	New units of competency
Employability competencies which are useful *within* technical competencies	Competencies and behaviours which operate *between/across technical competencies*	Addressing new roles and job tasks which are *primarily focused on employability skills*	Competencies and behaviours which operate *between jobs and workplaces*
Applying the dimensions of competency to individual tasks such as: ❖ Filing ❖ Photocopying ❖ Answering the phone Applying employability to specific task: ❖ Problem-solving in using the photocopier ❖ Handling a complaint ❖ Preparing to file	Multi-tasking: ❖ Organising tasks so they can start the photocopying, answer a call, prepare to file ❖ Working with others ❖ Behaving appropriately – ethical – appropriate – displaying empathy	❖ Contributing to ideas development ❖ Using information communication technologies to: – write a letter – use the internet for banking, research sending email ❖ Participating in knowledge management	❖ Negotiating employment ❖ Managing career development ❖ Learning to learn

This table demonstrates how employability skills are:

- relevant to how a particular task is carried out; for example, problem-solving when using the photocopier
- relevant to how a group of tasks is carried out, multi-tasking, displaying appropriate work behaviour, learning to learn
- core work roles in themselves; for example, developing creative ideas, contributing to knowledge management, communicating with customers

- relevant to how a person manages their own career and work.

When we take a broader view, it becomes clear that not only is the need for the skills not consistent across industries, but that different work roles demand different skills in different ways.

It is abundantly clear that a one-size-fits-all solution will be inadequate, and that multiple strategies for incorporating employability skills and behaviours will be required at all stages of the development process. Some key points to be considered here are that:

- Training package developers will need tools and skills to help them focus on a holistic approach to work analysis and to select strategies appropriate to the context, the industry, the level and the individual.
- A professional development program will be needed to ensure that individual trainers and assessors recognise and value the employability skills and have the training skills to ensure that they are developed.
- Advice and guidance for registered training organisations will be needed to illustrate how to address the demand for employability skills strategically through program design, collaborative teaching, mentoring, recruitment and so on.
- Tools will need to be developed which demonstrate and explain the various approaches and ways to achieve them.

However, the most critical factor in the development of employability skills will always be the actual learning process. It is vital that innovative delivery strategies are adopted which effectively integrate all of the components of competency demanded by work.

Collaborative teaching, collaborative learning, meaningful work projects, action learning and blended delivery provide the flexible learning environments which have the potential to meet the needs of the current workplace, a workplace which has outgrown our current approaches to training and education.

The future should provide new combinations of strategies, skills, tools and resources to meet the challenge of providing the right balance of skills, knowledge, attitudes and behaviours in the complex world of work.

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The development of employability skills in novice workers through employment

Erica Smith and Paul Comyn

This chapter* reports on a research study which aimed to find out how teenage workers developed their employability skills in their first formal jobs. With young people in Australia commencing formal part-time work as early as thirteen or fourteen years of age (and even younger in some cases), employability skills are not necessarily developed at school. Many young people are gaining these skills primarily through their part-time jobs while they are at school or in their first jobs.

The research was based on case studies which were carried out during mid-2002 in twelve Australian enterprises of varying size and drawn from different industry areas (including three group training companies). The enterprises were located in four states—New South Wales, Victoria, South Australia, Victoria and Queensland—and included examples of first-time workers who were part-time student workers as well as school-leavers in their first jobs.

The study found that employers of young people accepted their role in helping these young people to develop their employability skills and saw the benefits of doing so. This chapter highlights the range of approaches which employers use to encourage the development of these skills. The study confirms the importance of the workplace as a site for learning and developing employability skills.

The term used in the study for young workers in their first formal job was 'novice workers'.

Introduction

THE AIM OF this study was to find out:

- why some organisations recruit large numbers of novice workers and how such employers view young workers

* A summary of the report *The development of employability skills in novice workers* (Smith & Comyn 2003).

- what processes are in place at corporate, managerial and supervisory levels to train these novice workers in employability skills
- how novice workers themselves view, and engage in, learning about employability skills through employment
- examples of good models of employability skills training.

The following list of employability skills and attributes drawn up by the Business Council of Australia and the Australian Chamber of Commerce and Industry (2002) was used as the basis for the research.

Employability skills and attributes

Attributes

- loyalty
- commitment
- honesty and integrity
- enthusiasm
- reliability
- personal presentation
- common sense
- positive self-esteem
- a sense of humour
- a balanced attitude to work and home life
- an ability to deal with pressure
- motivation
- adaptability

Skills

- communication skills that contribute to productive and harmonious relations across employees and customers
- team work skills that contribute to productive working relationships and outcomes
- problem-solving skills that contribute to productive outcomes
- initiative and enterprise skills that contribute to innovative outcomes
- planning and organising skills that contribute to long and short term strategic planning
- self-management skills that contribute to employee satisfaction and growth
- learning skills that contribute to ongoing improvement and expansion in employee and company operations and outcomes
- technology skills that contribute to effective execution of tasks

Source: Australian Chamber of Commerce and Industry & Business Council of Australia (2002)

The research involved interviews with employers/human resources managers, site managers, supervisors of novice workers, novice workers and their co-workers in 12 enterprises. These 12 enterprises were indicative of the range of workplaces in which novice workers (those who have not had previous formal work) are employed. The case studies are listed in table 1. Three group training companies were selected, as these organisations are major employers of school-leavers and student–workers in apprenticeships and traineeships. The host employers 'lease' the apprentices and trainees from the group training company which remains the legal employer.

Table 1: Details of case study sites

Employer	Industry area	State	Full-time/part-time novice workers
Superfoods*	Supermarket	NSW	Both
MEGT	GTC	Vic.	Only full-time examined
Autolight Manufacturing*	Manufacturing	SA	Only full-time examined
Courier Newspapers*	Newspaper delivery	SA	Part-time
Bakers Delight	Retail food	SA	Both
Portside Group Training*	GTC	SA	Both
Market-town Council*	Local government	NSW	Full-time
Hamburger House*	Fast food	Vic.	Both
Fiona's Hair Salon	Hairdressing	NSW	Full-time
Supernova Electrical*	Electrical	NSW	Full-time
Sound Fits	Electronics/IT	NSW	Full-time
CADET	GTC	Qld	Part-time

Note: * Indicates pseudonym; GTC = group training company; IT = information technology.

Why do employers recruit novice workers?

Table 2 lists the main reasons why the companies liked to hire novice workers. There was variation among organisations but these themes were mentioned by most.

Table 2: Reasons for hiring novice workers

Reason	Explanation
Low cost	Industrial awards and enterprise agreements allow for lower wages for workers up to the age of 18.
Enthusiasm	Novice workers possess youthful exuberance which lifts morale in the workplace as well as presenting a good image to customers.
Mouldability	Novice workers do not bring bad habits with them and can be trained in company procedures and socialised into company mores.
Technological skills and up-to-date knowledge	Novice workers have good computer skills, and (for apprentices and trainees) bring up-to-date techniques and knowledge from their off-the-job training.
Fresh views and ideas	Novice workers offer different ways of looking at workplace issues.
Community obligations	Employers wish to 'do the right thing' by giving young people a chance.
Industry obligations	Employers wish to maintain industry skill levels by bringing on new workers.
Enterprise skill mix	Novice workers fill low-skill jobs.
Operating hours	Novice workers (especially student–workers) are available for non-standard working hours.
Tradition	Some employers have a long tradition of employing apprentices.
Physical fitness	Novice workers have stamina and are able to do hard physical work.
Organisation image	Novice workers present a youthful image which is an important marketing tool.
Staff development	Supervision and training of novice workers provides valuable experience for existing staff.

The employers' views of novice workers were more positive than those found in other research (for example, Cregan 1997), and there was also more of a sense of obligation to the community and the industry in their hiring decisions than has been reported in the literature, apart from literature on apprenticeship (for example, Smith 1998). Many of the managers and staff interviewed expressed great satisfaction in their role whereby they took on raw recruits and turned them into effective workers.

Some employers preferred to recruit young people with fairly well developed employability skills while others, particularly those recruiting younger teenagers, accepted that their new staff would have very low levels of skills.

Employee attitudes to novice workers

Employers found a number of positive attributes among their novice workers, such as 'willingness to learn', 'keen' and 'interested in career development', as well as the fact that novice workers were grateful for the chance of a job and wanted to impress. Employers also mentioned some negative attributes. The major negative attributes were as follows:

- difficulty in adjusting to full-time work from a school environment—length of working day, lack of structure compared with school timetable, lack of experience in taking the initiative
- for younger student–workers, difficulty in viewing work as a serious activity rather than a setting for social interactions
- impingement of personal matters upon work—transport problems, relationship difficulties, occasionally drug or alcohol difficulties
- poor communication skills (basically shyness)
- lack of basic work skills, like the need to keep the working environment clean
- lack of a 'big picture' understanding of the operation of a business
- unwillingness to ask questions if unsure
- lack of understanding of the impression they are making on other workers.

The presence of positive and negative attributes alike varied among novice workers, and employers were careful to point out the diversity of their novice workers.

Interviewees described some examples of ineffective novice workers as follows:

> *We had a long talk with her and tried to focus on the need for reliability, the need for us to be able to give her a task and know that it actually happens, the need to know that she's going to turn up in the morning. Since then she's had more days*

off than she did before. She's up to seven days in a row of not attending … I don't know how sick you would have to be, you'd have to be dying to take seven days off. (MEGT manager)

If you gave this guy one task he could do it, that's what I've been told, if you gave him two things to do he couldn't do it. (MEGT novice worker)

Despite some occasional bad experiences of this nature, most employers remained positive about their novice workers and actively enjoyed the process of turning them from raw recruits into confident workers. Three quotations from the case studies illustrate this:

I like to take them on because I will be a major influence on them throughout their life. They will reflect back on it one day and say 'Gee, I learned a lot from …'
(Hamburger House manager)

With any luck what we teach him now is going to stay with him.
(Sound Fits manager)

When you look back after six months at the same child, they're totally different, they've blossomed and they smile more often, and that's important too when they're dealing with people, they're less nervous. (MEGT manager)

Most commonly valued employability skills

Opinions about the employability skills and attributes that were the most important for novice workers in an enterprise varied across the case studies and also within the case studies among different groups of workers. However, there was a clear consensus that team work and communication were the most commonly valued employability skills; and reliability, a sense of humour and enthusiasm were the most commonly valued attributes.

What processes do organisation use to develop employability skills?

Formal processes

A number of formal processes were used by organisations to develop employability skills in their novice workers. The approaches most commonly used were: induction, buddying, valuing training, allocating increasing responsibility and task rotation. These are discussed below.

Induction

Induction processes were almost universal, variously involving booklets, training sessions and one-to-one discussions. The development of employability skills was either explicitly addressed, or assumed to have resulted from the particular

approach. At CADET group training company for example, novice workers (trainees) were provided with two lists entitled 'Employer expectations' and 'Ten commandments for customers'. These materials were used to describe required attitudes and behaviours, and were part of a system of fortnightly monitoring by group training company staff during the first month of employment.

Some novice workers were seen to need more induction than others. Hamburger House, for example, paid a great deal of attention to induction, perhaps because most of their novice workers were very young (15 or younger). Playford Council (Portside Group Training Company host employer) routinely recruited Indigenous apprentices and found them to be shyer than other young people, hence requiring more care in induction. Some employers commenced the development of employability skills during the selection interview, setting out their expectations of prospective workers.

Buddy and mentoring systems

At most sites, efforts were made to partner or 'buddy' novice workers with others. These might be co-workers or supervisors/team leaders, depending on the organisation of work in the enterprise and the skills of available personnel. One Bakers Delight manager commented that the most effective way to develop the employability skills of novice workers was to team novice workers with a carefully selected experienced staff member who could model appropriate behaviour. The buddy also helped to integrate the new person socially.

Socialisation

Steps to acculturate novice workers were seen as relevant to the development of employability skills, particularly team work and communication skills. While this was predominantly a feature of induction processes, it was also achieved through the use of social events which were part of an ensemble of approaches to introduce novice workers to an enterprise. At Superfoods for example, great care was taken during induction to introduce novice workers into the history and culture of the organisation, with its associated tradition and commitment to quality service and products.

Valuing of training

At a number of sites, the development and maintenance of a training culture was seen as relevant to developing the employability skills of novice workers, particularly in terms of their commitment and learning skills. It was felt that, through emphasising learning, novice workers would be encouraged to consider their own skills development which would then include employability skills. At Market-town Council for example, novice workers were involved in ongoing structured training programs.

Training supervisors in how to develop employability skills

At a number of sites, targeted training was seen as a way of ensuring that supervisors had the skills to assist the development of employability skills amongst novice workers for whom they were responsible. At Hamburger House, for example, such training was a vital part of supervisory training and was being upgraded at the time of the case study.

Staff meetings

Regular staff meetings were used at a number of sites to create opportunities to develop teamwork and sometimes involved training events incorporating employability skills. For example, at Fiona's Art of Hair, informal case studies and scenarios were used to develop employability skills and procedural skills amongst all staff.

Staff assessments and performance appraisal systems

Appraisal systems both for novice workers and for their managers could be useful aids to the development of employability skills in novice workers. Three enterprises mentioned formal staff appraisal systems. At Supernova Electrical, novice workers were involved in a formal assessment and performance review system which used self-assessment and assessments by supervisors and site managers against criteria which included both technical and employability skills. At Hamburger House, managers' performance indicators included their ability to develop employability skills in their young staff.

Dealing with mistakes

At some sites, mistakes were explicitly recognised as providing a means to address aspects of a novice worker's performance, aspects that often drew attention to the deployment of employability skills. At Sound Fits for example, the owner–managers were consciously tolerant of mistakes, using them as learning opportunities. This approach is line with the organisational learning literature (for example, Field & Ford 1995).

Conflict resolution

At some of the enterprises, a mixture of formal and informal mechanisms for conflict resolution were considered relevant to the development of employability skills. These processes were seen as relevant as many of the issues surrounding the points of conflict related to inadequately developed employability skills and attitudes. At Supernova Electrical for example, the operations manager had introduced a system through which any conflicts on site would be resolved through a process involving supervisors, the site

foreman, managers and ultimately parents—if the issue was serious enough to warrant their involvement. Through this approach, elements of the employability skills of novice workers were highlighted, if relevant, during the conflict resolution process as a means of preventing further conflicts on site.

Disciplinary approaches

For similar reasons, disciplinary approaches were also seen as being relevant to the development of employability skills. The use of penalties, a lack of shifts, and simply 'putting them back in their box' were some techniques used to draw attention to under-developed employability attributes, such as reliability or motivation. At Bakers Delight for example, a high standard of performance was required, and if another novice worker showed more energy and drive, then individuals were expected to improve or they would lose shifts. Similarly, if they chose not to turn up for a shift, they were not offered work for the following two weeks.

Rotation of tasks

Several of the enterprises sought to rotate novice workers so that they would be exposed to different staff members as well as to a different range of work tasks and work systems. This practice was also seen as a way of exposing novice workers to the 'big picture'. While generally not used specifically to develop skills, there was an overall expectation that task rotation would develop such skills of novice workers. At Hamburger House for example, managers used this technique when novice workers were observed becoming less enthusiastic after the first few weeks of work. Training in new tasks was seen as an explicit strategy to keep novice workers motivated while helping them to understand how their role fitted in with the total operation. Managers at Hamburger House were aware that, when novice workers were given a wider range of tasks, they learned more quickly.

Allocating increasing responsibility

All sites used approaches that sought to gradually increase the level of responsibility for novice workers. This approach was seen not only to develop work skills but also to provide novice workers with opportunities to develop related employability skills. At Property Co. (CADET group training company host employer) in a school-based traineeship the trainee was moved from basic tasks, for example, mailouts, to answering the phone and typing.

Badging

A simple technique mentioned by Bakers Delight was to use badges to identify novice workers. The expectation amongst employers and supervisors was that

clients and customers would be more tolerant of the level of service and indeed encourage novice workers. In this way, it was felt that novice workers might be more comfortable in their work environment and thus more likely to grow as individuals and utilise appropriate employability skills.

Informal techniques for encouraging the development of employability skills

Individual interactions which were effective in encouraging the development of employability skills included giving praise and encouragement, communicating regularly and modelling desired behaviour at work. Examples of informal techniques in action are described below.

Encouraging and giving praise one to one

At Superfoods for example, effective supervisors were viewed by senior management to be those who took time to encourage and give praise to novice workers.

Talking and making conversation in an effort to make novice workers feel comfortable

A manager at Frankston Hospital (MEGT host employer) said that he made a point to have an informal discussion with novice workers at least once a day, and chose appropriate co-workers who were prepared to spend time talking, during which time tips about work could be passed on. At Supernova Electrical a site manager made a point of developing a rapport with novice workers by maintaining interest in their personal lives and asking how they were progressing on the job.

Introducing them to the group

At Hamburger House, supervisors recognised the importance of effectively introducing novice workers into the work group on site. They hired and inducted novice workers in groups so that they were able to develop relationships with co-workers prior to moving to the workplace.

Showing respect

At Bayview (MEGT) novice workers were shown respect by managers and other co-workers in a way which encouraged the novice workers and eased their transition into employment.

Showing concern and empathy

At Kaylene Krantz (Portside Group Training Company host employer), the manager believed she had the responsibility to nurture novice workers and tried to demonstrate considerable empathy for young people. One of the MEGT field workers took pains to keep up to date with youth culture and asked the apprentices to approach him about any problem, however serious.

Setting clear limits

At Bakers Delight, franchisees were focused on giving novice workers clear guidance on what standards were required at work. Novice workers were instructed that strict systems were in place which had to be adhered to. At Superfoods, managers took pains to ensure that clear feedback was given to novice workers.

Working alongside novice workers and doing the same jobs

In some case studies supervisors routinely worked alongside novice workers, in the process getting novice workers to tell stories about their day and showing them easier ways of doing particular tasks.

Socialising to share experiences

At Hamburger House supervisors and managers joined novice staff on their breaks.

Modelling correct behaviour and setting a good example

At Superfoods and Sound Fits, supervisors who worked directly with novice workers said that they were conscious of needing to set a good example and modified their own behaviour to do so.

Using humour

At Sound Fits, humour was seen as an important tool, especially in situations where mistakes had been made or where the novice worker needed to be 'brought into line'. The use of humour defused such situations and contributed to the novice worker feeling at ease in the workplace.

How do novice workers learn employability skills?

Novice workers themselves used a range of approaches to develop their own employability skills which were mainly based around proactive communication.

They asked questions, practised active listening, sought out more helpful staff as mentors, developed working relationships with managers and mixed socially with other staff. They also sought to make a good impression, smiling a lot, turning up to work early, asking for extra tasks, seeking feedback, and learning when to offer suggestions and when to keep quiet. They developed systems for organising their work and took advantage of off-the-job training opportunities. Novice workers who had not kept their jobs or had not developed in their jobs were those who had failed to prioritise work above home life, and workers who had been afraid to ask questions for fear of appearing stupid. The consequences of not asking questions were always much worse than the consequences of asking questions.

Participants in the study were asked to make suggestions for a new novice worker to follow. Their responses focused mainly on communication skills and included advice, such as allowing time to fit into the work group, keeping a note book to jot down ideas, accepting criticism as constructive, and looking at the way in which different people work in order to compare different work practices. As well as developing their employability skills per se, this sort of advice would help novice workers become trusted and valued, and hence would encourage other staff to invest time training them.

Although the project only set out to examine workplace issues, several other factors which assisted in the development of employability skills were mentioned by interviewees. These included school and extra-curricular activities which were undertaken before starting work (or in the case of student–workers, concurrently with work). Interviewees also drew attention to the importance of their parents and training providers (where formal contracts of training were involved) in helping to develop employability skills.

Good models of employability skills development

The research found that the most effective models for developing employability skills were generally formal—although a crucial ingredient in them all was having an environment which supported and nurtured the young people. The workplaces most effective in developing employability skills were those which had:

- *Comprehensive training systems*: systems for developing technical skills were also generally effective in developing employability skills.
- *Regular team meetings*: these involved new workers in the organisation and could also be used specifically to address employability skills issues of interest to all staff, not only new staff.
- *Performance management approach*: the performance management systems for junior staff foregrounded employability skills, and the performance indicators for managers foregrounded their role in developing employability skills in novice workers.

- *Third-party approach*: exemplified by, but not restricted to, group training companies, third parties could provide an additional source of employability skills development as well as intervening in difficult situations.
- *Buddying or mentoring systems*: pairing the new worker either with a co-worker or a more senior member of staff was highly effective, as long as the partner was selected carefully.
- *Supportive environment*: whatever formal systems were in place, one of the most important features of a workplace where employability skills were well developed was its supportive nature. Tolerance and respect were the two key factors.

As a result of the research, four additional models were proposed:

- *A 'work experience' model*: preparing employers for a novice worker in much the same way as they are prepared for hosting a work experience student would assist the employer in understanding what a novice worker's needs were and how employability skills could most effectively and most speedily be developed.
- *Individual induction programs*: encouraging employers of novice workers to develop six-month plans for their new staff would enable a range of experiences and opportunities for feedback to be planned.
- *Project learning*: engaging novice workers in authentic but small projects which are of immediate use to the workplace could improve novice workers' confidence.
- *Training or information for supervisors and co-workers*: structured training for supervisors, buddies, co-workers in dealing with novice workers and developing their employability skills would be valuable. Such training needs to include an understanding of what it is like to begin working life, as well as suggested processes for assisting the development of employability skills. If no time is available for training, short summary training kits could be provided to staff. It was noted during the research that staff working with novice workers reported a range of methods by which they had learned to undertake the role effectively, but there was little standardisation of learning procedures except in large companies which routinely recruited large numbers of teenagers.

Advantages to employers of paying attention to employability skills development

The case studies showed that employers recognised that they would benefit if they encouraged the development of employability skills in their novice workers. Making novice workers more effective more quickly would lead to an

improved bottom line through higher productivity and fewer mistakes. There would be a more pleasant working environment, fewer disputes, reduced absenteeism and lower labour turnover. Good programs for novice workers would build a good reputation for the organisation, attracting further, good-quality, novice workers. The better novice workers might be retained for medium-term careers and even long-term careers in management. Finally, the case studies showed that there was a great deal of satisfaction afforded to managers, supervisors and co-workers through seeing a novice worker become confident, happy and effective in a workplace

It could be argued that if novice workers were to come 'ready made' with employability skills, some of these outcomes would still be achieved. However, it is actually the transformation from raw recruit to confident worker which creates the satisfaction in the eyes of many employers. Moreover, the process of good employability skills development creates loyalty in the novice workers, leading to retention and to a good reputation (for the organisation) which attracts further cohorts of novice workers. These issues are very important to those employers who need to recruit large numbers of novice workers for operational reasons, such as extended hours of trading or the need for low-cost labour.

Why are workplaces important in employability skills development?

Although employability skills may be developed through a range of activities and at a variety of locations, there are reasons why workplaces are appropriate, and even vitally important sites for their development. Employability skills are developed throughout one's working life and hence employers need to view the process of employability skills development as a whole-of-workforce issue. Good practices for new workers should be accompanied by good practices for all workers.

The range of employability skills possessed by young workers starting their first jobs varies greatly. Some may have well-developed skills and others, sometimes through no fault of their own, poorly developed skills. Employers need to be prepared for the full range, particularly when they are recruiting younger teenagers and in a tight labour market where they cannot 'pick and choose'.

Employability skills are context-bound in that different industries and employers value and weight the skills and attributes quite differently. Hence there are sound economic reasons for employers contributing to the cost of their development. Moreover, the worth of employability skills can only be fully appreciated in the workplace where the consequences of such skills can be seen.

There was little indication from the research that many employers desired novice workers to be any different from the way they were already. Employers accepted that, in employing a teenager who had never worked before, they

would have to allocate both effort and resources into making the employee a functioning worker. The suggested approaches for fostering and encouraging the development of employability skills in young workers do not represent a radical departure from existing practice; they are more of a reminder to extend such practices to more workplaces and to make more routine and understood the strategies which already exist.

Conclusion

The study showed that some Australian employers are already devoting considerable resources to the development of employability skills in their novice workers. The greater the propensity of the organisation to recruit young staff, the more likely it is that the development of employability skills plays a central part in its human resource management and training practices. Far from resenting the time and resources devoted to this task, managers and supervisors appear both to enjoy the task of working with young people and to recognise that it is an important part of their role as managers to undertake this task effectively. Organisations which do not routinely recruit novice workers appear less well prepared to manage such staff on the occasions when they do recruit them, and may require assistance to undertake the task effectively. This chapter has highlighted the most effective methods which were identified during the research, and has suggested a number of additional methods.

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Making experience work

Displaced workers provide new insights into generic skills

Crina Virgona and Peter Waterhouse

This chapter* reports a study which investigated how workers who had lost their jobs as a result of work restructuring or downsizing viewed their generic skills. Throughout this chapter these workers are referred to as 'displaced workers'. One hundred and twenty-seven workers were asked through interview, focus groups and a survey questionnaire, to give their views on the nature of generic skills in the new restructured workplace, where they felt they had acquired these skills, the value of the experience and self-managing one's career. The chapter concludes by considering the role of the vocational education and training (VET) system and workplace trainers in fostering and supporting the development of generic skills.

Introduction

THIS CHAPTER ANALYSES displaced workers' accounts of the development and adaptation of their generic skills through changing circumstances of employment and unemployment. Most of the participants in this study have had to face the prospect of employment or unemployment (and hence their 'employability') in a shrinking, restructured, and increasingly competitive labour market. The chapter considers such issues as:

- different discourses on generic skills and the notion of transfer
- how work has contributed to the development of generic skills
- how VET practitioners and workplace trainers can foster the development of these skills.

* A summary of the report *Making experience work: Generic skills through the eyes of displaced workers – Volume 1* (Virgona, Waterhouse, Sefton & Sanguinetti 2003).

Research method

The study was qualitative in nature. Data were collected by three different methods: individual interviews, focus groups and a survey questionnaire. The interviews and focus groups utilised Field's (1991) iceberg diagram which provided a metaphor for generic skills as 'submerged' or 'underpinning' skills of which we are not always consciously aware. This provided a framework for interviewees and groups to explore the skills that gave them competence as workers or community members. A total of 127 displaced workers participated in the study in Melbourne, Sydney, Brisbane, Adelaide and regional Victoria. The sample represented a broad cross-section of the workforce in terms of job categories. Most participants (79.5%) had undertaken some form of post-school education and training or re-training in order to maintain or obtain employment.

Theoretical underpinnings

There has been considerable debate in recent times about the definition, nature and composition of generic skills (Mayer 1992; Kearns 2001; Curtis & McKenzie 2001). Debates have addressed the sorts of skills, competencies and attributes to be included or excluded in various lists. These various discussions and debates take place within what theorists refer to as discourses (Foucault 1972; Fairclough 1989).

In the context of the discourses surrounding generic skills, while employers seek to lock their preferred set of generic skills into the dominant discourse, others challenge them. Researchers have contested the discourse through which employer groups are attempting to formalise generic skills (Payne 2000; Schofield 1999). In particular, these researchers are contesting the employers' notion of 'skill' itself which threatens to absorb 'personal' attitudes, values and character into its definition and which is increasingly taking hold within the dominant discourse (Sennett 1998; Willmott 1993).

There are multiple discourses shaping concepts of 'generic skills'. As Kearns (2001) points out, for instance, the American understanding is somewhat different from the British and European discussions of generic skills. However, at the risk of oversimplifying the discussion we contend that 'generic skills' sit within 'a discourse of policy' as well as within a contending 'discourse of practice'. Within both discourses, terms such as 'generic skills', 'key competencies' and 'soft skills' are used, and debates continue about definitions. However, it may be that, even when there is agreement about how generic skills are categorised, there are different understandings of generic skills within these different discourses.

Stevenson and colleagues conducted a critical examination of generic skills in the context of small businesses within the tourism and hospitality industry

(ed. Stevenson 1996). Working with the framework of the key competencies (Mayer Committee 1992) the researchers conducted a series of nine studies investigating 'questions about the relationship between capacities needed for competence in particular workplace sites and so-called generic, necessary or key competencies' (ed. Stevenson 1996, p.1). They report that:

> *Taken together, the studies … indicate that, even in the case of key competencies, it is problematic to conceptualise these competencies, once operationalised in specific contexts, as value free or generic. Their expression and their meaningfulness to individual workers and their workplaces are highly situated. ... Thus while it may be possible conceptually to abstract a generic label for a set of site-specific capacities with superficial similarities (e.g. numeracy, literacy, problem solving, use of technology), at this level such entities are not the concrete or functional capacities that individuals actually use. They are meaningful only at a distance.* (ed. Stevenson 1996, pp.2–3)

The distinction between the abstract conceptualisation which makes sense only at a distance and the actual 'functional capacities' utilised on the job is important. The former abstraction is the generic competence as it is understood by policy-makers, and the latter is that which must be appreciated by VET practitioners. Within the discourse of policy-makers, the term 'generic skills' suggests a necessarily abstract and de-contextualised set of capacities. Researchers such as Black (2002) and Street (1984) have characterised this de-contextualised conception of these skills as 'autonomous'. The skills are considered to 'standalone' unaffected by culture or context. This discourse of generic skills is focussed on the needs of industry and the economy, and therefore the need for assessments to facilitate industry-wide or even national-international comparisons. The lists and categorisations are specifically linked to employment or the employability of individuals.

By contrast, within the discourse of VET practitioners, the term 'generic skills' connotes a range of broad-based skills, knowledge and attributes which are skills and knowledge for life, work, further education, and social and civic participation. Practitioners tend to emphasise the holistic nature of those skills and the teaching and learning processes which facilitate their development. They are interested in these skills in context, as they are manifested, meaningful and relevant in their students' lives. That is, they are concerned with generic skills for the development of individuals as well as for employment.

Thus, even when using the same label, VET policy-makers and practitioners may be talking about quite different constructions or conceptions. As this study was commissioned as a contribution to VET policy while gathering data from the world of practice, the report tends to iterate between both of these discourses. In the Australian context, national training packages also sit astride these different discourses.

Transferability

These different discourses have significant implications, particularly in relation to issues of assessment and in their assumptions about the transferability of generic skills. This study argues that transferability is poorly understood and crowded with assumptions that do not bear critical scrutiny (Hager 1999; Marginson 1995; Falk 2002). Marginson noted in 1995 that one of the weaknesses in prevailing conceptions of competency training was the assumption of 'automatic' transferability of competence from one context to another. He stressed that the acquisition of competence is domain-specific. The skills of transfer he argues:

> *… include an awareness of the context, the capacity to move between different viewpoints, languages and systems of knowledge (which produces flexibility), self reflection (which encourages adaptability), self regulation, and learning how to learn.* (Marginson 1995, p.112)

The work of Down (2001) describes the transfer process as neither automatic nor passive. She advocates a process of packing, unpacking and repacking skills in the transfer process. Owen and Bound (2001) also noted the importance of metacognitive and 'learning-to-learn' skills. These skills are essential when people need to transfer and recontextualise their learning because of a change of situation, circumstances or context. This study supports the educational value of such an approach.

Collectively, these researchers suggest the holistic, embedded and inter-related nature of generic competencies in action. They also suggest the need for pedagogies designed to help learners identify, appreciate, articulate and develop these competencies in practice, within their own meaningful contexts.

The results

Perceptions and understandings of generic skills

Most of the participants in this project readily identified with the notion of generic skills but they described them in quite different ways, reflecting different life and work contexts. In the work environment, generic skills were identified as necessary for workers to balance priorities, make appropriate judgements, synchronise activities and produce a quality outcome within the framework of the company goals.

There is no one way in which generic skills are demonstrated. There are only individuals within contexts and 'communities of practice' (Lave 1990) where appropriate knowledge and experience is called upon which results in successful outcomes. Knowing when to apply what skill and in what measure is the result of highly developed generic skills in particular work environments. One of the participants in this study, Anna, demonstrates how an understanding

of office environments and systems allowed her to 'read' particular workplaces:

> *OK what I found is first of all is you had to be able to adapt to the culture of the workplace where you were, and of course there's nothing really ever written down, so you can't be prepared for that. So you have to be able to walk into the place and to be able to very quickly assess what you see and what you feel and then be able to work out in your head how you think the whole place is working and then adapt yourself to fit in with that particular culture because each workplace is so different.*

Anna has developed a capacity to read the systems of the workplace to interpret their expectations of her and to find a way in which she can contribute. Knowing how much initiative to take, when and how to promote oneself, and knowing when to suggest an innovation and when to submit to the system is the 'nous' that many experienced workers have learned. Recognising both how to fit into the system and how to use it is an important generic skill.

The contribution of work to generic skills

The results of this study demonstrate how generic skills are developed continually throughout life, in all areas of human endeavour, in family, education and community environments as well as in the context of employment. However, the study found that the primary context for the development of generic skills is work, and that the primary mode of acquisition is experiential learning.

In all skill areas except 'being creative and innovative', work was seen as the most important source of generic skill development. When considering the development of generic skills in 'understanding/designing systems', 76.1% of participants cited work as the most important source. When considering the development of generic skills for 'working with others and in teams', 65.1% cited work as the most important source. When averaged across all generic skill areas, 53.4% of participants cited work as the most important source of their generic skills. The next highest source cited as most important was 'experience/self-taught', nominated by 22% of participants, followed by 'home/family/community' (11.5%), 'formal course, post school' (6.3%) and 'school' (5%). When asked to list all sources, most participants (86.5%) also nominated work as one source amongst the several sources of their skills. Because work played such a significant role in the development of generic skills, this chapter places emphasis upon this learning domain.

Most participants (74.3%) believed that their generic skills were important to their work performance. When asked to assess the importance of each generic skill area to their current or former work, 56.6% of participants reported 'cultural understanding' was very important and 91.2% confirmed the importance of 'communication skills'. Only 10.1% of participants believed their generic skills were relatively unimportant in the work they were doing, with

23.2% nominating 'using technology' as of little or no importance in their work, and 17.3% believing the same of 'using mathematical ideas and techniques'.

Many participants (77.7%) believed that their generic skills were good enough for the work they were seeking, but 23.4% admitted that their skills in using technology were inadequate for the current job market.

One-fifth of the participants stated that they were not given the opportunity to develop their generic skills at work. Of the 56.8% who said that they were given ample opportunities to develop their skills, some commented that this was only through learning on the job, while others nominated numerous in-house training opportunities and other pathways.

Evolving new work identities

The study also reveals how the changing nature of work has impacted on the issue of generic skills. There are now demands for high levels of generic skills (as well as technical skills) and different kinds of generic skills are now valued, while the more 'traditional' generic skills are being devalued. In the process, new kinds of worker identities are being created.

While learning processes are social and situated, there are also personal, psychological and affective domains to the learning. There are issues of ownership and engagement that appear to be critical. Mal, for instance, changed his behaviour in the light of changing management expectations:

> *I mean we were expected to go to team briefs and ten years ago, you'd go to a team brief and fall asleep for 15 minutes and you go now and you try to participate and hope that by participating that your voice may be heard.*

Mal's story illustrates how changing behaviours over time gradually produce a new kind of work identity.

Jane tells of how she assisted the learning of a work colleague. The culture within the workplace had shifted and John was required to be someone else other than the somewhat bullying leader he had been in the past. Jane explained that '… he'd just go and say. "Just go and … do it" and stuff like this' and the workers would respond in kind, swearing back at him. Jane has established an informal relationship with John to assist him in taking ownership of a new identity and in finding ways to fit himself to the new expectations. She described this process:

> *[He] was very blokey and worked in the freight [area] which would be like a pretty blokey environment. He was rapt to be doing the course 'cos he had a real issue with one of the guys working for him and I remember John ringing me … 'What shall I do about this?' and he was asking lots of questions, and he got back … and said … 'Oh I just need to run this past you. Does this sound right? How I'm going to approach it is ...' and his feedback afterwards was … he didn't know what to do because they … were actually talking to him like a normal person and he said it really put him on his back foot.*

This example illustrates identity being reconstructed in the workplace as the result of changed expectations and changing work cultures. The learning is difficult for John and he is struggling to find the right words. In Gonczi's terms, 'Learning to do is also learning to become and belong' (Gonczi 2002, p.12). John's need to become a different type of leader is motivated by legislative and cultural shifts in the work community rather than personal motivation. He is starting to embrace the shift personally at some level, and shows signs that he will be able to make the transition. The process is uncomfortable and he has to discard the somewhat gruff and aggressive self he has known in order to make the shift. However, that is part of the learning experience. It is a somewhat risky business. This account of John's changing behaviour at the workplace shows how demand and training for new kinds of generic skills produces new worker identities.

Experience re-defined: The devaluing of expertise and cultural memory

While many of those who participated in this study felt that they were reasonably well prepared for the demands of the current employment market, others felt that their skills had been superseded and that their values and aspirations no longer matched the requirements of work and the new economy. Participants spoke about the company knowledge they had built up over time which they saw as an asset. As workers, they had valued their knowledge of the technological history and the organisational evolution of the company, but such knowledge is no longer valued by managers.

Loyalty in terms of years of service and willingness to ride the waves of the bad times as well as the good were read as reliability, trustworthiness and integrity: 'Resilience and durability were part of loyalty. They're not there now'. Loyalty provided the aspiration to achieve:

> *I think you … realised that you're in a real good company and … you felt proud about being part of that company so you … thought 'Oh I could have a future now, I could have a job for life' … so you worked well, you become interested in it because of … trying to get a bit of pride out of it.*

A new set of values seems to be emerging based on a different understanding of expertise and the predominance of certain skills over others. Changing attitudes, knowledge and values have re-positioned some people lower down on the employment hierarchy. There is a sense in which experience has been re-defined. 'Experience' now seems to be valued more in terms of current skill requirements and diversity of employment experience rather than in terms of depth of experience accrued over years. The demand for flexibility in the job market means: 'You start off as a baker and end as a candle-stick maker'. Yet, as one participant expressed it: 'You can't become an expert in 2 years'. In the new workplace culture expertise does not necessarily imply depth of knowledge.

A rigger and scaffolder complained about the inability of 'young IR [industrial relations]' managers to recognise the value of experience on site by hiring anyone who had a 'ticket', regardless of their industrial experience.

> *There was one supervisor up there and in the end he had to go to the office to find out who were the experienced blokes who had the old certification and the experience. He had to match one [experienced] bloke to every three or four with the new national tickets. So that there was one bloke there that knew what he was doing.*

Out-sourcing of work has changed, some would say diminished, the knowledge and skills base within some organisations. Contrary to the rhetoric of the high-skill, high-knowledge workplace, some participants reported that centralising and out-sourcing policies meant that work skills have narrowed:

> *I think work's been taken away, so if anything you're doing less than you might've before. In a branch, say 5 years ago, you would've had a computer and report reader, somebody who looked at what had been done before, changes to people's accounts, new accounts and things like that and checked them to make sure that they were right. Well, that role in the bank has gone now and it's done more centrally.*

Personal career responsibility

For many the new work environment has replaced jobs characterised by secure career development with jobs characterised by personal entrepreneurship. The individual is increasingly held responsible for his/her own evolution in the workforce. A placement officer described the realities of the employment market:

> *… when you ask people what they want, it's invariably they want security of tenure and it just isn't there. And the very best employer in the whole world who wants to give it to you can't because they can't see that far down the track. They haven't got it themselves let alone how they could give it to an employee. It's just not there. So I think that is one of the major things an employer is looking for is that self-ownership. 'I need to manage this change and I need to own my own career and not depend upon others'. This is a major shift in thinking, that ability to change.*

As a consequence there is a requirement for what some might see as new generic skills, the skills to self-manage one's career. A placement officer reported:

> *… if people don't … own their career and don't see the need to develop skills … then it's not going to work. And that to me seems to be the biggest barrier, that people still aren't realising that they have to manage their own career. That nobody else gives a rat's.*

A few participants embraced this view of the employment market as a liberation:

> *Actually, I think it's wonderful the opportunities are there for you to do it, and I actually feel quite buoyed by the idea that I can get new skills and then go and get a new job in another field and in this day and age it's quite ok … I think it's wonderful to have that opportunity these days to … reinvent myself.*

Others viewed the uncertainty and insecurity as a means to ensure compliance and to create a culture of fear:

> *It also seems to be that the constant threat of the sword of Damocles hovering around everyone's head is used as a tool by people who established 'corporate cultures' … to act as a constant reminder that you're highly expendable and we will have no hesitation in flicking you off.*

Some informants talked about a new persona they were expected to take on in the workplace which sometimes threatened their personal integrity:

> *You have to represent yourself as … in some ways it can be a charade, you have to be someone you're not ... to sell to little old ladies … you have to market yourself in a way and very often you're marketing something that the bank wants, but it's not necessarily who you are. And that's why I'm glad to be out, because I can be who I am now. Not what I had to be to fit the mould.*

This reluctance to 'play the game', particularly when the 'game' was at variance with their personal ethics, was evident among participants, 87.2% of whom said it was important to them that their work made a contribution to the good of society. Nearly 59% also commented they were not prepared to compromise their values to get a job. It appears that the new persona in some organisations requires the display of a sense of loyalty that some see as synthetic, contingent and superficial, lasting only as long as the employment contract.

> *They want loyal staff and staff are trying to be as loyal as they possibly can … I know a few of the staff that have been made redundant in the last couple of months but [they] had various opportunities to get out of where they were to earn more money, but … they were loyal to the company that they were working for. And at the end [the company] just go 'Well who cares whether you've been loyal? You're still out anyhow.' ... What I've seen is you can give eleven years of loyal service and then …* (the informant makes a dismissive gesture as if flicking muck of the back of his hand) *You get the flick. That's the loyalty I've seen.*

Another participant noted:

> *As soon as you joined [the company] … you had to buy the uniform, you had to go to staff training, you had to go in your own time, you had to get yourself there, you weren't paid for it. If you didn't dedicate yourself to that company and make yourself available … you weren't a team player. It was very important to be seen as giving all.*

Issues, implications and challenges

The findings of this study pose considerable challenges for various stakeholders within the VET system.

The irony of 'employability'

This study, investigating generic skills with displaced workers, has been much concerned with issues of employment and employability. The recent report prepared for the Australian Chamber of Commerce and Industry and the Business Council of Australia notes that the term 'employability':

> *… is more attractive as a descriptor than employment-related since it conveys a greater sense of an individual's long-term capacity to build a career and to prosper in a dynamic labour market. Employability implies qualities of resourcefulness, adaptability and flexibility, whereas employment-related suggests an orientation to the current state of the labour market.*
>
> (Curtis & McKenzie 2001, p.6)

It is clear, as this research also demonstrates, that increasing responsibility is being placed upon the shoulders of individuals for the management of their own careers. However, this study also shows that while there are some factors over which the individual does have some control, there is an irony in the fact that in a given context the individual does not control most of the variables which determine his/her employment prospects. The state of the local labour market, the capacity for mobility, levels of investment and community infrastructure, industry and regional policy and so on, all contribute to determining the employment prospects of individuals. Buchanan et al. (2001) call for 'place' to be factored back into the discussions on VET policy and labour market analysis. Billett et al. (1997) have similarly called for recognition of regions and communities as legitimate stakeholders in VET policy. Hence the tendency to conceptualise 'employability' as an individual phenomenon contradicts significant research that highlights 'employability' as a consequential or dependent variable. It is contingent upon a multiplicity of factors in the real-world context in which individuals may find themselves. While individuals may do everything within their power to be work-ready and employment-oriented, in truth, the status of their 'employability' is not entirely within their own domain.

Nevertheless, within this context, the discourse of 'generic skills for employability' does have some value, in that individuals, including displaced workers, might in certain conditions increase their chances of finding employment if they have well-developed generic skills coupled with the confidence and the ability to identify and consciously transfer them to new contexts. The VET system can make a significant contribution. The challenge for

VET is to address the needs of displaced workers by providing them with opportunities to:

- recognise and articulate their generic skills and to learn to re-apply them to new contexts
- develop resilience in the face of rejection
- refine and adapt their generic skills to respond to the employment market.

The challenge of experiential learning

The findings of this study challenge current VET practice by demonstrating that generic skills are basically developed through experiential learning. If the VET sector were to genuinely embrace principles of experiential learning, it would need to seriously re-assess its own performance. The challenge goes beyond accepting 'experiential learning' as another learning 'method' or technique to be added to the vocational educator's repertoire. Such acceptance would be useful and could lead to more integrated and holistic approaches to the development of generic skills and many other competencies. However, at a more profound level, accepting the potential of experiential learning entails teachers and trainers relinquishing their presumed control over learning (through training). Learning happens in a multitude of ways, ways that are as rich and diverse as the life journeys and experiences of individuals. The workplace educator therefore has two tasks. These are:

- to create opportunities for skill development through experiential learning in workplaces
- to work actively with individuals to reflect on their experience, to capitalise on the learning potential and transferable qualities that can be drawn from this experience.

In this context it is important that VET professionals see themselves as learning managers, at the same time developing co-management relationships with training personnel, the goal being to maximise opportunities for experiential learning, and to build and nurture workplaces as learning organisations which are positive, vibrant communities of practice.

The recognition of the importance of experiential learning for the development of generic skills poses a challenge for practitioners to conceptualise learning activities within VET. This challenge also implies a fundamental renegotiation of national training packages and the ways in which VET practitioners should work within workplaces and classrooms. There are also significant implications for the funding, development and implementation of user-friendly and cost-effective processes to facilitate recognition of prior learning and current competence.

Challenges to employers and workplace learning environments

The findings challenge employers to provide working environments in which employees would be able to develop and utilise their generic skills. For this to happen, workplaces need to facilitate the involvement of workers in problem-solving and in continual learning through shared processes of reflection on practice. There are implications for work organisation and the ways work relationships are valued and developed. Overwhelmingly, the findings of this research indicate that:

- The most important source of generic skills in relation to work is the workplace.
- Generic skills develop throughout life and are not simply 'acquired' in a single 'dose' which can then be applied everywhere.
- Transfer of generic skills is not automatic—transfer of generic skills to new contexts depends on an environment which fosters such 'transfer'.

The challenge for workplaces, employers and human resource managers is to provide a positive learning environment that encourages the development and application of generic skills and harnesses the potential of employees. While employees may have many generic skills when they are appointed, how well these skills develop and become applied to the workplace will depend largely on the environment and dynamics of the workplace. In some aspects this message may be at odds with the demand for leaner staffing levels and transient personnel.

Challenges to the VET system: What needs to be done

The findings of this study reflect the need for structures and services which support lifelong learning within and beyond the world of work. The study has identified the following critical needs.

Skills identification training

The positive responses of focus groups and interview participants to discussions about their generic skills suggests that there would be value in explicit training along these lines. Focus groups were extremely lively as participants willingly shared their perceptions and experiences in relation to the nature of generic skills, their development and application. As one participant said: 'This is what we need more of … thinking about my generic skills has given me more confidence in finding a job'.

The VET system should therefore consider including a structured approach to teaching people the *discourse* and *language* of generic skills and assisting them to develop a portfolio (or profile) of their generic skills which brings together what they have learned through domestic and community activities, as well as

throughout the phases of their working lives; that is, to be taught to identify the skills accumulated in various contexts and subsequently categorising them according to the recognised generic skills classification. A union job placement officer said:

> *What I've found with my experience of people who have been retrenched from the … Bank, is that these people on the whole have worked for the bank for a great number of years and have numerous skills that they themselves are unable to identify. And there is no bridge or source between the termination of their employment and them entering the job-seeking market that enables them to identify these skills that they have accumulated or acquired over the years, and then use them in marketing themselves for a new job.*

Support groups and networks

The value of group activities and opportunities to discuss generic skills, attributes and employment issues was confirmed in this study. Support groups and TAFE re-training opportunities (where they exist) have been invaluable in offering those kinds of support, advice and training which maximise the chances of unemployed people to return to the workforce. Those groups and training programs need to be widely available and properly resourced so that access to them is assured for all displaced workers.

Professional development

There is a challenge that goes beyond the VET system to other training and education sectors, including the adult and community education (ACE) sector and workplaces. As generic skills have gained prominence within the context of employability, there is a need for professional development for teachers and trainers in this area. Kearns (2001) among others, has identified a level of discomfort among teachers in developing generic skills in learning environments. The existing Certificate IV in Assessment and Workplace Training does not equip teachers and trainers to know how to support and promote the development or transfer of generic skills. This study confirms a need for experiential learning that is a more holistic, systems-based approach to education and training for generic skills within particular contexts. It also indicates the need to assist individuals by providing a non-prescriptive understanding of generic skills, a discourse and forum in which to discuss them, and a framework in which to profile their generic skills.

An orientation to lifelong learning

Finally, and in common with a number of other recent reports (Alferoff 1999; Milthorpe 1999; ed. Smith 1999; Wooden et al. 2001), this study highlights the potential contribution of older, experienced workers to enterprises and to the workforce in general. In the context of an ageing population, expectations for lifelong learning and government policies to extend our working lives, this research exposes the need to provide systemic support for displaced workers.

The study revealed a distressing wastage of their knowledge, skills and accumulated wisdom. It is a wastage that no truly 'clever country' could ever allow. There is a clear need for policy goals directed towards a multi-aged workforce which will enable the skills, wisdoms and cultural memories of older workers to be retained and handed on to the generations of today and tomorrow.

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‘Generic skills’ in a changing work environment

Geof Hawke

This chapter is based on case study research in four geographic regions and focuses on four companies and their associated training providers and smaller companies. Each of the key or central companies was recognised in the 1990s as committed to training and had changed their work organisation to become more team-based and requiring multi-skilling of staff. Since that time, each of these companies has undergone significant changes due to new ownership, mergers and takeovers. As a result, the size of the workforce has decreased and their commitment to training has been reduced.

The research found that generic skills were perceived quite differently by employees and management and by learners and providers. There was a perception by employers that the skills could not be learnt or taught and this has implications for how providers promote their importance and how employers create environments in which they can be fostered and developed.

For these reasons (and others that will become apparent during the progress of this chapter) these four organisations are unwilling to be identified and, consequently, the other enterprises or training providers who make up the case studies are also identified by pseudonyms which disguise the organisations, their locations and details of the industry sectors in which they operate. The value of the case studies lies in the lessons they have in relation to the skills people develop at work and the role of work, organisation and structure in encouraging the development of these skills. Ultimately the identity of the company is not important.

Introduction

THIS STUDY WAS developed in the context of increasing controversy over the nature and demand for generic skills. The research takes as its starting point the belief that the relationship between generic skills and employability is more complex than has been previously assumed. A contributing factor to the ambiguous standing of generic skills is that the concept of ‘generic skills’ is one which has different meanings in different and complex contexts and at different times. In this sense it is, in part, a political term which seeks to convey a

particular position being held by one of the key policy actors in the VET arena—employers or training providers or learners.

The study was organised around a number of central research questions. These are:

- What are the meanings associated with the concept of 'generic skills' by each of employers, training providers or learners?
- How do each of these use 'generic skills' in their ongoing work?
- What negotiations occur explicitly or implicitly between employers, training providers or learners about 'generic skills' and how do these affect the use and understanding of the concept by the players?
- What was the position and use of 'generic skills' in a small sample of enterprises which were representative of companies in the 1990s, companies which made a conscious commitment to team work and training of the workforce, and how are those concepts used and valued today within those organisations?
- What links (if any) exist between learners, training providers and employers involved in raising levels of generic skills.

Thus the research was intended to offer insights into the conditions that foster effective links between all players interested in this area and to identify the barriers that need to be removed or addressed to improve these linkages in the future.

However, as discussed below, the reality in some contemporary workplaces is more complex and fragmented than had been anticipated.

The research approach

The research design involved extensive reliance on qualitative research methods since these methods yield very rich insights into the processes and dynamics of the issues being researched. A major problem however, concerns just how representative such experiences are in reaching more general conclusions. To address this issue we chose to use the strategy of selecting case study sites recognised for work practices which were team-based and involved extensive consultation within the workplace. Analysis of such workplaces will give insights into how employer behaviour may evolve in the future. More importantly, if exemplars of good practice are less advanced in the 'leading' establishments, we can make judgements about particular issues at the workplace level more generally. Thus, if the understandings of generic skills are vague in leading-edge employers, we can reasonably assume they are not clearly understood amongst employers more generally.

Our units of analysis are workplaces, learners and vocational education and training (VET) providers operating in four geographic regions, each with a leading enterprise which played a key role in that region.

The study analysed the implementation and longer-term outcomes of workplace-based training programs directed at improving generic skills. It considered their effectiveness, how they are defined and how they evolved. Subsequent analysis then explored how generic skills are defined and developed and involved institutes of technical and further education (TAFE), or a school or other providers operating locally. The study of VET providers focused on areas and issues most relevant to the operations of the central enterprise.

The final unit of data collection were learners living and/or working in the region and were contacted through the workplaces and providers involved in the study.

Manufacturing A

Background

This case concerns a manufacturing organisation located in a growing regional area. The organisation was originally recognised for a range of practices which had resulted from significant restructuring of both its workforce and manufacturing processes to achieve jobs that provided for a skills-based career path and which would enable the organisation to engage in 'continuous improvement'. The introduction of computer-based systems provided the opportunity for the workforce to focus on more challenging tasks and to acquire the higher-level skills which the implementation of these systems required.

Of particular importance to this study, however, was the extent to which training systems were developed as a key means of underpinning and supporting these organisational directions. The organisation employed full-time training staff and operated its own in-house training facility. For this reason it was recognised as being unique within its industry sector and was often seen as a model to which other enterprises should aspire. Employer and employee representatives from the organisation assumed leadership positions in the relevant industry training body.

Impact of takeovers

Subsequently, however, the organisation became subject to a number of takeovers until, finally, it was taken over by a large organisation whose experience, until that time, had been in a completely different industry sector.

The managers and supervisors all agreed that the early company takeovers had not had a significant impact on the training culture. However, this was not the case with the final takeover. One manager described the new management as having a different approach, one more typical of the sector from which they came. The approach was short-term and members of the senior management appeared to be only interested in the immediate production results and were described as 'Macquarie Street stockbrokers' who did not understand the value of longer-term strategies.

The result is that many of the education and training initiatives introduced in the 1990s are no longer operating. Indeed, most of the work organisation practices adopted at that time have also been abandoned.

Base-level employees and trainees work in teams which are expected to manage themselves with minimal supervision, a legacy of the organisational changes implemented during the 1990s. Employees receive detailed work instructions every morning. While the managers felt that the teams could support a learning process, the reality was that, because each operator worked from their own set of instructions and the work was repetitive (in effect a small production line), little learning opportunity was in fact provided.

As a result of the new technologies, the competencies for each job appear to be limited, especially in terms of knowledge. One trainee claimed that he was shown how to do one major task 'in five minutes' and that learning the new machine which carries out the bulk of the work requires 'five minutes demonstration, then practice for 3–4 days'. Trainees have had limited experience of jobs other than those they are currently doing, and were keen to avoid being placed in jobs they saw as more arduous. Job rotation was not common.

In the past, training was driven by the state manager who strongly supported competency-based training because of recognition of existing competencies and 'modularisation'. However, he now regards the system as 'bogged down by bureaucracy' and he ceased delivering accredited training some years ago, regarding it as 'the greatest joke out'. He was unaware of the new industry training package and doesn't use TAFE because 'they do not offer what's needed'. Training is now conducted in house on a one-to-one basis.

The central organisation in this case sources much of its raw material from another manufacturer of a similar size located at a considerable distance away but within the same state. This second manufacturer is much more actively involved in training provision and has continued with many of the workplace and training reforms introduced in the early 1990s. This company is not itself a registered training organisation but is working closely with its industry body to introduce new and existing worker traineeships under the training package. The manager emphasised that the promotion of the traineeships must not be in terms of cost savings. Employers are offered financial incentives to take on trainees and this manager believed that this was a flawed strategy, commenting that the training effort 'will bog down' if it is presented in these terms.

Both organisations employ significant numbers of staff for whom English is not their first language. One of the organisations was an active user of workplace English language and literacy (WELL) programs to assist its workforce, but has dropped those entirely and no longer places any great emphasis on English proficiency. Its supplier, however, is making considerable use of these programs to provide training in a range of matters to staff at all levels in the organisation.

The central organisation in this case study had no strong relationship with any VET providers, especially as it was not in a strong recruiting phase during the period of this research project. However, the local secondary school system, in conjunction with community providers was actively engaged in targeting school leavers who were bound for work of similar level and type to that available in the enterprise under study. Accordingly, these providers were included in this case study.

Services A

Background

The central organisation in this case was a branch office of a large, multinational organisation operating in a key services area. The office studied had a total staff of approximately 100 who were employed in a range of administrative and specialist functions relating to the direct sale of services and products. Most of the staff had received the bulk of their training through company in-house or industry training programs but most felt that their real learning had occurred on the job.

Since the 1990s when the company made a name for itself as being committed to training, the company has undergone an almost continuous series of changes in its ownership. Indeed, since the original study, it has experienced two takeovers, three mergers and four other changes in its ownership arrangements. These have had a significant impact on the office, its staffing and its modes of operation.

In the 1990s, the organisation was in a growth phase and expanding its global operations; however, the climate for this industry became increasingly competitive and profit margins on products declined throughout the 1990s as this organisation and its competitors fought for market share. The frequency of changes in ownership reflected this increasingly tight and competitive market as smaller operations were subsumed by larger ones. Increasingly, the strategic focus of such organisations became fixed on the macro-operations of the organisation. The organisation is now part of a global multi-sector organisation and senior management is often rotated across specialist sectors.

Impact of changes in ownership

One major effect of the numerous changes in ownership has been no new recruitment for some time and the office now is about half the size it was in the 1990s. Moreover, during this period of downsizing, the office has experienced a series of changes in its reporting lines which has meant the 'survivors' (as they call themselves) have been able to have considerable control over their own working arrangements.

In the early-to-mid 1990s, the office was restructured according to the concept of multi-functional teams, with each team being expected to market, sell and support the full range of products and services provided by the organisation. This was never well accepted by the staff who had, in the main, developed their expertise around particular families of products/services and they found the transition both difficult and, as one put it 'a waste of my expertise'. As the downsizing began and management became absorbed by the politics of the various mergers and takeovers, the staff took matters into their own hands. Quietly over the years, the teams have been reorganised so that they are no longer multi-functional but a series of specialist units taking responsibility for particular product/service groups.

The groups, too, have taken on responsibility for their own 'training'. This is not, of course, formal, as the organisation does not provide any training now for its staff beyond that which is required by legislation. Instead the staff have created a range of informal strategies (often out of office hours) by which product knowledge and 'survival skills' are shared. The group in this office are now highly motivated to cooperate and collaborate. They are proud of their shared expertise and, despite some current difficulties, including more recently, significant problems for the industry worldwide, they are doing well and there is no indication that they will experience further turbulence in the near future.

The branch office works closely with two related organisations within the same industry. One of these is a small specialist organisation which provides market intelligence on the basis of which Services A tailors or adjusts its products or, in some cases, chooses to develop new products. The second organisation is one through which Services A processes much of its cash flow. Originally part of the same organisation, it was spun off as a separate company during one of the ownership changes.

The small specialist organisation does not have a high turnover of staff but, when new staff are required, it relies on recruiting people from its competitors who are already known to management. Typically these recruits have one or more degrees but it is their experience and 'nous' that is most sought after. The organisation doesn't provide any formal training but the staff meet regularly to review their activities and these meetings are seen as important learning opportunities.

The second organisation has a fairly high staff turnover and recruits its staff primarily from amongst school leavers, and recently has been recruiting

increasingly from amongst those who've completed relevant traineeships. The organisation established a formal induction program, which is followed by a 2 to 3-month period of mentoring from a more experienced staff member. The company doesn't feel the need for training beyond that.

None of these organisations has any formal relationship with a VET provider; however, two TAFE institutes lie within reasonable distance of the second associated organisation and some of their recent recruits have completed traineeships there. Learners and teachers at these institutes contributed to the case study.

Manufacturing B

Background

The central organisation in this case is one site of a large multi-site manufacturing organisation involved in the production of components. Established in the 1960s, the organisation supplies most of the major end-users operating in Australia. The organisation has over 250 employees at this site, but this case study will focus on the production workers (<100).

The organisation was one of the many which, in the early 1990s, adopted the new metal and engineering standards and introduced a competency-based system of job classifications. Around the same time, the organisational structure was changed to a customer-focused, team-based approach organised around a lean manufacturing regime.

Since that time, the operational climate of the industry has changed considerably and the organisation has adjusted its processes and structure accordingly. In particular, the focus of this plant has shifted from one where its products supplied a known and stable market, to one in which its core products are no longer in demand at the previous levels and where its market is much less certain and consequently is subject to considerable fluctuation.

Impact of market changes on training practices

The impact of these market changes has been that the firm has reorganised its manufacturing, with parts of its operation being relocated to another plant and the staff at the current plant being reduced by two-thirds. As well, the team-based approach has been abandoned and has been replaced by more traditional line-management arrangements.

Despite the introduction of the competency standards and the availability of formal qualifications for production workers, the company has retained most of its training in house to be undertaken informally on the job. Today, the primary focus of training is associated with a job rotation regime in which production workers are rotated amongst different positions every few months. This training

is focused on providing them with the specific skills required to do the new tasks into which they have been rotated.

The organisation is currently not recruiting for this plant but has used a nearby TAFE institute to provide training in some new technologies being introduced. Teachers and learners at this institute were interviewed as part of this case study.

Services B

Background

The central organisation in this case is a large workplace owned as part of a chain of related organisations. Since the 1990s the ownership of this organisation has changed and this has brought many changes.

In the 1990s one of the strengths of the organisation was its history and culture of training. The organisation was described as 'very people-focused towards clients and staff' and it was common for line staff to undergo regular training, including weekend team-building activities. The company invested heavily in training of all employees, with training being pushed as a priority from senior management.

Another key feature of the organisation in the 1990s was a flat management structure with a strong internal labour market. A significant characteristic of the staff profile was the abolition of occupational classifications and the introduction of categorised levels of employment from level 1 (basic service workers) to level 4 (supervisors). Employees were expected to perform all duties within their level (lateral rotations).

Impact of new ownership

In the context of a very competitive market, new owners recently took over the business. Consequently, the operation is far more budget-conscious than had been the case previously. Since the takeover all management staff have been replaced. The management structure is now more hierarchical and work organisation has returned to an occupation-based job structure rather than category- or level-based structure. Although there is still a strong internal labour market, neither vertical nor lateral job rotation is being practised. The business now operates with just over 200 staff (around 25% fewer than in 1996), around half of whom are full-time permanent employees. There is a continuous demand for new employees at base level but the organisation has difficulty finding 'the right people'. One of the barriers to recruiting new staff members to level 1 and 2 positions cited is the influx of newly created certificates, diplomas and degrees from both public and private institutions. There is an expectation

amongst graduates from these courses that they will 'walk into a management position' rather than start at a level 1 or level 2 position.

The organisation continues to provide considerable formal training and sees this as an important component of its operations. Currently all new employees undergo an orientation program and then are 'buddied' with an experienced staff member in that position. The organisation is currently developing a modular system of training and it is expected that all staff will undertake the training. However, at the moment, the focus of the organisation is on the transformation to the 'new culture' and the introduction of new administrative and accounting systems.

Key issues

Many of the substantial and important findings of this study relate more closely to the complexity of making judgements about enterprises and the impact of changes in ownership and structure in general than they are explicitly about 'generic skills'. The experiences of the four central organisations where takeovers and amalgamations have prevailed have not enabled them to consolidate and develop their workplace training practices. Rather, the commitment to training and development of the workforce has fallen away in the face of economic pressures and the uncertainties resulting from the vagaries of the marketplace. Moreover, the exigencies of the modern marketplace have meant that the limited training that occurs is very specific and does not reflect any priority for generic skills.

Nevertheless, it is important to focus first on the principal findings relating to generic skills and how they are understood and implemented by enterprises, learners and providers.

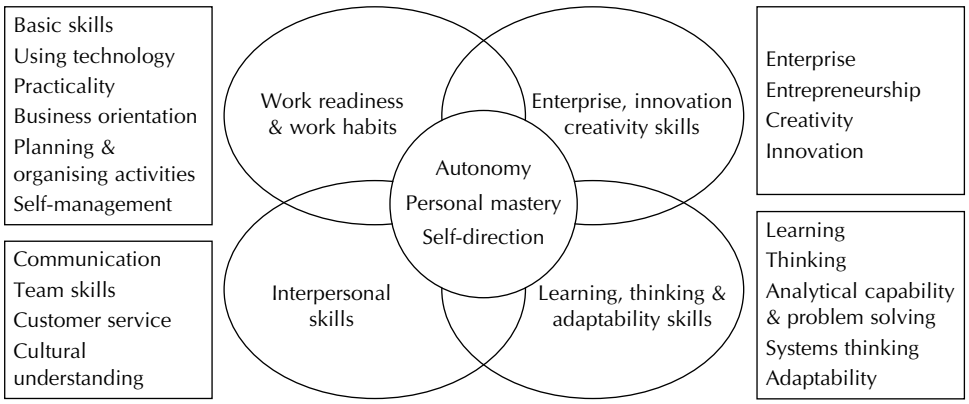
Understanding 'generic skills'

In consultations with the groups the researchers drew on Kearns (2001) and his clarification of generic skills. Kearns clusters the generic skills according to figure 1.

Employers, training providers and learners in this present study understood the concept of 'generic' or broadbased' skills in very different ways. These are summarised in table 1. This is consistent with different understandings reported in the literature.

Moreover, within the enterprises studied, different levels of staff were found to have very different understandings about 'generic skills' (table 2).

Figure 1: Clusters of key generic skills



- The interpersonal (or social) cluster with underpinning personal attributes and values
  e.g. emotional intelligence, self understanding
- The cognitive cluster with underpinning personal attributes
  e.g. willingness to learn positive attitude to change & complexity mastery of mental models

Source: Kearns 2001

Table 1: Different ways of understanding 'generic skills'

Group	Understanding, practices and value
Employers	Typically expressed positive views as to their value and importance but were, as a rule, not so able to demonstrate how, in practical terms, they reflected that valuation. Specifically, they: ❖ agreed that all aspects identified by Kearns were important to them ❖ expected employees to possess such skills (often at point of recruitment) ❖ had no active process to develop them ❖ held mixed views as to whether or not all or most of the components of generic skills could be learnt or taught.
Learners	❖ In general, did not see them as critical, especially by comparison with technical skills ❖ Did not believe many (most) of the skills identified by Kearns were learnable
Providers	❖ Thought they were of great importance ❖ Believed that they could be taught

Table 2: Differing expectations within enterprises

Executives	Believed that they must be held by all employees
Middle management	Felt that it was desirable to develop such skills but thought many were innate attributes that, at best, limited the ability of individuals to acquire them
Employees	Didn't believe that they were important in practice

The issue of the extent to which many of the components of generic skills identified by Kearns were seen to be unlearnable was an especially significant finding. Amongst both learners and many in management, the view was that 'you either have them or you don't'. Consequently, the generic attributes were factors which managers took into account at selection but did not feature prominently in their thinking about workplace learning or training. Amongst learners, many indicated that they didn't see these as important outcomes of learning because there was little they could do to change their capabilities.

It was clear in all four case studies that generic skills were being developed within these workplace. However, they were not often being developed in any way that was intentional or recognised as such. Indeed in one organisation, Services A, the generic skills acquired by the employees and most readily identifiable were those which the company would be unlikely to want to be developed. Principally, these skills were developed to protect the interests of the employees rather than to further the interests of the company.

In general, the managers interviewed were clear that developing generic skills was, at best, a second-order priority except in those cases where (as in Services B) the skills were core technical requirements of the job. In tight financial circumstances where any training was unlikely to attract senior management support, attention to generic skills was, as one manager put it, 'simply not on'. Importantly, this view was strongest where the management also took the position that it was primarily the responsibility of the employees to maintain their own employability skills. In these cases, the firms saw themselves as having no role in developing these skills.

Some important issues that arise from these case studies

Firstly, it is clear that enterprises can change very dramatically over time in their commitment to, and attitudes towards, training. In the main, these changes are ones over which the vocational education and training system can have little influence. In the case of the four central organisations studied, forces in their external environment had significantly impacted on their operational capacity and culture in ways which reshaped the place of training within their strategies and priorities.

It is particularly important to observe that, in different ways, each of the organisations had replaced its skills management system with an approach largely based on an implicit strategy of utilising and capitalising on its remaining workforce rather than on a training approach which sought to develop the skills in newly recruited workers. As well, there was a refocusing in most of the organisations towards a more specific, technical skill set rather than a significant interest in broad-based, transferable skills. In the one case where this remained a focus, it was largely a consequence of the importance of

interpersonal skills to the nature of the organisation's business. Even that organisation had abandoned its earlier emphasis on multiskilling.

A recent Norwegian study (Skule & Reichborn 2002) has highlighted the fact that the primary influences on the amount and kind of learning that occurs in organisations are external to the organisation itself and reflect its operating environment. A similar point was made in an earlier Australian study (Field 1997).

Secondly, there are lessons from our work to be learnt about the ways in which research with enterprises needs to be conducted. Our initial approaches to enterprises were broad and open-ended and, when we sought their responses to Kearns' groups of generic skills, their responses indicated ready agreement that all of those were important. However, when we pursued this initial response, requesting examples and details, these were not forthcoming. There is a strong tendency for respondents in these kinds of contexts to say what they think they should, rather than reflect what their actual priorities are. Moreover, it was clear that many based their initial responses on what they thought ought to be happening in their organisations. Many were surprised to some degree when they realised that a gap existed between what was generally said and thought and what their practices implied.

This experience strongly indicates that it is unsatisfactory—and potentially misleading—to rely too heavily on responses not supported by more extensive confirmatory data on the everyday realities of organisations.

Finally, this research suggests that if 'generic skills' are to be promoted, a critical issue to be addressed is the view that they are innate and unteachable. Sufficient of our respondents indicated a belief of this kind to suggest that such views are likely to be widely held. For some, this meant that the extent to which formal training could modify behaviours was small, for others no change at all was likely. If this is a widely held perception, then it is clearly going to be a difficult task for providers—institutional or workplace—to create the sort of climate conducive to learning these kinds of skills.

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The assessment of generic skills

David D Curtis

This chapter* addresses the critical issue of the assessment of generic skills. It presents a review of the assessment regime recommended by the Mayer Committee; it canvasses the several purposes of assessment; and it addresses some of the issues surrounding assessment. Four approaches that have been taken in implementing generic skills assessment are summarised. Finally, the chapter presents a novel approach to the assessment of problem-solving in order to illustrate a way in which assessment might be used to enhance generic skills and as a basis for reporting achievement.

Mayer Committee position

THE ISSUE OF assessment of key competencies has been a major focus of attention since their launch by Eric Mayer in 1992. Section 1.5 of the Mayer report, 'Assessing and reporting achievement of the key competencies' (Australian Education Council, Mayer Committee 1992, pp.41–56) dealt extensively with both assessment and reporting issues. It recommended nationally consistent assessment and reporting of individual achievement of the key competencies (p.42). For each of the key competencies, the Mayer Committee recommended that three levels of performance be recognised. However, it did not specify precisely how these abilities should be assessed, and this matter has been the subject of many subsequent investigations.

Assessment

Assessment is rightly one of the very strongly contested areas of educational theory and practice. Assessment has a range of purposes, many different methods are employed, and each has a particular set of characteristics. It forms a basis for reporting individual achievement and can be used to evaluate

* A summary of the report *The authentic performance-based assessment of problem-solving* (Curtis & Denton 2003).

system-level performance. Assessment is often a 'high-stakes' activity with very significant consequences for individuals. It is also important for other stakeholders. When an education provider asserts that an individual has attained a specified level of achievement, it is reasonable for employers and the community to expect that judgement of performance to be dependable. In order to meet these expectations, education providers themselves must be assured that their practices and processes meet acceptable standards.

In addition to developments in assessment, there have been related developments in measurement and reporting. These are highly relevant to the assessment and reporting of key competencies achievement and are reviewed below.

Purposes of assessment

Airasian (1994) and Pellegrino, Chudowsky and Glaser (2001) asserted that assessment has three broad purposes:

- to assist learning
- to measure individual achievement
- to evaluate programs.

Appropriate assessment at the individual level may lead to enhanced individual learning, in part by signalling that what is being assessed is regarded as important. The signalling function of assessment may be particularly important in situations where the assessment is mandated by agencies outside the learner–instructor interface, since importance is indicated both to learners and to their teachers. A corollary of this is that, where assessment of particular attributes is not mandated, low importance is being signified.

Assessment also reveals individuals' achievements and this may be useful information to both individuals and potential employers, indicating areas of strength and weakness. Formative assessment, where the purpose is to assist learning, is most useful to individuals because they have time to make changes as a result of assessment, if necessary. Summative assessment, designed as a basis for summarising and reporting achievement, presents information on achievement in a concise way that is of use to potential employers. Aggregation of individual achievement can be used at the system level to monitor system performance.

Thus, while there are different purposes for assessment, appropriate assessments at the individual level can be combined to monitor program, institutional, and system-level achievement. However, what constitutes appropriate assessment for a given purpose is contested.

Validity and reliability of assessment

The appropriateness of assessment may be judged on its validity, and its technical quality judged on its reliability.

Validity refers to 'the adequacy, appropriateness, and usefulness of inferences that can be made on the basis of test scores' (American Educational Research Association, American Psychological Association & National Council on Measurement in Education 1985). Zeller (1997) identified several types of validity—construct validity, content validity, concurrent validity, and predictive validity—and each of these types must be demonstrated in order to show that a measure is valid. Osterlind (1998) argued that each of the types of validity requires that different forms of evidence be assembled in order to show overall validity.

Construct validity requires that a case be made to show that the conception underlying the proposed assessment is itself coherent and that descriptions of the concept lead directly to the form and content of the assessment activities. This has particular relevance to the assessment of key competencies. Although they have been described and are 'generally understood', to provide a sound basis for reporting achievement, they must be defined with sufficient precision to enable specific indicators to be established.

Content validity requires that the breadth of the concept to be assessed is completely and fairly reflected in the assessments proposed. In order to do this, the construct being assessed must be described in complete detail and the importance of each component of the construct identified so that it can be represented adequately in the assessment tasks. Other forms of validity are necessary to establish that a proposed form of assessment is soundly based. For example, in order to establish that an assessment leads to useful inferences about the ability of the learner in particular contexts, consequential validity must also be demonstrated.

Reliability is demonstrated by showing that the assessment produces a consistent result for a person of a given ability, over time and irrespective of who administers or grades the assessment. Different forms of assessment require different methods for demonstrating reliability. Where judgements of performance are made, consistency of judgement, or inter-rater reliability, must be demonstrated. In paper-based tests, test items are calibrated, and sets of similar items that yield common and consistent results are established. The calibration of items provides a basis for claims of test reliability using alternative forms of a test on different occasions.

However, in addition to validity and reliability, the precision of the assessment is also an important consideration, and this requires genuine measurement of performance. That is, procedures which demonstrate the coherence of the indicators and which yield estimates of the errors associated with each score are necessary. It is then necessary to show that the estimated errors of measurement are small enough to justify the discriminations that are made among categories of performance.

Authenticity of assessment

Much school assessment has been pencil-and-paper-based and these forms of assessment have been criticised as being inauthentic. This criticism is advanced against large-scale standardised testing because it rewards decontextualised atomistic knowledge and high levels of verbal fluency. Therefore, this form of assessment is regarded as being invalid, since verbal ability rather than, or in addition to, the target ability is being tested (Wiggins 1989).

As a result of this criticism, other forms of assessment have been sought and many alternatives have been tried. Many of these involve judgements made by raters of student performances on 'real-world' tasks. The final judgement is influenced by student ability, as it should be, since this is what is intended to be assessed. However, even though the tasks may be authentic, the judgement is also influenced by the characteristics of the task on which the learner is being assessed and by an interaction between the learner and the task. No doubt some tasks offer greater opportunity to demonstrate a skill than do others, but there may be some tasks for which some individuals have a greater confidence than others and this is likely to be reflected in the assessed performance. Similarly, where a range of judges is being used, some students may encounter an 'easy' judge while another may encounter a severe one. On the same task, students of a particular ability level could achieve quite different marks. Again, there is a task difficulty factor, and judge severity factor, and an interaction among judges and the tasks they are asked to rate. These factors—task difficulty, rater severity, and interactions between students and tasks and raters and tasks—all contribute to variation in the final judgements of performance and reduce its precision.

In the vocational education and training (VET) sector in Australia, authentic learning has been identified as having its own problems. Robertson et al. (2000) commented that, although workplace learning occurred in an authentic environment, the learning outcomes were of variable quality, noting in particular, that key competencies may not be addressed in these situations.

The sources of variation which influence a final performance judgement have been reviewed. Inter-rater reliability is often the subject of concern in large-scale assessments, and indices of this are frequently reported in research papers. Shavelson, Gao and Baxter (1993) examined a database of performance assessments and noted that variations in performance judgement result from using differing samples of raters and tasks to assess the individual. They concluded that:

> *… rater-sampling variability is not an issue: raters (e.g. teachers, job incumbents) can be trained to consistently judge performance on complex tasks. Rather, task-sampling variability is the major source of measurement error. Large numbers of tasks are needed to get a reliable measure of mathematics and science achievement at the elementary level, or to get a reliable measure of job performance in the military.* (Shavelson, Gao & Baxter 1993, p.iii)

Shavelson, Gao and Baxter raise an important issue. While they were able to show that inter-rater reliability can be assured, variations in assessment results can be attributed to variations in the demands and opportunities of different tasks. Authentic assessment tasks tend to be substantial, and in order for assessment to be cost-effective, a candidate can only be assessed on a few of them. Thus there is potential for some candidates to be assessed on more (or less) favourable tasks than others.

This has implications for the assessment of both technical competence and key competencies. The challenge is to devise tools that enable the task-related contributions to variability of performance judgement to be reduced to acceptable levels. In turn this will add to the precision of the measures derived from the assessments so that appropriate interpretations can be made.

Levels of assessment

An important assessment issue is the choice between single benchmarks and multiple levels of performance. In competency-based training, it is common to specify a single benchmark level of acceptable performance which is either achieved or not met. Given the breadth of application of generic skills, the diversity of learners and of industries and occupations into which they will move, and the developmental nature of generic skills, simple benchmarks of performance are likely to be insufficient.

In the extensive literature on expertise, comparisons are often made between novices and experts. Quite important differences have been noted in the ways novices and experts understand information and tackle problems. Experts have highly developed knowledge bases. They classify situations based on core principles of the discipline in which they are working and they are able do this automatically. Novices, who simply do not have the experience which has led to the development of such complex knowledge bases, must rely on general-purpose processes to comprehend information presented to them and to decide how to proceed. However, the process through which novices are transformed into experts is much less well understood. Dreyfus and Dreyfus (1996) identified five stages in this progression: novice, advanced beginner, competent, proficient and expert. With each successive stage, it is expected that performance will improve, but it will not simply grow in magnitude; it will be different in character.

For constructs as complex as generic skills, it is difficult to establish a benchmark level of performance that can be deemed adequate under all circumstances. It is very likely that different contexts will require different levels of performance. The Mayer Committee recognised the need for a range of capacities and specified three levels of performance for each of the key competencies. If level 1 is the minimum acceptable level in any context, then, in all probability, this corresponds with the Dreyfus and Dreyfus 'competent' category. At the very least, this should be regarded as having two elements. An

individual who is said to be operating in this range first should be able to apply known processes within their work context, and second, be able to reflect on them to know whether they are working as expected and delivering the expected outcome. These elements provide the minimum basis for ongoing learning in that context. A person with the capacity to monitor and reflect on performance has the minimum requirement to improve their performance and therefore to progress to the proficient and expert performance bands.

It is worthy of note that in both the United Kingdom and the United States, five levels of achievement of their respective generic skills schemes were identified. The labels used for these levels in the United Kingdom are informative: foundation, craft, technician/supervisor, higher technician/junior manager, and professional/managerial. In a review of performance levels recognised across a variety of domains, five levels have been common. In traditional guild trades these have been labelled novice, apprentice, journeyman, tradesman, and master (Ray 2001).

There is little support for a single benchmark, especially if it is pitched at a minimum competency level. In addition, in assessing complex performance, such benchmarks may have counterproductive influences on the achievements of cohorts of individuals as their training providers may feel compelled to ensure that the maximum number of individuals achieve the benchmark rather than encouraging each person to achieve their individual maximum (see Masters & Forster 2000). Assessment at several levels, with the minimum acceptable one corresponding to the 'competent' level, is one way of ensuring that each individual strives to achieve a maximum and therefore contributes to high levels of workplace performance.

Transfer and assessment

One of the more persistent issues that has surrounded generic skills is the claim of transfer. In part, this may arise from the confusion between the claimed generic nature of these skills and an expectation of transfer. A skill is regarded as *generic* if observers see a skill manifested by different people in many different contexts. It is *transferable* if an individual who demonstrates the skill in one context is able to apply it in others. Because skills are recognised as being generic, they are important—they are required by all people irrespective of the industry or occupation they will pursue. Transfer is becoming an important attribute of skills because work and work organisation are changing in response to competitive pressures and the rapid deployment of ever-changing technologies. Thus, individuals are expected to move between many job roles during their working lives, and each of those jobs will demand the flexible application of skills.

Unfortunately, much of the research literature on transfer is not encouraging. People often do not transfer a skill from one context in which it is developed or applied to others where it is relevant (Gick & Holyoak 1983; Greeno, Collins &

Resnick 1996). These observations have led to a range of theories which seek to explain why transfer might or might not occur. The number of common elements between the original and the new context is thought to be a factor in transfer. Others have invoked 'near' and 'far' transfer to account for the amount of mental effort required to transfer a skill from one context to another. Perkins and Salomon (1999) proposed the idea of 'low-road' and 'high-road' transfer. In the latter, conscious effort is expended in order to analyse the skill application in an area and to reflect on how it might be applied in others. Their paper is one of few which provides explicit advice on teaching strategies which might help to induce transfer. Lack of spontaneous transfer has led to theories of situated learning, in which it is argued that skills are learned in a context and bound to that context. This model of learning suggests that transfer is unlikely and therefore an unachievable goal. These approaches have in common the notion that transfer is a characteristic of the skill—the skill itself is either transferable or not.

Oates (2001) has argued that the focus on transfer is misplaced and that the concept of adaptability is a much more productive direction. Here the focus is on an individual's ability to perceive that a skill is broadly applicable and thus will attempt to apply it more generally. This suggests that, in learning and assessing skills, the focus should be on informing individuals of the key elements of generic skills and on encouraging them to analyse their use of the skill and to contemplate alternative situations in which it might be applicable.

Current approaches to the assessment of generic skills

The framework established through consideration of the validity, reliability, authenticity and precision of assessments is used to compare a range of approaches to the assessment of generic skills.

Four broad approaches to the assessment of generic skills have been identified in a review of literature:

- holistic judgments by teachers (McCurry & Bryce 1997; National Industry Education Forum 2000)
- portfolios created by students (Feast 2000; National Industry Education Forum 2000; Reynolds 1996)
- assessment based on work experience (National Industry Education Forum 2000; Queensland Department of Education 1997)
- assessment using purpose-developed instruments (Australian Council for Educational Research 2001b; Griffin 2000; Herl et al. 1999).

These approaches are not competing alternatives. They achieve similar purposes—to document and certify student achievement—through different means and, because of their relative strengths, complement each other.

Holistic judgements

Of these four approaches, teacher judgement has been shown to work well in the school sector where teachers know students' attributes well through frequent and close observation (McCurry & Bryce 1997, 2000). McCurry and Bryce were able to establish small panels of teachers and provided them with sufficient training in the key competencies to enable them to make consistent judgements of students' attainment of key competencies. This training and the observation of students, both in classroom-based and extra-curricular activities, enabled teachers to make sufficiently consistent judgements to discriminate eight performance levels.

Consistency of judgements within panels of teachers has been demonstrated. What cannot be shown is that this consistency extends across school boundaries. This means that students from different schools may be judged against different standards, and so individual achievement, assessed using this method, does not provide a basis for broad comparison.

This method is unlikely to transfer to either the VET or higher education sectors where such close observation in a range of contexts does not occur. A trainer may monitor learners in an institutional classroom or workshop setting, but is unlikely also to see them in social or workplace settings. Similarly, workplace supervisors may observe individuals in that context, but not in others. The bases of judgements made by these raters will be restricted to a limited range of contexts. The conclusions reached by Shavelson, Gao and Baxter (1993) suggest that it may not be possible to generalise from limited observational contexts.

Portfolio assessment

Portfolios may be quite effective for making students aware of their developing skills and for providing a rich data source for detailed scrutiny by prospective employers. Several encouraging examples of portfolio-based assessment of generic skills are available (Conference Board of Canada 2000; Reynolds 1996; Troper & Smith 1997). Devices such as the *Employability skills toolkit for the self-managing learner* (Conference Board of Canada 2000) have an important instructional function in that they reveal to learners the key dimensions of generic skills and they provide a framework in which learners can document their achievements and present supportive evidence. The process of developing the portfolio, rather than the product itself, may be the greatest benefit of this approach.

One of the disadvantages of this form of assessment is that, while it provides a very detailed account of a learner's achievements, it is not in a form that is readily digestible nor readily comparable. The Michigan Workforce Readiness Portfolios scheme described by Troper and Smith (1997) sought to address this problem by training raters to assess portfolios, and a summary assessment was

presented with the portfolio. However, Troper and Smith expressed some doubts about the validity and reliability of portfolio assessment. Validity is compromised because a very good portfolio may well represent a person with highly developed generic skills, but it also reflects a person who is capable of assembling a persuasive document, and this is a separate, albeit important, skill. Reliability depends upon having the portfolios assessed by independent and trained raters. They suggested that portfolios be used for low-stakes, but not for high-stakes, purposes. However, portfolios are used in hiring decisions, and for the individual, this is a high-stakes application.

Workplace assessment

Work experience assessment appears to be a useful method to produce a simple report, although like portfolio assessment, it is not standardised and may not be amenable to ready comparisons. The National Industry Education Forum (2000) approach to portfolio assessment combines teacher judgement, self- and peer-assessment with workplace assessment to produce a comprehensive but standard-format portfolio. The comments made in relation to the assessment of student-produced portfolios are applicable to this form of assessment. Indeed, workplace assessment might be considered to contribute an important component to a student's overall portfolio.

The opportunities for developing all skills, including generic skills, provided by workplaces vary. As Robertson and others (2000) have observed, the quality of both the learning and the assessment depends upon the context provided by the workplace and knowledge and diligence of the assessors, and in relation to Shavelson, Gao and Baxter's (1993) notion of generalisability, variations in workplace contexts will contribute to variation in opportunities afforded to develop generic skills and therefore to a lack of precision in the results and inferences that can be drawn from them.

Standardised instrumental assessment

Independent assessment using standardised and purpose-developed instruments enables efficient assessment and provides a basis for reporting that is readily interpreted by learners and by potential employers. However, the criticisms of standardised testing, outlined in the section 'authentic assessment', suggest that this approach suffers low validity, even though its reliability and precision are high.

One criticism of independent assessment using standardised instruments is that it decouples assessment from teaching. However, individuals learn in a great variety of situations, including, schools, technical and further education (TAFE) colleges, universities, and in workplaces, yet all need to demonstrate similar sorts of competences at different times. Thus, specifying the outcomes, rather than attempting to specify both learning processes and outcomes, leaves

some flexibility for learners and their teachers. This is analogous to the situation of training packages in which learning objectives and assessment processes are stipulated, but the curriculum through which the skills are developed is a matter of judgement for the training provider and is a matter of competitive differentiation among providers in an open training market.

Two instrumental approaches to the assessment of generic skills are reviewed here: the Graduate Skills Assessment (Australian Council for Educational Research 2001a) and the Center for Research on Evaluation, Standards and Student Testing (CRESST) report on problem-solving assessment (Herl et al. 1999).

The Graduate Skills Assessment (GSA) is a pilot study to ascertain whether it is feasible to assess and report upon the generic skills of university graduates. There have been several administrations of this instrument during the life of the project and approximately 3600 students from 28 universities and all major fields of study have participated. It has been administered to students at or near entry to undergraduate courses and to other students on exit.

The instrument has tested problem-solving, critical thinking and reasoning, and written communication. Claims can be made for its concurrent validity as scores on the test correlate with course entry scores (tertiary entrance ranks or TERs). Data analysis has shown that the instrument is reliable and that it has good discrimination among the components, supporting claims for content validity. However, because it is a pencil-and-paper test, it is an easy target for the criticism that it lacks authenticity.

There are some informative findings from the Graduate Skills Assessment project. It has shown clear differences among major discipline groups on the overall test score and on the component scores. For example, medical students have done better than humanities students (most likely reflective of admission criteria). Engineering students have fared better than nursing students on the problem-solving component, while nursing students performed better than engineering students on interpersonal skills (Hambur & Glickman 2001). While it may be possible to criticise the instrument for favouring some groups because of the test format, the identification of different generic skills profiles for different course cohorts might be expected. Even though the skills being tested are truly generic—that is, required across all represented disciplines—particular disciplines require or reward the skills differentially. This has implications for key competencies assessment. A common pattern of performance on all key competencies should not be expected for all industry groups. If different profiles are expected, then identifying these differences will require assessment and analysis leading to measurement of sufficient precision to permit the necessary distinctions to be made.

An interesting feature of the Graduate Skills Assessment project has been the assessment of students at or near entry and near graduation from their courses. For individuals, this will enable a 'gain score' to be reported, but this score is

much more informative when it is aggregated, using appropriate statistical methods, at the course, institutional and system levels. Appropriate multi-level analyses of data collected at the individual level will enable comparisons of the 'value added' through particular courses and institutions. Consistent with one of the Mayer objectives, this form of analysis could identify the extent of 'value adding' for equity target groups.

At this stage, the test has limited scope, but consideration is being given to extending it to include basic skills, management skills, information technology skills and research skills. It might be productive to ensure a close alignment between an extension of the Graduate Skills Assessment and any nationally endorsed generic skills framework.

The assessment methods which have been used in the Graduate Skills Assessment project have demonstrated that it is feasible to assess validly important components of employability skills. The construction of the assessment instruments and the methods of analysis used (the Rasch measurement model) have enabled measures of students' performances to be reported along a scale, and for informative interpretative comments to be provided for users. Additional analyses of those performances will lead to the establishment of differentiated levels of performance. Further, a result of the Graduate Skills Assessment project has been the identification of the distribution of students' achievement. On this basis, individuals can receive a score on each competence along with mean scores for all students and for students of their particular course type. The set of scores on each of the competences assessed constitutes a generic skills profile for each student. Such a profile should be a useful document for prospective employers, as they can see the individual's performance and compare it to national means and, once industries have become accustomed to these reports, to industry expectations and needs.

The Graduate Skills Assessment provides a model for an instrument that could be developed specifically for the VET sector, and this could provide a criterion assessment measure to complement other, perhaps more authentic, forms of assessment undertaken within courses and workplaces.

The second instrumental model worthy of consideration is that investigated by the Center for Research on Evaluation, Standards and Student Testing (Herl et al. 1999). This approach sought to standardise an authentic assessment approach. Two tasks were selected for problem-solving assessment. One involved a bicycle pump and the other the human respiratory system. Both tasks were conducted as pencil-and-paper activities, but they did not use the conventional multiple-choice format. Diagrams of the system (for example, bicycle pump) were presented and students were asked a series of questions about what would happen under certain conditions. They were also asked to explain what fault might lead to certain described symptoms. Answers to these questions were assessed using a scoring rubric. Of interest in this project was the use of concept mapping. Students were asked to label diagrams with a

range of pre-prepared labels which represented concepts and relationships. Clearly, there was an attempt to avoid some of the criticisms of most paper-and-pencil tests. The novel use of concept mapping was an interesting aspect of the test. However, it could also have added a new dimension to what was being assessed. Those students who were familiar with this technique would have had an advantage and would have scored higher than someone with equal problem-solving ability, but without this background. The other aspect of the test which gives cause for some concern is the narrow range of tasks. Given the comments of Shavelson, Gao and Baxter (1993) about the sampled nature of tasks, the generalisability of this assessment approach is open to question. In addition, this approach, although pencil-and-paper-based, was not efficient for either the participants or their assessors.

Summary of current assessment models

The discussion on assessment has highlighted the characteristics of validity, reliability, precision and authenticity, and in relation to generic skills, has examined the issues of performance levels and transfer. Four models for the assessment of generic skills have been reviewed and are summarised below in terms of assessment characteristics.

Table 1: Summary of generic skills assessment models

Assessment model	Strengths	Limitations
Holistic judgements	Authentic, provided relevant situations are chosen for observation Multiple performance levels appear to be discernible	Reliable within context, e.g. in a school, where several raters may be used, but lacks comparability across sites Summative, rather than formative—limited learning potential
Portfolio assessment	Provides a rich data source Compiling portfolio may be a valuable learning experience for the learner	Influenced by other factors, e.g. written fluency of author, which may limit content validity Lack of comparability among individuals (low reliability) Time-consuming to extract information from portfolio
Workplace assessment	High validity High learning potential if judgements are accompanied by informative feedback	Low reliability: influenced by training of assessors and by opportunities presented by the work context
Standardised instrumental assessment	Efficient High reliability Produces a score comparable across individuals and occasions Known precision, can lead to identification of number of discernible performance levels	Limited authenticity Summative rather than formative—limited learning potential

In reviews of the assessment of generic skills following their specification in training packages, two approaches are commonly described: assessment embedded within the assessment of technical competencies or assessment that is explicit and conducted in discrete units of competency which deal with particular generic skills (Clayton et al. 2003; Dawe 2001). Where assessment is embedded, it is often assumed that the technical competencies depend upon the generic skills described within the units of competency and therefore, if the technical competencies are achieved, the corresponding key competencies must also have been achieved. Thus, under this model, key competencies are not specifically addressed, developed or assessed. Where generic skills are delivered in discrete units of competency, they are developed and assessed specifically. However, this approach is susceptible to the criticism of a lack of authenticity. Proponents of this approach must be able to demonstrate that the generic skills acquired through this form of instruction are deployed by learners in authentic workplace tasks. That is, advocates of the model must demonstrate that generic skills learned in this way are transferred to other contexts.

Future for generic skills assessment

Considerable work remains to be done on the assessment of generic skills. The outcomes of assessment need to be compatible across the school, VET and higher education sectors. There are some complexities in this expansion. The issue of levels of performance becomes more complex, although having a broader range of participants may make the identification of levels of performance more accurate and certainly more useful. In this respect it is worthy of note that the early trials of the Graduate Skills Assessment instruments included a substantial number of upper secondary students (Australian Council for Educational Research 2000).

Some of the elements of generic skills more difficult to measure include personal and interpersonal skills. A number of instruments through which these skills are assessed exist (Mayer 2001; Salovey et al. 1995). The measurement of attitude is an important component of the personal dimensions of generic skills and methods in this field are well established (see, for example, Anderson 1997; Wright & Masters 1981). These methods can be applied to the assessment of generic skills and attributes.

Given the range of purposes that have been identified for generic skills assessment, it seems that several approaches to assessment will be required. The main characteristics of assessment approaches are that, collectively, they should provide:

- a mechanism for communicating the scope of generic skills to learners, training providers and employers
- a means of providing feedback to learners on their acquisition of generic skills and a framework for their improvement

- a rich source of information about individual achievement, with supportive evidence
- an opportunity to undertake authentic assessments and which occur within a work context or one that closely simulates it
- a method of assessment that is not onerous for either the learner or the assessor;
- a summary of the performance of individuals readily accessible by employers
- a cost-effective means of collecting performance information, individually and at aggregate (institutional and system) levels.

The suite of assessment and associated reporting arrangements described above, namely teacher judgement, portfolio assessment, workplace-based assessment and instrumental assessment, collectively meet most of the desirable criteria for generic skills assessment. Each has been shown to be effective in particular situations. What remains to be shown is that they can be used in concert to meet all objectives for the assessment and reporting of generic skills at both individual and aggregate levels.

A novel approach to generic skills assessment

As outlined above, most past efforts to assess problem-solving have focused on individuals' performance in selected problem-solving tasks. However, the tasks chosen have been shown to contribute a substantial component of performance variability and therefore mask the contribution of individual ability to achievement. Since the purpose of problem-solving assessment is to identify individual ability, approaches in which this is contaminated by other factors are compromised.

In past efforts to assess problem-solving in a componential, rather than an holistic way, separate scoring rubrics were developed for each task (Herl et al. 1999; Shavelson et al. 1993). If this approach were to be taken in the VET context within Australia, the load on assessors would be excessive. Each training package has many units of competency and each unit has many tasks. The process of developing separate rubrics for this number of tasks and then providing professional development to ensure that they were used consistently would be onerous at system and provider levels and for individual assessors. Thus, in pursuing a new approach, an intention was to develop either a single instrument or a very small number of generally applicable instruments. What follows is an account of the development of a novel approach to problem-solving assessment that is reported fully in Curtis and Denton (2003).

A new assessment tool, the Problem-Solving Assessment (PSA), was designed to assess the use of problem-solving processes explicitly and directly, as these processes are thought to be important in the emergence of expertise

within a domain and also to be transferable between tasks within and possibly between domains. The development of this instrument followed four stages:

- the identification of a coherent theoretically sound construct
- the identification of major component processes
- the identification of indicators of those processes
- the establishment of levels of performance on each indicator.

The stages in the development of the Problem-Solving Assessment instrument are now described.

A coherent conception of problem-solving

The applicability to the assessment of problem-solving within domains for non-experts was the major factor in selecting the chosen approach which focuses upon the application of general problem-solving processes. Experts are known to operate quite differently from non-experts. Experts have and use a highly developed knowledge base. Non-experts lack this knowledge base, but in their work, in addition to performing at a competent level, they are expected to build their knowledge base and thus become more expert-like over time. A process-based model which could account for the development of a knowledge base over time was required.

Numerous theories of problem-solving were reviewed and, although there is some variation among major theories, considerable agreement was found among them on the major processes implicated in problem-solving. Some observers (for example, Polya 1957) have identified four processes: understand the problem; devise a plan; carry out the plan; and look back. Bransford and Stein (1984) listed five steps: identify the problem; define the problem; explore possible strategies; execute a plan; and look back and evaluate performance. Because broad applicability of problem-solving was a goal of this assessment strategy, emphasis was placed on those processes which involved purposeful application and reflection. Thus, the processes which are central to effective problem-solving were identified as:

- apprehending, identifying and defining the problem
- planning an approach to the problem including selecting strategies
- carrying out the chosen plan
- monitoring progress towards the goal
- reflecting on the effectiveness of the solution attempt.

Indicators of problem-solving processes

For each of those five major processes a set of indicators was sought. Indicators were selected by answering the question: 'What would a competent person do in

demonstrating each of the component processes?' The indicators selected are not the only ones possible. They represent a sample of the set of all possible indicators.

Indicators of performance are the basic elements of assessment and measurement—they are the items which form the proposed scale of the problem-solving. In the case of the problem-solving assessment, an overall scale of problem-solving ability is hypothesised; that is, it is assumed that there is such an ability and that all the indicators form a single coherent factor which represents the construct. The selection of major processes and their indicators, based on convergent theories of problem-solving, provides the basis for a claim of construct validity. In order to ensure content validity, each component process must be represented in the overall scale.

In order for the assessment tool to be practically useful, the scale must have a limited number of items—probably between 15 and 25—so each component process was limited to between three and six indicators.

Establishment of performance levels for indicators

For the problem-solving assessment, the structure of the observed learning outcome (SOLO) taxonomy (Biggs & Collis 1982), was selected as a basis for establishing levels of performance. This taxonomy is based upon the cognitive complexity of individuals' responses to the application of knowledge in learning and problem situations. It recognises levels of performance from ineffective use of knowledge to very complex and abstract application. Descriptions for each level of the structure of the observed learning outcome taxonomy are shown in table 2.

Table 2: Performance levels of indicators using the structure of the observed learning outcome taxonomy

SOLO level	Description	Score
Pre-structural	No knowledge, inaccurate recall, or does not use relevant knowledge	0
Uni-structural	Uses relevant knowledge/skill elements in isolation	1
Multi-structural	Uses relevant knowledge/skill elements in combination	2
Relational	Can generalise using knowledge within the problem situation	3
Extended abstract	Can extend what has been found through the problem to other situations	4

An advantage of the structure of the observed learning outcome taxonomy is that its five levels form a set of ordered responses. This is an important consideration when attempting to measure performance. Each successive level is not just different from the preceding one, it reflects qualitatively better accomplishment and therefore provides a necessary basis for comparing performances. It is not necessary to use all five structure of the observed learning outcome levels for each indicator. Some indicators may demand only a simple level of application, and for them only two levels may be required—either the person did not demonstrate the indicator, or they did. However, some indicators

provide scope for the demonstration of modest performance through to very advanced performance. These may use the full structure of the observed learning outcome range.

Problem-solving assessment in practice

The problem-solving assessment was not intended to be a 'tick and flick' checklist. It was constructed to support the judgements of experienced teachers in the context of authentic tasks in their fields of expertise. What it has sought to add to their judgements is a framework for identifying important and generalisable problem-solving processes.

Second, it was not intended to be only a summative assessment tool. It does serve that function, but a much more important purpose was to provide feedback to both the teacher and the learner about the learner's acquisition of problem-solving ability. Where gaps are identified in a learner's performance, the instrument should provide explicit advice about these gaps and assist the teacher in suggesting strategies for improvement.

In order to enhance the learning of problem-solving, self-assessment was a key step in the assessment process using the problem-solving assessment. All learners involved in the demonstration project had been exposed to the problem-solving assessment tool. When they completed a technical assessment task, they were asked to use the problem-solving assessment to assess their own performance. In particular, in this step of the process, their task was to examine each indicator and to assemble evidence to support the performance level they believed they had demonstrated on that indicator. Learners then presented a completed problem-solving assessment form to their teacher along with their performance evidence. The teacher's role was to make a judgement about the adequacy of the evidence presented.

For the learner, the self-assessment step had two benefits. First, by using the problem-solving assessment, the learner became aware of the major problem-solving processes and about key indicators of those processes in a context meaningful to the learner. Thus, they learned about problem-solving in context. Second, they also became aware of their own performance by identifying and evaluating evidence against the indicators and performance levels, and could see where there was scope for improvement.

For assessors, the process was designed to be as efficient as possible while maintaining credibility by requiring a final judgement by a trained assessor. The self-assessment process undertaken by learners led to the presentation of specific evidence against explicit criteria. Assessors did not spend time seeking evidence; they made a judgement based on the adequacy of the evidence presented.

Evidence for learning about problem-solving emerged from two sources. Learners themselves commented on an enhanced understanding of what it

meant to be an effective problem-solver and indicated that they would be able to talk more confidently about their ability. When learners undertook problem-solving assessments on multiple occasions, there was a consistent improvement in problem-solving scores on successive attempts.

In reporting and certifying learners' achievements, the teachers' judgements were recorded in the student records system. The self-assessment was a key element in learning problem-solving, but the teacher's judgement was what the training provider was prepared to certify in a transcript. In the demonstration study, undertaken at Torrens Valley Institute of TAFE in South Australia, learners who completed assessments on two occasions at one of the Mayer specified performance levels received a key competencies statement of attainment. Although this certificate is a useful addition to the learner's portfolio, their capacity to describe their abilities in meaningful contexts is probably much more important in convincing potential employers of their capabilities.

Summary

Since the inception of key competencies, their assessment has been a challenging issue for practitioners. Clear understandings of the multiple purposes of assessment do lead to the identification of a range of assessment strategies which together can serve those purposes. Implementations of four general approaches to the assessment of generic skills have been reviewed and for each there are exemplars of good practice. Each has strengths and limitations.

A new approach to the assessment of problem-solving has been demonstrated using the Problem-Solving Assessment tool and an associated procedure. This tool was constructed on the basis of a coherent theoretical understanding of problem-solving. Five major component processes were identified, and they were illustrated in practice through a range of indicators. For each indicator, several performance levels were described. However, the Problem-Solving Assessment tool was not designed to be an inert assessment instrument. Its purposes could only be achieved when it was employed in a process which made it meaningful for learners, teachers and potential employers. The assessment procedure, which used self-assessment validated by teacher judgement, supports the development of problem-solving as a generic skill and provides a robust basis for reporting achievement. What remains to be shown is that the instrument and its associated procedure can be applied successfully in other teaching and learning contexts.

It seems likely that at least two forms of assessment will be required. The compilation of portfolios of evidence of generic skills achievement is desirable. However, assembling a portfolio is not itself an act of assessment which leads to a reportable level of achievement. The portfolio could be assessed, but this has

been shown to lack reliability and to be resource-intensive. Thus a complementary form of assessment is required. The preferred model may depend upon the educational context. The holistic judgement model may work well within schools. An approach, based on the authentic performance-based assessment model, may work in other sectors. There is a case for considering the Graduate Skills Assessment model at institutional and system levels. Whether this is undertaken by all learners at, or near course completion, or whether a sampling approach is adopted, is a question for policy makers.

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Assessing and certifying generic skills

Berwyn Clayton, Kaaren Blom, Dave Meyers and Andrea Bateman

Based on findings of case studies of seven training providers, this chapter* discusses how generic skills are treated in a selection of training packages, how they are understood by trainers and learners and how they are assessed. The main focus in this study is on the Mayer key competencies since this is the form in which generic skills are presented in training packages.

The study found that generic skills were highly valued by all of the informants. Moreover, there was a common view amongst practitioners that key competencies are not clearly articulated in training packages, and while such uncertainty exists, there can be no consistent approach to identifying and assessing them. The results of this investigation indicate that an integrated approach is the preferred mode for assessing generic skills—whereby vocational and generic competencies are assessed simultaneously in the context of whole work tasks.

The chapter concludes with an assessment of the implications of the findings of the investigation for the Australian VET system and notes that, for generic skills to be widely accepted as a critical component of training, they must be actively promoted as worthwhile competencies to achieve.

Introduction

WITH NEW TECHNOLOGIES and the shift to knowledge-based and globalised economies, it is beginning to be broadly accepted that the contemporary workplace is characterised by (rather than merely subject to) continuous change. Lifelong learning has been identified as one means of maintaining employability in this new economy, and the development

* A summary of the report *Assessing and certifying generic skills: What is happening in vocational education and training?* (Clayton, Blom, Meyers & Bateman 2003).

of generic skills as central to the effectiveness of that learning. Further, it is widely believed that dimensions of performance such as learning transfer, innovation and enterprise, can be enhanced by placing greater emphasis on generic skills within the training process.

Contemporary Australian research in this area of the vocational education and training (VET) sector is examining generic skills as they are understood and valued by key stakeholders—employers, workers, learners and trainers/assessors. In an environment in which such skills are considered worthwhile, but difficult to determine, the question as to how they may be assessed and certified is one that must be addressed.

The purpose of this research, therefore, was to investigate the nature of generic skills as they are commonly defined and understood in the Australian VET context and to explore the ways in which trainers and assessors are incorporating the assessment and certification of generic skills into their programs. At the same time, it also sought to determine the critical elements of effective assessment of generic skills and to discuss the implications for the Australian VET system of an increased emphasis on generic skills.

After an initial review of literature on the assessment and certification of generic skills, and a desktop audit to establish the place of generic skills in training packages, semi-structured interviews were conducted with 21 teachers/trainers and managers of assessment and six learners from seven training providers.

The registered training organisations included in this study provide a snapshot of the diversity of VET delivery in Australia. Centrelink, a large Commonwealth Government agency with a significant enterprise-based training system, delivers training totally on the job. The Electronics and Information Technology team at Torrens Valley TAFE delivers training almost entirely off the job. The Community Services and Health program at Spencer TAFE and the Burnley College Campus of the University of Melbourne are located within large public registered training organisations who deliver both on and off the job. The Campaspe College of Adult Education is a rural community-based adult and community education (ACE) training provider. Two colleges delivering VET in Schools programs within the Australian Capital Territory senior secondary sector also participated in the study.

The informants from these registered training organisations are at various stages in the development of their approaches to generic skills, influenced by their organisational missions, philosophies, and modes of delivery. Centrelink and the Electronics and Information Technology program at Torrens Valley TAFE have reached the point where their approaches to the delivery and assessment of generic skills are clearly delineated and documented. The others, while actively engaging in the delivery and assessment of generic skills, are doing so in a less systematic fashion.

The main focus of this study was on key competencies because that is the form in which generic skills are represented in training packages. At the same time, the extent of understanding of broader concepts of generic skills implicit in many units of competency was also explored.

The findings of this investigation provide indicative information about the incorporation of generic skills in training packages, the extent of practitioner understanding of generic skills and the ways in which they assess and certify them. The findings also give a glimpse of learners' views of the utility of generic skills. The research highlights those factors which practitioners themselves identified as being critical in generic skills assessment. Finally, the study looks at the implications of these outcomes for vocational education and training in Australia, and considers a number of strategies that would raise the profile and valuing of generic skills.

Understanding generic skills

There is fairly universal agreement regarding the importance of the role of generic skills for the new 'knowledge worker' in the literature (Costin 2002; Mayer Committee 1992; Senate Employment, Workplace Relations, Small Business and Education Reference Committee 2000) and in the field. However, practitioners do not speak, or think, about generic skills in the same terms. This is not surprising, given that the language associated with the concept of generic skills is quite complex and there is no real agreement as to what constitutes these skills, let alone how to validly and reliably recognise them in practice.

In the early 1990s, employment-related 'key competencies' (Mayer Committee 1992) were articulated in Australia, while studies in the United States identified 'workplace know-how' as 'necessary skills' (Secretary's Commission on Achieving Necessary Skills 1991). At about the same time, 'key skills' began to be talked about in Britain (Kelly 2001) and 'essential skills' in New Zealand (New Zealand Ministry of Education 1993). More recently, both in Europe and in Australia, a recurring concern with these key competencies has become evident in the significant projects conducted in both places into the nature of 'employability skills' (Australian Chamber of Commerce and Industry & Business Council of Australia 2002; OECD 2000).

In this study, most practitioners were familiar with the key competencies, and they understood the concept of generic skills, although they may not have used the same language when talking about them. A small number of informants were familiar with the terms 'key skills' and 'core skills' and the international generic skills agenda. Generally, generic skills are understood to be any skills that learners need for lifelong learning and living.

It is significant to note that practitioners' opinions tended to be informed by personal perspectives rather than by formal policies or guidelines. Terms such as 'work readiness' and 'employability skills' are commonly used to categorise a

plethora of similar terms relating to attributes, values, attitudes and other qualities, which, while personal in nature, are nonetheless related to work. Practitioners talked about generic skills as encompassing:

- personal values, attitudes, attributes and qualities, for example, ethics and integrity, confidence and self-esteem, respecting the ideas and opinions of others, respecting diversity, initiative and creativity, reliability and responsibility
- self-management, for example, punctuality, hygiene, personal presentation
- work management, for example, organisation of own work, meeting deadlines, understanding systems, stress management
- industry awareness, for example, awareness of the industrial landscape, business knowledge, occupational health and safety
- customer service, for example, telephone skills
- responsibility for own learning.

One comment which best encapsulates the views commonly expressed was contributed by an informant from Campaspe College of Adult Education:

> *Generic skills are transportable skills, and not only that, they are essential for success in life. If we are talking about lifelong learning, if we are talking about people developing skills to be successful in the workforce, they need to have developed these generic skills. If people have worked in the retail industry and have strived to be effective in delivering good customer service, they can do just about any job. So, I think the retail area is one of the strongest areas for developing generic skills that are transportable.*

Many of the informants expressed a degree of confusion and awkwardness when talking about the concept of generic skills. Others, who had actively worked to develop a thorough understanding of key competencies and how they might be applied in a training and assessment situation, were much more comfortable with both the language and the concept.

Centrelink, for example, has developed a training system which ensures that staff acquire generic skills during their on-job training. Centrelink assessors have a good knowledge of generic skills, especially the Mayer key competencies. They consider the key competencies to be a good starting point on which to base the incorporation of generic skills into training, but they also base their training on the 'dimensions of competency', many of which are based on generic skills and also the enterprise-defined Centrelink 'shared behaviours'.[1]

[1] Centrelink's 'shared behaviours' include: listening to customers and the community; mutual respect for customers and for each other; exploring and putting in place innovative and cost-effective ways to provide the right outcome; solving problems and developing opportunities; and behaving with integrity and in an ethical manner. These behaviours are integral to Centrelink's business and team approach, and are universally applied throughout the organisation.

Informants from Burnley College and Spencer TAFE recognised the need to address broader generic skills by formulating sets of what they call 'core competencies' or 'professional skills'. Generally, however, they are still inferring the achievement of these skills from performance in vocational activities.

Valuing generic skills

Despite this diversity of views about the language and the application of the concept, generic skills are highly valued by all informants. While some literature questions the transferable nature of generic skills (Cornford 2001; Hyland & Johnson 1998; Stevenson 1999), the informants are broadly convinced that it is in their transferability that the value of generic skills lies. They are seen to be critical to the effective performance of vocational tasks and crucial to lifelong learning. Misko and Tennant support these claims for the transferability of generic skills, but both add that learners must be explicitly taught strategies for enhancing transfer (Misko 1995; Tennant 1999).

There is less certainty amongst informants about how generic skills are valued by employers and industry. Some suggest that they are undervalued, while others contend that they are valued, but are simply not known as 'generic skills'. Furthermore, there is a strong sense that, while employers can and do provide technical skill development, they are reluctant or unable to take on the task of building the generic skills of their employees. Thus, there is a clear imperative for practitioners to ensure that generic skills are included in the training that they provide.

In those industries in which generic skills are highly valued, they are increasingly regarded as being as necessary as technical skills (Dawe 2002; Field & Mawer 1996). However, some informants consider that the lack of clear definition hampers the promotion of these skills to industry, employers and employees.

As one electronics and information technology informant commented:

> *The true measure of all of this rests with the individuals involved. How the users value them will determine their level of importance. If an employer values them, then they will be seen as very important. If an employer does not care, then little notice will be taken of them. This will only change if they are promoted more.*

Clearly there is a need to actively promote the vocational relevance of such skills to industry. More importantly, this promotion needs to be tailored to the needs of specific industries and individual enterprises. A broad-based presentation of the value of generic skills cannot realistically be expected to communicate the needs of all businesses.

Ironically, while it is in their very generalisability that the greatest strength of generic skills lies, this is also the characteristic which makes them most vulnerable to dismissal by those enterprises which cannot see an immediate

benefit to themselves in the development of their employees' generic skills. It is not impossible to convince such workplaces of the value of generic skills, but their promotion must be both specific and clear.

Incorporation of generic skills in training packages

From the audit of training packages conducted prior to commencing this study, it was evident that generic skills are incorporated in a range of ways. Apart from the Mayer key competencies, which are included in tabular form in every unit of competency, generic skills are also included as discrete units of competency, as elements of competency, and as performance criteria. They are also embedded within vocational units of competency. Sometimes they appear as explicit performance criteria and at other times they can only be implied. Thus, while generic skills may be quite explicit in some cases, they are implicit in many more. This variation in coverage within training packages has a direct and sometimes negative bearing on practitioner understanding of generic skills, and the approaches they take to assess them.

Where generic skills are represented as discrete units of competency or performance criteria, practitioners have little difficulty in teaching and assessing them. When they are embedded in units of competency, they are more of a concern because learner achievement of them must be inferred. Valid inference requires clear guidance, and currently the assessment guidelines within training packages provide inadequate support for practitioners.

More importantly, there is a common view among practitioners that key competencies are not clearly described in training packages and that more global generic skills are even more difficult to identify. While awareness of key competencies is quite high, many practitioners are unclear about their implications or how to interpret them. While there is such a degree of uncertainty about identifying and interpreting generic skills, there can be no consistent approach to assessment of them.

Some of the informants who felt that generic skills have been given too little emphasis in their particular training packages have enhanced the profile of these skills by borrowing a range of generic skills from other training packages.

One informant also commented that the suggestion that, because key competencies are embedded in training packages, means they can be inferred as being achieved by mere completion of training is sending the wrong message:

> *Generic skills need to be much more comprehensively addressed in the training packages. They need also to be more explicitly learned and assessed. Only then will the level of learner awareness and understanding be raised and the key competencies openly accepted as valued assets by students, employers and industry.*

Whether generic skills are clearly expressed or not in training packages, informants indicated that they still assess them because they represent a fundamental part of learners' work readiness. However, although informants want to assess particular generic skills they consider important for their discipline areas, they feel constrained by the lack of clear direction within their training packages. They also recognise that there is a risk involved in conducting assessments which may be open to challenge by learners because the generic skills performance criteria are not explicitly identified within training package documentation.

From the information provided by informants to this study it is evident that generic skills need to be more explicitly addressed in training packages. More importantly, there is a clear need for more extensive guidance on delivery and assessment. Specifically, this should comprise directions on where the opportunities may be for the assessment of generic skills, together with examples of the tools to undertake the task.

It should be reiterated that most of the people interviewed were commenting on their experiences in delivering the first versions of their training packages. The Australian National Training Authority (ANTA) has developed a comprehensive set of guidelines to ensure that key competencies are more explicitly incorporated into new and revised training packages (ANTA 2001). Thus this issue has, in part, already been addressed for those developing training packages. However, the challenge remains to communicate this changed approach to practitioners.

Assessment of generic skills

Central to this study was the exploration of those factors which practitioners identified as being critical in the assessment of generic skills. In the main, these issues are very similar to those constantly raised by practitioners discussing competency-based assessment in general, and do not constitute anything which is unique to the assessment of generic skills.

Since 1992, generic skills have been most clearly articulated in VET as the Mayer key competencies. Because they have been included in training packages from the outset, this study was concerned to determine how practitioners were delivering and assessing them. Generally, generic skills are not being directly assessed unless they are discrete units of competency. In most cases, the key competencies are being integrated into other competencies. They are being assessed holistically as part of the overall assessment of vocational competencies and their achievement inferred. Thus, because generic skills are less explicitly described in training packages, there is considerable potential for invalid judgements to be made about the quality of learner performance.

A number of informants indicated that they found determining what performance looks like at each of the three key competency levels quite problematic, although the approach adopted by the electronics and information technology teachers at Torrens Valley TAFE is an example which others could follow.

In that instance, the key competencies are being directly assessed and reported on, utilising a set of agreed benchmarks of performance for each of the three Mayer key competency levels. The opportunities for the assessment of key competencies are identified within real work tasks generated out of vocational units of competency. Even though the key competencies are not assessed separately, judgements about their achievement are explicit. Learners are provided with clear guidelines on the evidence required to be assessed at each level, and are actively encouraged to determine their own readiness for that assessment.

Importantly, the programs offered by electronics and information technology at Torrens Valley TAFE are delivered in a flexible learning environment and, as a consequence, learners have a choice about what they learn, the resources they use and the modes of delivery they select. In this learner-centred setting they can also choose to have their achievement of the generic competencies recognised through formal assessment and certification. The methods of assessment and the evidence requirements for individual learners are determined after a process of mentoring and negotiation with teaching staff.

This system for assessing key competencies is fully based on the performance criteria for each competency at each level being open and transparent to both students and teachers:

> *The procedures used establish validity of assessment by requiring the student to present clear evidence demonstrating that the competency claimed has in fact been put into practice. This conscious process and effort of self-assessment of their practical application of key competencies makes the formal assessment a valid and reliable means of determining that they do in fact have the key competencies as personal attributes.*

As noted earlier, informants to the study expressed concern about the lack of clarity in describing generic skills in training packages, and the lack of guidance on how to assess them. It would be expected, therefore, that this would have a direct bearing on the approaches employed to assess generic skills. Therefore, it is not surprising that informants called for better information to support assessment decision-making, such as guidelines for evidence collection, including the delineation of performance requirements or benchmarks, to be developed to ensure consistency across assessors and across and between registered training organisations.

The study noted that some such support is provided in the ANTA *Training package development handbook* which addresses the implicitly recognised difficulties that training package developers can encounter in the identification,

teaching and assessment of the key competencies. The handbook suggests developing inclusive performance criteria and range statements, specifying a variety of evidence, writing holistic units of competency, and using appropriate language (ANTA 2001). If this advice were more broadly disseminated to teachers and trainers who share these conceptual and practical difficulties, there might be fewer problems with generic skills in the field.

However, the 'conscious and deliberate effort' which is required to make key competencies explicit throughout the training process is obviously predicated on a sound understanding on the teacher's or trainer's part, not only of the nature of key competencies themselves, but of the multitude of ways in which their achievement can be facilitated. The handbook can only go so far in suggesting strategies and supporting them with examples. Beyond this, teachers and trainers must exercise their own professional competencies. It is crucial that assessors themselves understand what generic skills are and know how they might be manifested in behaviour. Without such understanding, it is unlikely that effective delivery and assessment will occur.

Informants consistently commented that specific resources and funding need to be dedicated to the assessment of generic skills to enable it to be done properly. They see that delivery and assessment has to be flexible to ensure that there are many opportunities for learners to be assessed in their achievement of generic skills.

Many informants identified the importance of the learner's role in generic skills learning and assessment, and some placed considerable emphasis on providing well-designed, clearly articulated, comprehensive and readily accessible information to learners, assessors, employers and other stakeholders. Such information can raise levels of awareness of generic skills and result in a greater level of commitment by learners and teachers to the recognition of these skills.

What has proved to be important in the development of assessment strategies for generic skills is the collaboration that has occurred with other assessors. In some instances, with limited guidelines to follow, practitioners have adopted this strategy in order to gain a degree of consistency in their assessment approach and judgements. In other instances, assessors have developed clear guidelines, performance benchmarks and assessment matrices to assist in consistent decision-making.

In most instances there has been no parallel development of guidelines for learners on the assessment of their generic skills; instead, more emphasis has been placed on providing information of a more general nature on assessment. Quality information on the assessment of generic skills, together with ongoing support for learners can have a significant impact, as is evidenced by the approach adopted in the Electronics and Information Technology program at Torrens Valley TAFE.

Informants from two organisations have committed considerable time and resources to the development of comprehensive strategies for the assessment of

generic skills. They have also placed great emphasis on the information they provide to their learners. The methods being used by most of the practitioners to assess generic skills, however, are clearly no different from those being used for any other VET assessment.

> *The explicit assessment of the key competencies allows these generic skills to be evaluated in detail across a range of activities and contexts helping students appreciate the generic and transferable nature and value of these skills.*
>
> *Explicit assessment is also a crucial strategy for nurturing the development of these skills through student self-assessment of their key competencies. A student's ability to effectively self-assess their performance (1) raises awareness of the processes involved, (2) identifies where they are at with a particular key competency, (3) provides a pathway for improvement, and (4) establishes a framework of understanding to help them apply these skills in different contexts (i.e. reinforcing transferability). The facilitator's role is then not so much to assess the student's performance but rather to validate the student's self-assessment.*

Reporting and certifying generic skills

While there is no national policy which requires registered training organisations to formally record, report and certify generic skills, there is little likelihood that training providers will actively seek to do so. Centrelink records the attainment of generic skills on their assessment matrices, but none of the other organisations in this study has formal strategies in place to include generic skills in their formal records of learner achievement. Nor do any of the organisations have systems in place to formally record, report and certify generic skills. A considerable amount of generic skills assessment, therefore, is going unreported—where those skills are being inferred but not recorded, reported or certified. As has been observed elsewhere, 'If the essential skills are not separately reported it is unlikely that they will have widespread recognition' (New Zealand Qualifications Authority 1993, p.14).

In the Electronics and Information Technology program at Torrens Valley TAFE, however, an informal system for certifying key competencies has been developed. This is supported by software which is specifically designed to manage student records in a flexible learning environment. Learners are provided with a statement of attainment outlining key competency achievement at the various levels. This can then be used as supplementary evidence to their formal academic records and testamurs. This system, however, does not have the capacity to automatically translate these informal records to Torrens Valley TAFE's formal academic records system.

The major disincentive for the recording, reporting and certifying of generic skills in every registered training organisation is that it requires each organisation to have a student management system capable of handling the

multitude of results which would be generated. Further, given the current systems of fee payment in place within registered training organisations, the development of explicit generic units of competency would have considerable financial implications for learners, which they may be unwilling to bear. However, not only would learners be more motivated to acquire generic skills if they were formally certified, it would assist employers if learners' attainment of these skills were more clearly described.

Learner perspectives on generic skills

Despite the diverse learning environments and the different approaches to the delivery and assessment of generic skills in which these learners found themselves, all were able to describe generic skills in their broadest terms, and valued them very highly. It therefore would seem appropriate to assume that raising the profile of generic skills in the delivery of VET programs to a level where they are explicitly addressed, assessed and understood by learners, should not be too difficult a task. It is evident, however, that the provision of quality information which clarifies the behaviours and forms of evidence required is as essential for learners as it is for teachers and trainers.

As Moy observed, one advantage of collating evidence of generic skills attainment, such as by means of a portfolio, is the prompt to learners to reflect upon and monitor their own skill attainment (Moy 1999). In summarising his experience with the electronics and information technology model of generic skill assessment, one of their learners commented that, while the statement of attainment was useful, working out how to address the criteria attached to the competencies was even more useful. This learner exemplifies what the study refers to as a 'meta-generic skill': 'the ability to conceptualise and articulate possession of generic skills'.

> *The whole process helped me to examine the criteria and to find out what was really being looked for. It is about working out what is really required … I learned to focus my thinking and that has been my most important learning. You will not get a job and keep it if you are not able to do this.*

Critical factors in generic skills assessment

Generally, the critical factors in generic skills assessment are no different from those required for any valid, reliable, flexible and fair assessment. However, because generic skills are less explicitly described in training packages and key competency levels are difficult to determine, there is considerable potential for invalid judgements to be made about the quality of learner performance.

Practitioners expressed disparate views about the place and the agency of learners in the assessment process. A number of informants suggested that

assessment of these skills should be subtle so that learners do not have the feeling that this is an increased burden upon their learning of vocational skills. Others, however, considered that it is crucial that learners be at the centre of the learning and assessment of generic skills and that they play a significant role in the ultimate assessment decision-making. In particular, these informants see the development of the learners' ability to self-assess generic skills as critical, for this is the key generic skill they need to ensure their employment and continued employability.

Some practitioners place considerable emphasis on the quality of information provided to learners, assessors, employers and other users of the assessment outcomes. This information needs to be well designed, clearly articulated, comprehensive, pitched at an appropriate level for the users, and readily accessible. Evidence from this study indicates that where considerable effort has been put into the provision of quality information, levels of awareness of generic skills have been raised and there has been a greater level of commitment by learners and practitioners to the recognition of these skills.

Information to support assessment decision-making, such as guidelines for evidence collection, which includes the delineation of performance requirements or benchmarks, must be developed to ensure consistency across assessors and across and between registered training organisations. It is also crucial that assessors themselves understand what generic skills are and know how they might be manifested in behaviour. Without such understanding, it is impossible that effective delivery and assessment can occur.

One important element concerning information relates to assisting learners to recognise the multiple opportunities they have for assessment of generic skills. This requires not only learners but also practitioners to have a good understanding of where generic skills are located in the learning process and encouraging learners to have these skills recognised. Delivery and assessment must be sufficiently flexible to ensure that these opportunities can be readily accessed.

A number of informants stressed that where learners are undertaking their programs in flexible learning mode, the building of their generic skills is essential for success. Self-directedness, motivation and the ability to organise themselves and the material being learned are crucial skills in such environments.

Information gathered in this study indicates that an integrated approach is the preferred mode for assessing generic skills; that is, an approach in which technical or vocational competencies and generic skills are assessed together in the context of whole-work tasks.

Informants suggested that the development of a fully fledged system for the collection of evidence (which might comprise competency records books, checklists etc.) is essential for the effective assessment of generic skills. Many of them expressed some frustration that these systems have not yet been fully developed within their organisations.

In addition, informants acknowledged the importance of quality-assuring the processes, the assessment tools and the decisions they make about learner competence. Some expressed a level of concern about being able to check their assessment processes and outcomes against those of others. Working in isolation without any idea about how other people are going about the same process means practitioners are not making confident decisions about competence. Strategies to review, compare and adapt assessment would assist them in developing valid and consistent approaches as would clear delineation of evidence requirements and benchmarks.

A consistent comment from all informants was that specific resources and funding need to be dedicated to the assessment of generic skills to enable it to be done properly. Several registered training organisations in this study have made considerable commitment to the development of comprehensive approaches for assessing generic skills because they are intrinsically linked to their organisational mission and values. The provision of time and space for people to be involved in working through the issues has been identified as vitally important, as has the need for professional development for staff after strategies have been developed. The active involvement of key players in the development, implementation and review processes are crucial to effective delivery and assessment of generic skills.

There was also some suggestion that, without national policy that supports appropriate resourcing of the assessment of generic skills together with national strategies for certification, the acceptance of generic skills would remain problematic. This is particularly the case where generic skills are being inferred and go unreported.

It should be emphasised, however, that these issues are very similar to those constantly raised by practitioners discussing competency-based assessment in general, and do not constitute anything which is unique to the assessment of generic skills.

Implications of findings for Australian VET

Any future strategy designed to extend the introduction, assessment and certification of generic skills in vocational education and training programs must take into account the uneven manner in which key competencies have been implemented since the introduction of training packages. Inconsistencies of approach and uncertainties about interpretation combined with a stress on inference of competence, rather than direct assessment of achievement of competence, has meant that key competencies have remained relatively undervalued by learners and employers.

There is a need to raise the profile of generic skills within the Australian VET system. This could, in part, be achieved by reframing current VET policy to give

them a more prominent place. The policy would need to include a clear definition of what generic skills are meant to encompass, taking into account the findings of the range of current research on the topic. The positioning of generic skills could then be further enhanced by the development of policy to provide practitioners with clear direction on which generic skills should be delivered and assessed and a framework within which they could be reported and certified.

Any formal certification of these skills would require registered training organisations to be able to manage and report upon the results. Student information management systems, record-keeping strategies and policies would need to be modified and funding would need to be allocated for this purpose. Alternatively, a record-keeping system for generic skills could be centrally developed and made available for use by interested providers.

For generic skills to be further accepted as a critical component of training, they must be actively promoted as valuable competencies to achieve. Such promotion should be comprehensive and directed at all key stakeholders: employers, industry, learners and VET practitioners.

Any promotional strategies directed at employers and industry will have to take into account the current confusion of views about generic skills and the language surrounding them. Messages about the nature and value of generic skills are needed to educate these key players. To be effective, these messages would need to be specifically targeted to meet the unique interests and needs of each stakeholder group, recognising that this is not a situation in which 'one size fits all'.

Motivating learners to actively engage in acquiring generic skills requires the skills to be openly taught and assessed in ways which treat them as having equal value as technical skills. In parallel with this, consideration must also be given to officially valuing them through formal certification. One option would be the development of a form of certification for generic skills separate from the current arrangements for the certification of vocational competency. The issue of how this could be made cost-neutral to learners would also have to be addressed because learners are unlikely to elect to be assessed for competence in generic skills if they are required to pay extra for them.

To assist in motivating practitioners, there is a clear need to revise the way in which generic skills are accommodated in training packages. Any revision should ensure that the place of generic skills is made much more explicit. The extent to which generic skills should be embedded into units of vocational skills, or alternatively, included as discrete competencies, requires resolution. In addition, considerable benefits would be gained by ensuring which generic skills are incorporated into training packages in ways that are easy for practitioners to interpret and which minimise the possibility of inconsistent outcomes in their assessment.

The explicit incorporation of generic skills into performance criteria would increase the degree of confidence that practitioners have in assessing them. More extensive advice on how they could be assessed would also be of considerable help. Models of good assessment practice, exemplar and benchmark materials, strategies for consistent assessment decision-making, options for record-keeping and guidelines for the development of information on generic skills assessment for practitioners and learners would encourage practitioners to actively and validly assess generic skills. As indicated by Mayer (Mayer Committee 1992), and reiterated by several studies since (Dawe 2002; Down 2000; Down & Figgis 2000; Kearns 2001; Moy 1999), professional development opportunities would need to be offered in association with the introduction of such resources, as VET practitioners need to develop the additional subject matter expertise essential to the effective delivery and assessment of generic skills.

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Assessment of key competencies

The Torrens Valley TAFE approach

Rob Denton

This chapter describes the development of a strategy to assist in the successful implementation of the Electrotechnology Training Package delivered by the Electronics and Information Technology program at Torrens Valley TAFE in South Australia. A key element of the strategy is its focus on the integrated development and assessment of key and vocational competencies, with learner self-assessment being a crucial component of this. One of the key factors in the success of the strategy so far can largely be attributed to the role of 'validated self-assessment', whereby learners assess their own competence in a particular generic skill. Validation by teachers provides the quality assurance and formal recognition for the learner to prove their capabilities.

Introduction

From 'enterprise skills' to 'key competencies'

Torrens Valley Tafe in South Australia has a long history of commitment to generic skills from as far back as 1989 with its early focus on 'enterprise skills', whereby students were encouraged through innovative learning technologies to take greater control of their own learning and to develop 'enterprise skills'. This culminated in the launch in 2000 of the 'Electronics and information technology competencies assessment strategy'.

Staff in the Electronics and Information Technology program at Torrens Valley have always, where possible, adopted national, state and local guidelines to enable the explicit assessment of key competencies to capitalise on the efforts of others and to ensure for their graduates, the greatest relevance and recognition nationwide. The Mayer Committee's national recommendations on key competencies have been closely followed and augmented by guidelines from focus groups, various work-based learning projects and local industry consultation and collaboration.

The electronics and information technology flexible learning environment

The development of key competencies is effectively facilitated through flexible learning. Research highlights the importance of learner-centred, self-directed, flexible learning strategies for development and assessment of key competencies. Eric Mayer has commented that that key competencies are a measure of 'how self-sufficient a person is'. Learners begin to develop and demonstrate their self-sufficiency or self-directedness once they are given sufficient scope to do so; that is, enough opportunity to take responsibility for their own learning and to make their own choices and decisions. Flexible learning is concerned with empowering the learner to enable them to demonstrate the important generic skills they will need in today's workplace and in the community and in life in general.

Significantly, key competencies have always been very much at the core of thinking in the development of the Electronics and Information Technology program at Torrens Valley TAFE. Today it has evolved into a highly developed flexible learning environment emulating the workplace and rich in opportunities for nurturing key competencies. A video highlighting the electronics and information technology flexible learning environment can be viewed online at <http://www.tvtafe.com.au/electronics>.

The electronics and information technology key competencies assessment strategy

The 'prove & improve' principle

'Prove & improve' is a slogan used to promote the electronics and information technology key competencies initiative and has been selected to emphasise the dual focus of this assessment strategy. The initiative is designed to provide opportunities for students to *prove* (through formal assessment and certification) and *improve* (through 'assessment as learning' practices) their key competency abilities. This principle is central to the implementation processes and practices outlined in the following sections.

The effort and ability a learner devotes to 'proving' key competencies is also harnessed through the design of the assessment process where the aim is to nurture further learning and 'improvement' of these important lifelong skills. This learner-centred approach specifically aims to empower and directly benefit every individual learner by offering proof of performance in the form of a formal certificate and (perhaps even more importantly) a framework for improvement which will continue to benefit them throughout life.

Practical implementation

This key competencies assessment initiative has not been implemented as an 'add-on', nor just another assessment instrument. Rather, it is an integral component of a comprehensive implementation of a number of national training agenda priorities over the past decade—particularly flexible learning. Practical implementation has incorporated:

- extensive research and development
- close links and consultation with industry, students and staff
- partnerships with universities and educational exemplars
- awareness-raising and information distribution
- promotion and marketing to all players
- facilitation and mentoring
- student self-assessment and facilitator validation
- development of specialised resources such as assessment instruments and computerised recording systems
- application of new learning technologies
- workable practical implementation procedures and practices
- evaluation and refinement
- comprehensive student orientation and support
- commitment to continuous improvement.

The following points summarise the major components of the initiative.

- It was first introduced as a voluntary initiative, offering an opportunity for students to apply for explicit assessment and recognition of one or more key competencies (at specified performance levels) as part of any existing course assessment (that is, it does not involve any extra assessment activities).
- In June 2003 explicit assessment of key competencies was mandated as part of the delivery and assessment strategy for the Electrotechnology Training Package. Each qualification requires a specified minimum set of key competencies at specified performance levels that must be achieved. Importantly, students still retain control and flexibility over exactly when and how they demonstrate their competence for each of the required performance levels and may elect to demonstrate extra key competencies.
- Students perform a self-assessment of their selected key competency(s) using the appropriate assessment sheet(s) and identify evidence to support their assessment which is presented (in any convenient form) to the facilitator for validation.

- Validation involves two aspects:
  - The student successfully performs the key competency to the specified performance level criteria clearly stated on the assessment sheet.
  - The student is explicitly aware of these key competencies and their own competence in them.
- Certification takes the form of a 'statement of completion' issued by the organisation listing all key competencies and the respective performance levels achieved.
- All results, along with a comprehensive portfolio of evidence for each student, are maintained in SMART (the local computer-managed student results system).
- To gain formal recognition for a key competency performance level, it must be successfully demonstrated and assessed twice in different contexts (according to the Mayer Committee guidelines).
- It is the responsibility of each student to provide clear samples of evidence to address each assessment criterion for the chosen key competency performance level.
- Demonstration of higher performance levels doesn't necessarily indicate an ability to perform at the lower levels. It is beneficial to have all levels validated.

Students seeking recognition of their generic skills are required to work their way sequentially through the following process:

- Find out about the key competencies generally through induction, information resources, facilitators or the key competencies coordinator.
- Choose a suitable key competency to be assessed as part of a module assessment, having discussed the possibilities with the module facilitator if desired.
- Collect an assessment sheet and choose the performance level, having read carefully through the associated criteria. Subsequently, use the assessment sheet as a checklist to work through the assessment.
- Provide clear evidence to demonstrate how each criterion has been addressed during the module assessment to enable the facilitator to validate against the criteria.

Making it workable

Absolutely essential for successful implementation is the requirement for a 'workable' system. The goal is to make the identification and assessment of key competencies more explicit, but if this process is perceived to be difficult and unwieldy, then the tendency will be to ignore them. Considerable effort, therefore, has been devoted to designing this strategy to minimise the burden and overheads, while maximising the benefits to learners, industry and the community.

The following are the design features which have made the key competencies strategy workable for students, staff of the Electronics and Information Technology program and employers:

- A comprehensive orientation and facilitated induction has been established.
- Clear and comprehensive information about the initiative is available in many formats (documents, powerpoint presentations, videos, brochures, posters, software etc.).
- A consistent assessment process has been established for all key competencies.
- Assistance is readily available from facilitators and the key competencies coordinator.
- Specific guidance is available from learning guides and facilitators.
- The key competencies assessment process is integral to existing course assessment. It doesn't involve additional assessments.
- Evidence is presented in any way convenient for the student (written, dot point, verbal, demonstration, graphic etc.).
- The assessment criteria are clearly stated on assessment sheets.
- Facilitators don't 'assess' but rather 'validate' evidence presented against the clearly stated criteria (they don't need to search for the evidence; students are required to clearly point out or provide evidence).
- The results are recorded in an existing computer-based results system (SMART), already familiar to staff and students.
- The initiative is actively supported by the Electronics and Information Technology Student Representative Council.
- The statement of completion lists each key competency achieved to help prospective employers in recruiting.
- The process ensures that students are explicitly aware of their key competencies to enable them to discuss confidently with employers at job interviews.
- The process was designed in consultation with industry representatives, therefore accommodating their needs.

Key processes and procedures

'Integral' performance and 'explicit' assessment

Much national debate has revolved around how key competencies should be performed and assessed in relation to technical competencies. Should they be assessed as discrete entities or in conjunction with the vocational or technical competency being assessed? The electronics and information technology model

takes a relatively unique approach. This incorporates the best of each of these approaches by having key competencies 'performed' as an integral part of technical competencies while being 'assessed' explicitly using specific criteria for the respective key competencies—an approach which has rarely been considered. Integrated performance (as in the workplace) makes the learning authentic, while explicit assessment allows these generic skills to be evaluated in detail across a range of activities and contexts, assisting students to appreciate the generic and transferable nature and value of these skills. Both the technical competency and the key competency have separate explicit criteria.

Rather than relying on the fact that key competencies are 'inherent' in the delivery of the technical competencies, explicit assessment offers substantiated evidence of their performance. Moreover, it equips learners with a strategy for improving these skills. Learner feedback reinforces their understanding and support of this.

Assessment as the major 'learning and development' strategy

Many debate *how* and *if* key competencies can be taught. Some believe they can be taught explicitly while others believe it is simply a process of osmosis.

At Torrens Valley TAFE it is generally believed that key competencies are not 'taught' but rather 'learned and developed', and that assessment is the most effective strategy for achievement of this. Assessment is used as a means of forcing the processes and practices of key competencies to become explicit so that they may be learned and developed.

First and foremost, assessment is defined and implemented as not simply a means of measuring performance but more importantly as a strategy for nurturing development and learning. This is a fundamental principle actively implemented at Alverno College in the United States[1] in their international best-practice work with generic skills (referred to simply as 'abilities'). Alverno College has formally titled their approach to generic skills development 'assessment-as-learning', a description which very clearly captures the essence of their approach. 'Assessment-as-learning' incorporates a number of assessments in the development process, these being undertaken by the program lecturer, cross-faculty lecturers, external assessors, and the learner themselves through self-assessment. It is hoped in the future to extend the assessment process by involving lecturers across the institute and external industry representatives.

[1] Alverno College has an international reputation for generic skills implementation. Torrens Valley TAFE has established a mutually beneficial relationship with Alverno, supporting leading-edge development and continuous improvement of key competencies implementation. For the past 25 years Alverno College has been conducting professional development workshops for educators around the world. The Electronics and Information Technology Key Competencies Coordinator, Rob Denton, attended the 25th Annual Workshop on Assessment-As-Learning at Alverno College in June 2001.

Assessment is 'learner-centred', with the learner themselves playing a major role through their involvement in self-assessment with facilitators (and ultimately institute staff and external representatives) performing a crucial validation role in the process. This is termed 'validated self-assessment'.

Validated self-assessment

Validated self-assessment is the key strategy for achieving the 'prove and improve' principle and as such, is possibly the single most crucial element of the whole assessment strategy.

- *Self-assessment* is a major means by which learners are empowered in the assessment process in such a way to help them develop or 'improve'.
- *Validation* provides the quality assurance and formal recognition for the learner to 'prove' their capabilities. Validation is also crucial for establishing credibility and applying defined standards to otherwise uncontrolled and uncertified self-assessment practices. Consistent with the assessment-as-learning philosophy, this validation process is also an important opportunity for 'validators' to provide feedback and support to nurture development of the learner through the assessment process.

Key competency assessment sheets for each competency are used to guide the assessment process. They contain the criteria for each performance level to enable learners to self-assess their performance and for staff to validate student performance based on the evidence which may be presented in any form (written, dot point, verbal, demonstrated etc.).

A learner's ability to effectively self-assess their performance:

- raises awareness of the processes involved
- identifies where they are at with a particular key competency
- provides a pathway for improvement
- establishes a framework of understanding to help them apply these skills in different contexts (that is, reinforcing transferability)
- equips them with the confidence and ability to convincingly describe and discuss their skills to others, such as at a job interview (removing any doubt over the credibility of the certificate alone).

The educational value of self-assessment is well known and documented. Alverno College, for example, applies self-assessment as a dominant strategy for the development of generic abilities (key competencies). As one commentator notes:

> *… as students develop their self-assessment capacities, they take charge of their own learning … the capacity to self-assess, then, becomes key to their ongoing learning and their transfer of learning to new contexts.* (Loaker 2000)

At Torrens Valley TAFE a key competencies coordinator manages this whole strategy and acts as a mentor to staff and students as they familiarise themselves with the process. For example, the coordinator participates in the first few key competency validations undertaken by every facilitator to ensure a consistent approach. Ongoing periodic checking and assistance to staff is maintained as a quality assurance measure. Learners will, in all probability, have their key competencies assessed by a variety of lecturers throughout their course, thus adding to the validity of their record of achievement.

Enabling learners to take more control of their learning—including assessment—is consistent with the flexible learning principle of empowering learners. Their direct involvement in the assessment process improves their understanding of their skills and prepares them to be able to speak with great assurance about their skills to prospective employers at job interviews.

Empowered approach

The strategy of explicit assessment and formal recognition of key competencies was initially a voluntary opportunity for learners, consistent with the empowered learner focus of flexible learning. However, as a result of this, it posed a huge challenge to entice interest and participation by learners, prompting a concerted effort in publicising this strategy and promoting its benefits. About 25% of learners chose to participate after their induction into the Electronics and Information Technology program—a small but nevertheless very encouraging response in light of the voluntary nature and the very early stages of building momentum for this initiative. The willing participation of any learner was a significant achievement.

The recent quantum leap of mandating key competencies assessment is anticipated to reduce the effort required to both promote the initiative and entice students to participate. This should also allow coordinators to increase the time they devote to more productive tasks such as mentoring students and nurturing the development of these skills. It is still very early days and the full impact of this change is yet to be realised and evaluated. Despite the fact that students now have no choice over whether they participate, they still remain very much empowered in the process. This is a crucial principle for effective implementation within the flexible learning environment.

What support does this approach require?

Student induction

Carefully planned student induction is an essential requirement of the electronics and information technology assessment strategy.

An overview of the key competencies assessment strategy is built in to the orientation module which all students complete upon beginning a course. Included in this is a Powerpoint presentation which introduces the key competencies, emphasises the importance of having them recognised and gives an overview of the assessment process. Built into this presentation are two videos, the first of which involves the institute's senior employment services consultant who emphasises the high demand for these skills by employers. The second is an enactment of an actual electronics and information technology course assessment activity in which three students demonstrate the competency devoted to problem-solving at each of the three performance levels. This provides a graphic, authentic presentation of the assessment process.

Supplementary information relating to the key competencies available in hardcopy or electronic format (including support via email) during induction, includes brochures, guidelines and procedures, the key competencies assessment sheets, posters, specific information provided in module learning guides and emails.

The key competencies coordinator is a major resource. In addition, there are periodic key competencies tutorial sessions and special events. These include the formal launch of the key competencies assessment strategy and the more recent National Centre for Vocational Education Research (NCVER) project where guest speakers from industry and the institute addressed all students.

An interesting initiative implemented by Torrens Valley TAFE library staff was the use of the 'library orientation' section of the student orientation program as an opportunity to demonstrate performance level 1 of the competency, 'collecting, analysing and organising information'. The library staff running this session now provide students with the opportunity to undertake their very first key competencies assessment and the library staff perform the validation for the student's self-assessment. The activity uses the Dynix catalog system to locate resources and is an assessable activity in the orientation module, thus making it eligible for key competencies assessment. The library's participation in the electronics and information technology assessment strategy is an example of the recognition and support the strategy is gaining from other areas of the institute and the positive impact it is having.

Recently, students participating in this program have been surveyed for their opinions of the strategy. This survey found that the vast majority of students felt well informed about the key competencies strategy: of those students who replied, 90% who had participated in key competencies assessment and 88% who had not participated, felt well informed about the strategy.

Professional development

The key competencies coordinator takes primary responsibility for professional development for all Electronic and Information Technology program staff, the

first step being an introduction to the key competencies assessment strategy using the student orientation resources (including the Powerpoint presentation). This provides them with a strong student perspective.

The next step relates to their role in 'validating' a student's self-assessment. The validation role is relatively straightforward, requiring the facilitator to simply validate the evidence presented by the student against the key competencies criteria, a process they are already familiar with in relation to 'technical criteria' for competency-based training. As a quality assurance process to ensure inter-rater reliability, all staff conduct their 'first' key competencies assessment with the coordinator. This process provides the opportunity for the coordinator and the 'new assessor' to perform the validation independently and then correlate their results and discuss. With close correlation established, these assessors then take responsibility for the process themselves. Coordinator support is always close at hand for assistance or to receive feedback.

Other professional development activities include: presentations, team discussions, one-on-one coaching, action-learning processes, and innovative learning resources, such as an online 'quandary' based around staff key competencies performance.

Quality assessment instruments

The quality of the assessment process is crucial and has already been emphasised (see the section on the validated self-assessment process); however, it is also important to use quality assessment instruments in the process. Assessment instruments have been developed for each of the key competencies based on the Mayer Committee guidelines. The instruments contain basic instructions outlining the process and the assessment criteria for the various performance levels and are used to guide the learner in the self-assessment process and the facilitator in validation. It is also used as the basis for discussion between learner and facilitator for the purpose of raising awareness and to ensure an explicit understanding of sound key competencies processes.

Recently, an NCVER-sponsored research project entitled 'The authentic performance-based assessment of problem solving' was undertaken as a collaborative initiative between the Electronics and Information Technology program and the Centre for Lifelong Learning and Development of Flinders University (Curtis & Denton 2003). A major outcome of this was the development of an enhanced assessment instrument for the key competency, 'solving problems'. This was validated as an effective assessment instrument and has now been adopted by the program. Similar enhancements are planned for the other key competency assessment instruments.

Perhaps the most valuable feature of these assessment instruments is their suitability as a developmental tool for learners assisting them to learn more about key competency processes and building a comprehensive understanding of generic skills which they will be able to apply throughout their lives.

Recording system

The existing computer-based resulting system (called SMART) used by this program has been customised to facilitate easy and reliable recording of key competencies assessments. Once a key competencies result is entered, a notes field is automatically generated which logs all the fundamental details of the assessment (date, key competency, performance level, attempt number, course assessment demonstrated through). Module facilitators may subsequently add more specific details relating to the assessment as appropriate. A comprehensive database of evidence is therefore very easily and reliably achieved.

This provides students with a summary of successful key competency assessments and performance levels achieved, as well as a valuable portfolio of evidence. This, combined with their certificate, equips them with a strong package to present to, and discuss with, prospective employers. In addition, the collated results of all students provide a measure of the relative strengths and weaknesses of the educational program in the various key competencies and performance levels, highlighting areas for improvement in the learning program.

Promotion

Publicity and promotion has been a major requirement to ensure effective implementation of this assessment strategy, especially during the period that it was voluntary. A diverse range of awareness-raising strategies has been designed, developed and employed and includes posters, PC desktop wallpaper graphics, emails (critical in the flexible learning environment), 'questions & answers', 'graffiti' board, videos, Powerpoint presentations, and an electronic message board in the laboratory. Other strategies include electronics and information technology team forums/discussions, Torrens Valley staff academic and management forums, an official launch, guest speakers (including employers and the institute director), flexible learning newsletter articles, brochures and handouts.

To inform potential employers and other stakeholders about the key competencies assessment strategy, a brochure—*Key competencies … personal skills for the workplace*—was developed to explain the concept of the competencies and their assessment in relatively simple terms. Included in this brochure is a sample 'statement of completion' certificate issued to students which gives a summary of the key competencies on the reverse side and an explanation of the three levels for each competency.

Student involvement in helping to promote the strategy has also been most effective. Students have acted in video clips illustrating the assessment process, they speak at formal launches, and they have participated in a national policy development forum to provide an electronics and information technology student perspective. Students have also taken part in mock assessments in staff

meetings to demonstrate the process to staff, agreeing to photos and quotes being used in publicity brochures and posters and have contributed comments and personal photos to Powerpoint presentations. The Electronics and Information Technology Student Representative Council has also played an active and supportive role in promoting the strategy.

Continuous improvement

The strategy has developed and evolved through ongoing research, evaluation and refinement, involving many different stakeholders, including Electronics and Information Technology Program staff, Torrens Valley TAFE management, industry representatives and employment services staff, and has taken guidance from national guidelines, international experts and researchers. The evaluation mechanisms employed include:

- liaison between the key competencies coordinator, staff and students
- analysis of results recorded in the computer-based resulting system (SMART)
- Electronics and Information Technology program team meetings
- surveys of students, staff and industry
- information held in the institute computer-based module evaluation system
- questions raised by students about the process, forum discussions and student representative council feedback.

All of these evaluation processes have been overseen by the coordinator and many refinements have been implemented on an ongoing basis.

A current priority is the incorporation into students' learning materials of more explicit recommendations about choice and selection of key competencies. Accordingly, a review of key competencies has been integrated into the module evaluation and module review processes. Thus facilitators are encouraged to explicitly build in and review 'suggested' key competencies assessment opportunities in their modules.

International benchmarking

The opportunity in 2001 to benchmark the electronics and information technology key competencies assessment strategy against the best in the world—Alverno College—has been the most significant catalyst for continuous improvement activity in recent times. Recommendations from this process have been considered and are being progressively implemented.

While the Torrens Valley TAFE assessment strategy was younger and less extensively implemented than the Alverno model, many common fundamental

principles and philosophies were identified, this alone being a substantial endorsement. A range of differences between the two models was identified and prioritised according to the potential benefits accruing should they be incorporated into our model. Many of these differences represented improvement opportunities for the electronics and information technology model although, in some instances, the Torrens Valley TAFE model demonstrated distinct advantages over the Alverno model—especially in relation to flexible learning methodologies. The formal report documenting this benchmarking process has been a great source of direction and inspiration for continuous improvement.

Alverno experts commended the philosophies and practices of the Electronics and Information Technology program with Glen Rogers (Senior Research Associate, Alverno College) making the following comment:

> *The Electronics & Information Technology Program at Torrens Valley TAFE has the clearest articulation of learning principles underlying its assessment process of any institution that I have worked with during Alverno College's Workshop on Assessment-as-Learning over the past 15 years. The program's performance-based assessment process shows a distinct and commendable kind of rigour that is coherently attuned to its emphasis on flexible learning. As a result, the design of the program simultaneously widens access to education, fosters the development of independent problem-solving capabilities, and yields credentials that make the meaning of the outcomes clear to employers and other stakeholders.*

Research and development

Investing in more research and development was one recommendation to come out of the Alverno experience. The collaborative NCVER research project undertaken this year was an opportunity for the Electronics and Information Technology program to do just that, by accessing research expertise from the Centre for Lifelong Learning and Development of Flinders University. As noted earlier, this partnership has certainly resulted in further development and improvement of the assessment model and promises ongoing benefits.

Employment outcomes

The benefits of key competencies extend to all aspects of life but our focus is on employment outcomes, through developing 'work-ready' graduates for the workplace. Some of these benefits include:

- formal recognition for these important skills
- providing students with the means to continue to improve
- helping students understand and confidently discuss their key competencies

- assisting employers in selection process
- developing 'work-ready' graduates
- helping employers get the right person with the right overall skills profile.

It has long been believed that key competencies developed in the electronics and information technology flexible learning environment (designed to emulate the workplace) strongly impact on employment outcomes; however, in the past this has been perceived more as opinion than fact. By making the key competencies more visible and explicit to students and employers, the recruitment process and outcomes for both employers and graduates are improved. Torrens Valley TAFE is now seeing employment outcomes directly attributable to key competencies capabilities. For example, the human resources manager of a local 'award-winning' business within the electronics and information technology industry commented that this organisation had selected a graduate from the Torrens Valley TAFE program specifically on the basis of evidence of demonstrated and certified key competencies over a number of more technically qualified applicants. They are extremely pleased with this graduate's performance, diverse capabilities and work-readiness—they got what they wanted!

> *He has contributed to the company in many ways over and above what is expected of him. This includes organising and actively contributing to team meetings and group activities … and delivering training to new team members. We are very proud to have him as part of our team as he not only excels at his position, but creates a friendly, open environment around him.*
>
> (Human resources manager)

Likewise, the graduate is extremely happy as he got a highly desirable job with a high calibre company. The graduate commented:

> *The transition to the workplace from my previous course of study in the E&IT* [electronics and information technology] *flexible learning program was very easy due to the similarities.*
>
> *My employer promotes an innovative work culture where everyone is made to feel important in achieving the goals of the company. This means everyone needs to be able to work well in groups, to independently research, analyse and present information as well as problem-solve and use technology. These key competencies are imperative to meeting the company's strategic objective. So I was extremely pleased to find that all the key competencies I developed fitted in so well with this culture.*

The future

The future of the key competencies assessment strategy will rely on ongoing commitment and energy devoted to its continuous improvement in order to build the momentum to a sustainable level. Current priorities for the Electronics

and Information Technology program have largely been identified through the international benchmarking process with Alverno College and the recent NCVER research project. These include developing new versions of key competencies assessment instruments similar to the new generation 'solving problems' instrument.

A broader goal is to contribute to the widespread practical implementation of explicit key competencies assessment across Torrens Valley TAFE itself, other training providers, and nationally. The Torrens Valley TAFE Key Competencies Focus Group is just one initiative aimed at supporting the goal of whole-of-organisation implementation.

The strategy has shown that it is possible to offer explicit comprehensive key competencies assessment in such a way that students will make a conscious and willing decision and effort to 'give it a go' and realise the significant benefits to be gained.

It is important to strengthen the cycle of 'supply and demand' for key competencies assessment and certification on all fronts, with the ultimate aim of achieving a 'self-sustaining' system comprised of:

- *industry*: which must clearly and loudly demand these skills and their certification
- *students*: who must appreciate this demand and respond by choosing to consciously develop and assess these skills
- *registered training organisation staff*: who must also understand, facilitate and personally model these skills to reinforce their commitment to them
- *the VET system (and the Australian National Training Authority)*: which must likewise continue to endorse the value of these skills and offer strategic support for all stakeholders in implementation, professional development and certification.

All these stakeholders need simultaneous support and nurturing to ensure that they reinforce one another and work collaboratively to assist in the consolidation of the initiative—a substantial undertaking which requires a widespread coordinated effort, but an effort which will see the extraordinary potential of generic skills realised.

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