Integrating English Language, Literacy and Numeracy into Vocational Education and Training

A FRAMEWORK
ADULT LANGUAGE & LITERACY POLICY
ADULT LITERACY NATIONAL PROJECTS PROGRAM 1993/94

Integrating English Language, Literacy and Numeracy into Vocational Education and Training

A Framework

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April 1995

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ACKNOWLEDGEMENTS

I would like to thank all those who contributed to the project and shared their experience and insights, including people in other States and Territories who helped organise meetings and focus groups, those who made articles, papers, reports, curriculum outlines and teaching materials available for our use and those who willingly answered requests for further details and information. The project would not have been possible without their interest and help.

Special thanks must go to Marianne Courtenay and Giselle Mawer who were responsible for all the detail of this very demanding project from research through to writing the report.

I would also like to thank members of the TAFE NSW Foundation Studies Training Division Project Management Committee and the Advisory Committee for their time, input and support throughout the project.

Thanks also to Anna Russell and Sue Johnson from Foundation Studies Training Division. Anna kept the team up to date with the latest literature while Sue handled the day to day administrative details of the project with efficiency and good humour.

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INTRODUCTION

In September 1991 the Commonwealth Government released the Australian Language and Literacy Policy (ALLP). The goals of this policy emphasise the need for all Australians to attain proficiency in spoken and written English. The National Collaborative Adult English Language and Literacy Strategy (NCAELLS), released in late 1993, provides a nationally endorsed approach to implementing the Australian Language and Literacy Policy. The strategy identifies six areas for action:

- setting the directions
- diversifying and expanding the provision of adult English language and literacy programs
- widening the resource base
- ensuring equitable access
- ensuring high quality outcomes
- demonstrating effectiveness and value for money.

This project is in response to the following objective in the second of these action areas:

throughout 1994-1995 diversify and expand effort in the integration of English language and literacy in vocational training.

(NCAELLS 1993, p. 7)

In November 1994 the Australian National Training Authority (ANTA) released Towards a Skilled Australia: A National Strategy for Vocational Education and Training. This gives high priority to integrating language and literacy into vocational education and training.

High priority will be given to increasing provision of English language, literacy and numeracy skills as part of mainstream vocational education and training programs and workplace skills development.

(ANTA 1994b, p. 23)

Towards a Skilled Australia will be used to give strategic direction to the national vocational education and training system, to negotiate State and Territory training profiles, and to underpin the development of national industry training plans by industry training advisory bodies.

Economic and industrial imperatives, as well as access and equity considerations, call for programs which can develop the language, literacy and numeracy competence of the job as part of vocational skills development. Integrating English language, literacy and numeracy into vocational education and training is an effective and efficient strategy for meeting this need.

Integrated programs concurrently develop language, literacy and numeracy and other vocational skills as interrelated elements of the one process. This requires designing and delivering programs which meet the education and training requirements of the job or occupation and which respond to the diversity of learners’ skills, requirements and resources.
THE PROJECT

The project was undertaken by the NSW Foundation Studies Training Division of the NSW TAFE Commission, as an Australian Language and Literacy Policy Adult Literacy National Project. These projects are administered by the Commonwealth Department of Employment, Education and Training.

The project brief was:

to develop a strategic framework, under the National Collaborative Adult English Language and Literacy Strategy, for the effective integration of language, literacy and numeracy and vocational education and training programs, drawing on an investigation and evaluation of current models.

The project used the following processes:

• a review of the literature relevant to the integration of language, literacy and numeracy and vocational education and training

• identification of recent and current projects in the area of language, literacy and numeracy and vocational education and training, which related to issues identified in the project

• development of draft principles for integrating language, literacy and numeracy into vocational programs

• consultations with key people involved in language, literacy and numeracy and vocational education; firstly to identify key issues, views and examples of integrated programs, and later in the project to obtain feedback on the principles for integrating language, literacy and numeracy into vocational programs

• organisation of a number of focus groups to explore issues in more detail, discuss the integration principles and identify examples of integrated programs

• participation in a number of forums where integration issues were discussed

• survey and analysis of a range of examples across different sectors in consultation with people in different States and Territories, industry and vocational education and training providers and deliverers

• review of the draft integration principles and other statements relating to the ideas behind integrated programs and inclusive and responsive practices

• selection from the program survey of examples of good practice using the integration principles and other statements as a guide

• preparation of the principles and strategies for integrating language, literacy and numeracy into vocational education and training.

The project was overseen by a steering committee from the NSW TAFE Foundation Studies Training Division and was advised by a national advisory committee.
PROJECT OUTCOMES

The principles and strategies developed in this resource recognise language, literacy and numeracy as integral to vocational competence and social activity. They are informed by views of adult learning and language which see language, literacy and numeracy as best developed in the settings in which they occur. Both principles and strategies are based on collaborative and consultative approaches to adult learning and teaching which emphasise appropriateness, flexibility and the place of particular learning activities within wider work and social contexts.

This document has been constructed as a resource, to provide information and advice to assist those involved in the planning, development and delivery of vocational education and training programs. Those involved include:

- vocational education and training policy bodies
- industry training advisory and competency standards bodies
- vocational education and training planners, program designers and developers
- community and higher education institutions
- teachers, trainers and assessors.

It should also be relevant to organisations and groups concerned with improving opportunities in vocational education and training for people with limited English language, literacy and numeracy competence. There are many Aboriginal people, people of non-English speaking background, early school-leavers and people with limited formal education within this group.

This resource is not a prescriptive set of rules. It is a strategic reference which recognises the range and diversity of vocational education and training across Australia. It provides a framework for good practice within which users can develop strategies to suit particular circumstances.

The document is divided into three sections. Section One summarises the changes to Australian industry and work organisation, the increasing importance placed on developing vocational skills for all workers and the demands on language, literacy and numeracy competence generated by these changes.

Section Two provides a definition of integration and outlines the concepts underlying integrated approaches to English language, literacy and numeracy and vocational competence development.

Section Three identifies key principles informing the integration of English language, literacy and numeracy into vocational programs. It discusses strategies and related issues under the broad stages involved in supporting, planning and implementing integrated programs.
**TERMS USED**

**Communication** consists of the exchange of oral, written, mathematical, graphic or symbolic representations. It includes gesture, expression and other forms of 'body language'. All of these forms of communication can be used singly or in combination. They can also be broken down into further components: the capacity to talk and listen; to read and write; to arrange, interpret and process mathematical concepts and ideas; to design, make, use and interpret images; and to make and interpret actions and gestures. In conventional communication, these components frequently overlap and interact to the extent where they are rarely separable (ACTRAC 1993a, p. 9).

**Language** in its broadest sense is the primary means of human communication, manifest generally in systemic ways through the communication skills of speaking, listening, reading and writing. It is used to develop knowledge and understanding, to achieve personal growth and to function effectively in our society. It changes as society changes and develops different varieties for different purposes.

**Literacy** is the ability to read and use written information and to write appropriately in a range of contexts. Literacy involves the integration of speaking, listening and critical thinking with reading and writing. It also includes the recognition of numbers and basic mathematical signs and symbols within text. Like language, literacy is crucial to personal growth and effective participation in our society. It is purposeful, flexible and dynamic and continues to develop throughout an individual's lifetime (ALLP 1991).

The ALLP definition sees numeracy as part of literacy. But the relationship between numeracy and mathematics tends to become lost when numeracy is not addressed specifically. So, many recent resources, including this one, separately identify numeracy.

**Numeracy** is part of literacy, but it also involves the capacity of a person to incorporate the content and process of mathematics into everyday life. Numeracy is about the effective use of mathematics as a critical tool for the achievement of social purposes, which will vary from individual to individual (Johnson 1992).

Language, literacy and numeracy have many uses. They are primarily a way of making meaning, but they are also social practices that are shaped by their context. Language, literacy and numeracy reflect, reinforce and help to shape social relationships. Ability in these social practices is intimately connected with power and influence in society.

The terms language, literacy and communication are often used loosely and interchangeably. Language, literacy and numeracy are sometimes seen as merely involving basic levels, and communication only higher level skills. This is not the case. Language, literacy and

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numeracy are fundamental aspects of communication at all levels, and should not be regarded as existing in a hierarchical relationship (Brown and Prince 1993).

Language, literacy and numeracy are distinct but interrelated discipline areas with considerable overlap in terms of underlying principles and approaches to teaching and learning. Language, literacy and numeracy competence involves interactive, contextual skills which are best taught, learned and assessed where they occur, through activities in social contexts.

This project is concerned with the integration of English language and literacy and numeracy into vocational education and training.

Vocational education and training refers to the provision of learning opportunities for the acquisition or development of vocational competence. It covers entry-level training, retraining, ongoing skills development and higher level vocational provision.

Vocational competence involves more than simply the task skills to do a narrowly defined job. It covers all aspects of work including less obvious skills such as the ability to handle a number of tasks at the same time (task management skills); the ability to deal with problems such as delays and tight schedules (contingency skills); and the knowledge and skills needed to work within an organisation and interact with groups and individuals (job role/environment skills). Vocational competence includes the observable skills needed for effective work performance and the knowledge, skills and attitudes which underlie and support performance.2

2 See Field (1990), Gonczi, Hager and Oliver (1990), National Training Board (1992, 1994).
SECTION 1

Developing a Skilled Workforce

WORKPLACE CHANGE

Over the past decade Australian industry has undergone major changes. Financial deregulation, the removal of tariffs, and industry restructuring have all contributed to a more open, competitive and internationally orientated economy better able to compete effectively in the global marketplace. These changes have also resulted in substantial reductions and rationalisation of the core workforce in many industries.3

Changed work practices, new technology, and the emphasis on accountability, quality and more value-added activity demand skilled and flexible workers. Changing technologies and more competitive economic markets mean that viability in business depends on the ability of enterprises to continue adapting to meet new demands.

The pace and scope of change varies from industry to industry and enterprise to enterprise. In an increasing number of organisations new management methods are now giving more responsibilities to workers while supervisors are becoming team leaders and trainers. In these new systems, workers at all levels need to actively participate in a range of consultative mechanisms such as work-cell meetings, consultative committees and enterprise agreement negotiations. These practices place much greater emphasis than in the past on such things as problem solving, flexibility and communication skills.

The introduction of computer-based technologies also requires new skills such as the ability to use computer terminals and interpret computer print-outs. There are also increasing requirements for documentation, monitoring and reporting. Alignment with international quality standards, for example, means that quality controls have to be built into all operations. Documentation of these procedures requires workers to be able to access procedural manuals, keep work records and report on variations and problems.

EDUCATION AND TRAINING REQUIREMENTS

Developing and diversifying workers’ skills involves education and training. So does introducing people to new ways of working. Industrial awards and enterprise agreements now closely link employment and career progression to demonstrated competence supported by structured training.

Further, training is now an ongoing concern. In the past, initial vocational training could be expected to provide the basis for a lifetime’s occupation. Now, with changing technologies, work is likely to be increasingly characterised by a continuous cycle of training and retraining.

The Australian National Training Authority (ANTA) estimates that whereas twenty years ago, half of what a person learned through training was likely to be useful for up to

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3 Since 1988, for example, the number of people employed in the textile, clothing and footwear industry has fallen by 40% (Australian Textile, Clothing and Footwear Industry Training Board 1994). Similarly, a 1994 survey of 14 large firms found that they had typically reduced their workforces by one-sixth during the last few years and were unlikely to increase their core workforces as business picked up again (Bureau of Industry Economics 1994).
fourteen years, now even core knowledge has to be upgraded after five years. As ANTA points out, this means that people at all levels of the workforce will need to make commitments to lifelong learning (ANTA 1993, p. 6).

Recent studies such as those commissioned by the Karpin Task Force on Leadership and Management Skills, for example, have highlighted the importance of Australian managers developing new skills to meet these changing demands. Similarly, the ANTA National Strategy for Vocational Education and Training points out that training for operative workers is inadequate and needs to be greatly increased.4

The greater emphasis on more highly skilled workers is also affecting recruitment practices. Most industry parties consulted for this project, for example, reported the introduction of screening procedures for new recruits which stressed not only formal qualifications and technical skills, but also competence in the use of computers, language, literacy and numeracy, teamwork skills and aptitude for further learning.

There is debate about the scope of these changes, and the degree to which all work will require higher skill levels.5 But, if current employment trends continue, people with limited English language, literacy and numeracy competence are likely to be increasingly disadvantaged, particularly if their existing skills are not recognised and they are unable to access vocational education and training opportunities.

**EDUCATION AND TRAINING RESPONSES**

There have been major changes to vocational education and training in response to these developments. Industry, enterprises and educational providers, and States, Territories and the Commonwealth Government now cooperate more closely.

Old time-based systems of training and learning are being replaced by competency-based programs which emphasise what people are able to do at work as a result of training. Traditional approaches to developing initial and ongoing vocational skills are being overhauled. Traineeships are being expanded and, at operative level in particular, structured training programs are being introduced for the first time in many instances. Increasingly, training is based on identified industry or enterprise competencies and is linked to job advancement opportunities and nationally recognised training paths.

The expansion of vocational education and training at all levels means that programs must be able to meet the requirements of a much wider range of learners than has been the case in the past. Australia has one of the most culturally diverse workforces in the world. Education and training programs need to recognise and capitalise on this diversity. They need to have flexible, responsive and innovative approaches to designing and delivering programs, including developing language, literacy and numeracy competence.

*Towards a Skilled Australia*, the National Strategy for Vocational Education and Training, identifies improved accessibility for all Australians as one of its core elements and gives high priority to the training requirements of those with low or no qualifications (ANTA 1994b, p. 16).

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4 Workers in operative jobs make up 48% of Australia's labour force, but accounted for only 7% of total training activity in 1993 (ANTA 1993, p. 14).

5 In relation to future language, literacy and numeracy demands of industry, see Luke (1992) and Hull (1993).
LANGUAGE, LITERACY AND NUMERACY COMPETENCE

The importance of language, literacy and numeracy competence in the workplace and in vocational education and training is increasingly recognised and documented at the policy level. In a joint statement endorsing the National Collaborative Adult English Language and Literacy Strategy released in 1993, Commonwealth, State and Territory ministers for employment, education and training state:

The levels and types of English language and literacy required in modern society have increased dramatically. Economic restructuring has placed heavy demands on skills, and on education and training programs to develop those skills. English language and literacy is fundamental to the whole of the education and training effort.

(NCAELLS 1993, p. 1)

Industry and the union movement share this view.

Employers now require literacy and communication skills in work areas where they were previously considered not important ... Lack of literacy skills causes resources to be wasted. In addition, the basis of award restructuring with associated training leading to career paths will not be effective if the workforce does not have the basic skills to be trained. (Ken Crompton, Chief Executive, Victoria, Australian Chamber of Manufactures, 1990)

Literacy is now an industrial issue in the same way in which wages, superannuation, child care and health and safety are ... The ACTU has recommended that all award restructuring negotiations include recognition of the significance of English language training specifically, and literacy and numeracy generally.

(Martin Ferguson, President, ACTU, 1990)

For a significant percentage of Australians, their degree of competence in language, literacy or numeracy limits their participation in the workforce, education and training, and other aspects of life. There are difficulties in measuring the number of people concerned but current estimates suggest that up to one in seven workers may not have sufficient literacy skills to cope with the increasing demands of changing vocational contexts (DEET 1993, p. 1). In many industries targeted for reforms in the past few years (such as metals, construction, clothing and footwear, food and the automotive industry), estimates are much higher. These industries have high concentrations of overseas-born workers and workers with limited formal education.

Competence in language, literacy and numeracy is also an important factor in successful participation for groups under-represented in vocational education and training. These include unemployed people, Aboriginal and Torres Strait Islander people, people from non-English speaking backgrounds and people with disabilities.

There are other factors in addition to language literacy and numeracy competence which are important for success in work and in training programs. Motivation, the perceived relevance of training, and personal circumstances also play a part. So do structural and contextual factors, such as the support of workplace management and the reward systems for training.

See, for example, ANTA (1994a); Mawer and Field (1993); Collins (1993); Wooden (1993).
LANGUAGE, LITERACY AND NUMERACY AND VOCATIONAL EDUCATION AND TRAINING

Language, literacy and numeracy programs have been available for many years, but they have generally been separate from vocational education and training. These courses are appropriate for many learners; for outright beginners, for those wanting to improve their language or literacy and numeracy competence for daily life, and for some learners who have not clarified vocational goals. But they fail to meet the requirements of many learners whose objectives are to gain employment or upgrade skills needed for today’s work contexts.

Language, literacy and numeracy are not uniform general skills which can be applied to a range of contexts. Competence in these areas is socially determined and best developed in the contexts in which it is used. So the language, literacy and numeracy competence needed for work and training is best taught and learned as part of vocational skills development.

In most instances, there have been no suitable vocational education and training programs available for learners with limited competence in language, literacy and numeracy. It has been up to learners to ‘fit’ the program. In many cases, what is in question is not the complexity of the language, literacy and numeracy requirements of the job, but the unnecessarily demanding language and literacy requirements of the training program. These act as barriers to successful skills development.10

The prospect of significant numbers of workers being denied the opportunity to develop vocational skills until they have mastered some general level of language or literacy and numeracy proficiency is increasingly unacceptable to industry and training participants. It is also at odds with current theories of effective teaching and learning.

What is needed is an approach to vocational education and training which takes account of the language, literacy and numeracy competence essential to the job or occupation, the knowledge and skills of learners and the language demands and appropriateness of the training program. Integrated programs do this.

A WORD OF WARNING

There are clear benefits to individuals, enterprises and the community from increased competence in language, literacy and numeracy. But there is a danger of overstating both the problems caused by limited competence in these areas and the benefits flowing from programs to address these requirements.

Limited competence in language, literacy and numeracy is sometimes described as restricting productivity, causing accidents, frustrating attempts to introduce new ways of working, constraining the introduction of training programs, and contributing to unemployment.11 On the other hand, some estimates of the potential gains associated with increasing language, literacy and numeracy competence suggest figures in the billions of dollars as well as improved morale and participation.12

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10 See, for example, Halliday (1985); Stich (1987); Reisnick (1987), and Rezun (1990), cited in US Department of Education Centre for Remediation Design (1990).
11 See, for example, Mikulecky and Ehlinger (1987); Stich (1987); Sefton (1993).
12 See, for example, Miltienyi (1990); ACTU (1991).
Limited competence in language, literacy and numeracy in the workplace may compound problems but it is rarely the sole cause. Unsafe work practices, for example, contribute more to industrial accidents than limited language, literacy and numeracy competence. The ways in which management communicates information and goes about introducing new ways of working may contribute to difficulties in implementing change. Inappropriate education and training programs can be a major factor in problems to do with skills development.

There is no proven one-to-one relationship between improved language, literacy and numeracy competence and increased productivity and profitability. Inadequate capital investment, outdated technology and poor work organisation are far more influential in determining productivity than language, literacy and numeracy factors. Nor will improvements in these areas make an enterprise profitable if demand for its products fall, the costs of raw materials rise, or labour costs blow out.13

Over-emphasis on language, literacy and numeracy competence may also result in underestimating other skills and resources people have and overstating the importance of language, literacy and numeracy for competent work performance.14 This disadvantages both those who are already performing competently in the workplace and those seeking work.

Language, literacy and numeracy are crucial to improving the quality of the workforce. They are a necessary but not sufficient condition for improved profitability and productivity.

SECTION 2

What is Integration About?

A DEFINITION

Integrating English language, literacy and numeracy into vocational education and training involves concurrently developing language, literacy and numeracy and vocational competence as interrelated elements of the one process. This involves designing and delivering programs which meet the skills requirements of the job or occupation and which are responsive to the diversity of learners’ skills, requirements and resources.

Programs which integrate language, literacy and numeracy have four key characteristics:

• they identify the language, literacy and numeracy competence essential for work performance and address it as part of vocational education and training

• they take into account the language, literacy and numeracy competence of learners and develop them as part of vocational competence

• they make sure that the language and processes used in the vocational program are consistent with the language, literacy and numeracy requirements of the job or vocational area

• they assess language, literacy and numeracy outcomes in terms of successful performance of relevant and authentic vocational tasks.

WHAT CAN INTEGRATION DO?

Integration is a strategy for achieving a number of complementary objectives. It can:

• improve the effectiveness of learners’ language, literacy and numeracy development for work and vocational training purposes

• assist workplaces to achieve organisational goals through improving language, literacy and numeracy competence

• improve information flows in the workplace by influencing communication practices and raising awareness of language, literacy and numeracy factors

• provide accessible and appropriate vocational programs for learners with limited competence in language, literacy and numeracy.
WHAT IS INTEGRATION BASED ON?

Economic and industrial imperatives, access and equity considerations, and current thinking in the fields of adult learning and language and literacy development, all call for programs which can develop the language, literacy and numeracy competence of the job as part of vocational skills development.\(^{15}\)

Integrating English language, literacy and numeracy into vocational education and training is an effective and efficient strategy for meeting this need. Integration is based on:

- an understanding of vocational competence as including the observable skills needed for effective work performance and the knowledge, skills and attitudes which underlie and enhance performance – so language, literacy and numeracy are seen as an integral part of vocational competence

- theories of language which see language, literacy and numeracy as social processes that are shaped and influenced by their setting and purposes, and which are best developed in the contexts in which they occur

- current research in developmental psychology and adult learning which shows that people learn most effectively when learning is directly related to the settings in which it will be used, when all aspects of the teaching/learning process are drawn together and relate to wider work and social contexts, and when learning is directly connected to the goals and interests of learners

- recognition that vocational education and training must reflect the multicultural reality of the Australian workforce, and that equitable programs recognise and value learners' skills, resources and differences.

Integrated programs provide efficient and cost-effective ways of concurrently developing language, literacy and numeracy and vocational skills for both initial and ongoing vocational training.

The following statements summarise the relationship between these ideas and integrated programs.\(^{16}\)

- Language, literacy and numeracy are important aspects of vocational competence. So the language, literacy and numeracy essential for the job needs to be addressed as an integral part of vocational competency development.\(^ {17}\)

- People learn most effectively when learning is closely linked to where it will be applied, when the different elements of programs interrelate and when people can also relate what they have learnt to wider work and social contexts. So vocational education and training programs need to make sure that teaching and learning are

\(^{15}\) See Appendix 1 for further discussion on the moves towards integration.

\(^{16}\) See Appendix 2 for discussion of these statements.

\(^{17}\) For discussion of competency standards, their strengths and limitations, see Field (1990); Hager (1992); Scott (1992); Deakin University (1994); Sweet (1993).
linked to work contexts, that the elements within programs (including language, literacy and numeracy development) are not treated in isolation, and that learners can make critical connections between learning and wider work and life experience.\(^{18}\)

- Language and literacy and numeracy are social processes which are shaped and influenced by a range of factors such as the setting, familiarity with the subject matter, the relationship between speakers, confidence in the particular situation and the sort of language being used. So, teaching and learning these competencies should take account of this range of factors and make close links with the areas in which they are to be used.\(^{19}\)

- Successful learning is related to life goals and real situations. So, when the goal is vocational skills development, language, literacy and numeracy competence should be addressed as part of the vocational education and training program.

- Australia has one of the most diverse workforces in the world in terms of language, culture and educational backgrounds. So vocational education and training must recognise and value learners’ skills, resources and differences through accessible and appropriate programs and services.

- Integrated models of vocational education and training are efficient and cost-effective ways of developing the language, literacy and numeracy essential for work performance. So administrative policies and practices should support their development as an integral part of vocational education and training.

**WHO IS RESPONSIBLE FOR INTEGRATION STRATEGIES?**

Attention to language, literacy and numeracy factors in vocational programs involves input and support from specialists in language, literacy and numeracy areas, but integration strategies must be seen as the responsibility of vocational education and training as a whole. Integration strategies will not be successful if they are seen as the responsibility of specialist areas alone, or if training just concentrates on program delivery issues.

All States and Territories now support national initiatives for integrating language, literacy and numeracy as part of vocational education and training. To make sure that integration is implemented in a systematic and coordinated way, strategies need to be developed by all those involved in the education and training system. Those involved include:

- national and State level education and training policy, funding and accreditation bodies
- industry training advisory bodies and competency standards bodies
- unions
- enterprises
- education providers and different sections within providers
- institutions involved in training teachers and trainers.

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For example, if industries do not identify language, literacy and numeracy training needs in vocational competency descriptions, it is difficult for course designers to satisfactorily address their development in vocational programs. Similarly, if funding arrangements or provision for course development are still based on models of language, literacy and numeracy as adjuncts to the main business of vocational education and training, integrating these areas at the program delivery level will be frustrated.

DIFFERENT CIRCUMSTANCES, DIFFERENT STRATEGIES

Vocational education and training covers a diverse range of skills development needs, program types, and locations. So while the principles which inform integrated approaches to vocational education and training apply to all circumstances, the strategies used to plan, develop and implement programs will vary to meet different situations.

Ideally, industry standards provide the basis for developing courses, but this is not always the case. Some industries, for example, have not developed or finalised industry standards, others are in the process of reviewing and revising their original descriptions of vocational competencies, while many smaller enterprises are still unfamiliar with industry standards and do not have training plans.

There are also vocational education and training requirements which do not fit neatly into traditional models of vocational program development. These include many short training programs specifically directed to the requirements of particular enterprises, such as those familiarising employees with new policies and practices, or short training programs on working with new technology.

Different training requirements and circumstances generate different responses. A work skills program for long-term unemployed youth in a community-based program in Perth is very different from a training program for Aboriginal rangers in Kakadu National Park or for people from a non-English-speaking background working in the automotive industry in Victoria or South Australia.

In all these cases, however, English language or literacy and numeracy competence has needed developing alongside vocational skills. Where the need to address these issues has been pressing or there has been strong support for integrated approaches, ways of successfully integrating language, literacy and numeracy into vocational skills development have been found. Where there is less immediate pressure for change, traditional ways of doing things tend to persist.

PRIORITIES

Many organisations will need to make decisions regarding priorities for integration. Decisions should be based on where action can have the most lasting and long-term effects. Strategies which address immediate requirements may be useful in obtaining support for programs, but these strategies need to go beyond short-term solutions.
For example, broadening the knowledge and skills base of teachers and trainers so that they can more appropriately address language, literacy and numeracy factors in their work is likely to have more lasting impact on the overall quality and appropriateness of programs than concentrating on providing separate literacy support for a limited number of vocational courses.

Priorities should also address areas identified as needing particular attention across the vocational education and training sector. These areas include the development of appropriate training programs for both employed and unemployed operative-level workers.

In general, integrating language, literacy and numeracy into vocational programs is more effective and thorough the earlier it is introduced into the cycle of program planning, development and delivery.
SECTION 3

Principles and Strategies for Integrating English Language, Literacy and Numeracy into Vocational Education and Training

IMPLEMENTATION PRINCIPLES

While there is great diversity in training needs, contexts and provision, the following principles for integrating language, literacy and numeracy into vocational education and training apply to all programs.

These eight principles are underpinned by the concepts outlined in section two of this document and inform strategies for integrating language, literacy and numeracy into vocational education and training. They are grouped under the following headings:

- setting the context for integration
- planning integrated programs
- providing appropriate responses.

They incorporate the key stages of supporting, planning and implementing vocational education and training.

Setting the context for integration

1. Administrative policies and practices should support the development of competence in language, literacy and numeracy as an integral part of vocational education and training.

2. Programs should be supported by strategies to develop the knowledge and skills of education and training practitioners in responding appropriately to language, literacy and numeracy factors in vocational education and training.

Planning integrated programs

3. Identification of education and training requirements should include attention to language, literacy and numeracy competence in relation to the essential requirements for work performance, and to the skills and resources of learners.
4 Workplace programs should be supported by initiatives to address language, literacy and numeracy factors in the organisation as a whole and by strategies to improve access to information and to improve the exchange of information.

**Providing appropriate responses**

5 Program design and delivery should provide for concurrent development of language, literacy and numeracy and other vocational competencies in ways which recognise and build on learners’ existing skills and resources.

6 Programs should ensure that the language, literacy and numeracy requirements of training and assessment are consistent with the language, literacy and numeracy requirements of the job or vocational area.

7 Programs should provide opportunities for the application of job-related language, literacy and numeracy competence to the immediate job or occupation as well as to wider work and social contexts.

8 Assessment criteria and processes should assess language, literacy and numeracy outcomes in terms of successful performance of relevant and authentic vocational tasks.

The issues and strategies which follow are grouped under each of the three headings used to organise the implementation principles.

Issues and strategies relating to key elements within these stages are discussed and a range of specific implementation strategies identified. Where possible, examples are provided to illustrate the application of these strategies in different vocational settings.
1 SETTING THE CONTEXT FOR INTEGRATION

Integration Principles

1 Administrative policies and practices should support the development of competence in language, literacy and numeracy as an integral part of vocational education and training.

2 Programs should be supported by strategies to develop the knowledge and skills of education and training practitioners in responding appropriately to language, literacy and numeracy factors in vocational education and training.

Introduction

Integrating language, literacy and numeracy into vocational education and training involves more than the delivery of an integrated course. Integration strategies need to be built into organisational planning and practice as part of general vocational education and training provision.

Successful integration of programs depends on:

- structural support through funding policies and practices which recognise integrated approaches
- staffing arrangements which allow for interdisciplinary provision, for the expanding roles of teachers and trainers, and for career paths and reward systems which encourage those involved in vocational programs to further develop their knowledge and skills
- professional support for those planning, developing and implementing integrated programs.

In workplace-based programs in particular, integration strategies also involve consideration of organisational communication policies and practices. This may involve strategies such as working with the organisation to improve written material used in the workplace or increasing awareness and skills in relation to effective communication in multicultural contexts.

1.1 Policies and Practices

Issues

While there are integration policies and strategies at national, State and Territory levels, specific policies and strategies need to be developed by all stakeholders.
National and State level education and training policy, funding and accreditation bodies need to develop and implement systems, programs and funding arrangements which complement and reinforce integrated program policy initiatives.

Industry training advisory bodies and competency standards bodies need strategies for including language, literacy and numeracy considerations in developing standards and identifying training requirements. They also need strategies to ensure that training policies and programs encourage and support integrated approaches.

Unions need to develop vocational training policies and practices which support and encourage integrated approaches in negotiating enterprise agreements, developing training plans and providing programs.

Enterprises need strategies for taking integrated approaches into account in identifying training requirements and developing and implementing ways to best address language, literacy and numeracy issues in the workplace and in vocational training.

Education providers and different sections within the providers need to develop strategies to ensure that language, literacy and numeracy development is taken into account in planning and delivering vocational programs and in the systems which support program provision.

Institutions involved in training teachers and trainers need to develop strategies to broaden the understanding and skills of all those involved in integrated programs.

The choice of strategies and applications to particular contexts will depend on the roles and responsibilities of different players and specific circumstances and requirements.

Some industries and enterprises have developed language, literacy and numeracy policies and strategies which identify the specific issues in their industry or organisation and implications for vocational training. Examples at the national level include the automotive, building and construction, food, textiles, clothing and footwear industries. At the State level examples include local government in NSW and the mining industry in Queensland.

A number of unions also have language, literacy and numeracy policies and have developed programs and resources to support vocational skills development. Some of these strategies focus specifically on language, literacy and numeracy development requirements in vocational education and training. Both the Construction, Forestry, Mining and Energy Union (CFMEU) and the Automotive, Food, Metals and Engineering Union (AFMEU), for example, have language and literacy projects to support union training policy and provision.

Many enterprise agreements now include language, literacy and numeracy development in recognition of the training requirements of particular workplaces, and these arrangements are reflected in enterprise training plans.
Strategies

1 Building policies and strategies into the mainstream of organisational planning and operations

Specific strategies include:

- developing policy statements which clearly state the organisation's position regarding integrated programs
- developing performance indicators for integration strategies
- building reporting mechanisms into mainstream reporting requirements
- establishing funding arrangements which recognise language, literacy and numeracy development as an integral part of vocational education and training
- establishing administrative arrangements which support interdisciplinary approaches to staffing and program delivery and the expanding roles of teachers and trainers
- supporting education and training practitioners to further develop their skills.

2 Explaining and publicising policies and strategies

Once policies and strategies have been developed, they need to be widely circulated so that people are informed. This may involve formal announcements, pamphlets, publications, seminars, consultative mechanisms, and informal networking.

3 Establishing mechanisms for coordination and feedback

This takes place at all levels and in all stages of program planning and implementation. At the policy and coordination level this can involve:

- establishing steering committees or groups to develop and coordinate integration policies and strategies within and across organisations
- identifying key people to develop and coordinate integration strategies within and across organisations
- implementing specific projects in industries, unions, enterprises and education providers which identify the language, literacy and numeracy training requirements in particular vocational areas or relating to particular groups of learners or locations.
It is the National Food Industry Training Council (NFITC) policy that literacy, English language and numeracy provision be integrated into all national curricula to ensure that persons with low levels of literacy, English language and numeracy are not disadvantaged.

The NFITC has endorsed the following principles:

- Literacy, English language and numeracy skills are not to be prerequisites for training. Structured, accredited training is to be made accessible to all persons regardless of the level of an individual’s literacy, English language and numeracy skills.

- The structured, accredited training system within the Australian Food, Beverage and Tobacco Processing Industry relies on the coordination and development of a supportive literacy, English language and numeracy program.

- Flexible training approaches will need to be adopted in order to meet the requirements of all persons in the industry.

- Learning materials will be structured to cater for persons with a wide variety of levels of literacy, English language and numeracy.

- Learning materials will be structured so that they can be used as a vehicle for literacy, English language and numeracy skill development. A person undertaking structured, accredited training in the industry is not only improving vocational skills, but is also improving literacy, English language and numeracy skills.

- Assessment tasks will not require a literacy, English language and numeracy competency higher than that required to carry out the work task (NFITC 1993d, p. 10)

In 1994, the NSW Chamber of Manufactures and the NSW Workplace Language, Literacy and Numeracy Taskforce held a series of consultative forums in Sydney and a number of regional centres. These forums were specifically structured so that employers and training managers could exchange experiences relating to workplace education and training programs addressing language and literacy.

Following the forums, a short publication In Their Own Words was produced containing short case studies of the workplace programs presented.
1.2 Funding Arrangements

Issues

Funding arrangements also need to recognise integrating language, literacy and numeracy into vocational programs as part of core provision rather than as an optional extra.

Integration strategies are concerned with improving the appropriateness and quality of programs. This makes them more accessible and improves retention and completion rates. For industry, there are evident cost benefits if workers with limited competence in language, literacy and numeracy can develop vocational skills from the outset rather than needing to develop language, literacy and numeracy first. The benefits are also obvious to learners who want to develop vocational skills.

As funding for vocational programs changes from being based on how many people start courses to how many successfully complete courses, improving learning outcomes becomes a critical financial as well as an educational factor for education and training providers.

Traditionally, learners needing to develop competence in language, literacy and numeracy were often referred to initial programs in these areas before undertaking the vocational training. Integrating the two types of programs may involve a different way of organising resources but it should not involve additional overall costs. In fact, integration may well reduce costs in the long term as the evidence suggests that integrated language, literacy and numeracy learning is a more effective way of developing vocational competence. 20

Language, literacy and numeracy and vocational programs have, however, usually been separately funded and administered. This means that while, in principle, combining courses should not be more costly, if funds are not made available from both sectors, the effect is a seemingly more expensive initiative.

Moreover, vocational education and training has not traditionally catered for operative level workers. 21 This is an area of provision which is growing and where integration strategies are very important. If there is an increased demand for new types of programs, strategic decisions regarding funding priorities need to be made. It is inequitable, for example, to expect all additional demand for vocational language, literacy and numeracy associated with these programs to be met from existing language, literacy and numeracy funding.

Meeting new demands involves initial costs, regardless of the program type, in developing or changing existing programs and resources. Catering for wider client groups also involves broadening the knowledge and skills of program designers, teachers, trainers and assessors.

Funding for the incorporation of language, literacy and numeracy in developing vocational programs is still frequently treated as an optional extra rather than an important core component.

21 For example training for operative workers takes up 7% of all expenditure on vocational training in Australia compared with 46% for trade and technical levels (ANTA 1993, p.13).
In integrating development of language, literacy and numeracy competence within other vocational components, there is also a danger that the need to resource these areas will be overlooked if language, literacy and numeracy elements are not separately identified for funding purposes.

**Strategies**

1. **Funding language, literacy and numeracy components as core elements in vocational programs**

   Where funding for the incorporation of language, literacy and numeracy competencies is identified as critical to vocational outcomes, as in most operative level courses, it should be resourced at the same level and in the same way as other core program components.

2. **Identifying language, literacy and numeracy components for funding purposes**

   Language, literacy and numeracy components should be explicitly identified for program funding purposes to ensure they are not overlooked as a result of their integration into other vocational competencies.

1.3 **Staffing Arrangements and Professional Support**

**Issues**

Integrated approaches involve collaborative partnerships between language, literacy and numeracy and other vocational subject areas, between teachers, trainers and assessors, and between industry, enterprises and educational providers. Collaboration occurs at all levels from program planning to implementation and evaluation.

Interdisciplinary approaches require different strategies to traditional ways of organising separate ‘subject’ area programs. Team-based approaches, for example, need to be supported by administrative systems which allow groups of teachers to work across blocks of program hours. Team teaching is traditionally viewed as a costly option, but it does not need to involve two teachers in a classroom at the same time.

Interdisciplinary approaches also involve broadening of knowledge and skills so that language, literacy and numeracy staff develop a better understanding of the contexts and content of vocational training areas, and vocational program staff are able to address language, literacy and numeracy issues within their programs.

It is unrealistic to expect that teachers and trainers will have the full range of competencies required to work in these changing contexts without professional support and development. Encouragement and incentives are also needed to formally recognise changing roles and responsibilities.
Multiskilled teachers who are qualified to work in both special vocational and language, literacy and numeracy areas, for example, are an invaluable resource in developing and implementing integrated programs. Yet, there is often no formal mechanism to recognise the added flexibility and efficiency that such multiskilling offers.

**STRATEGIES**

1 **Developing team-based approaches to educational and training provision**

This involves organising teachers, trainers and assessors into ‘teaching teams’ which work across a range of subject areas with the specialists in particular areas being responsible for quality assurance. Such an approach enables language, literacy and numeracy teachers to complement and reinforce technical subject teachers in aspects of their subject involving language, literacy and numeracy.

2 **Using multiskilled teachers and trainers**

There are a growing number of instances where vocational teachers have expanded their skills by also developing skills in teaching language, literacy and numeracy. In the same way, a number of organisations are now encouraging language, literacy and numeracy teachers to develop or upgrade existing skills in other vocational areas.

3 **Building into program arrangements time for cooperative planning and liaison**

Consultation and negotiation between staff and between program providers and workplaces is essential so that teachers can work as a team, plan the connections between program areas and discuss learner progress. In the NSW TAFE *Certificate in English for Vocational Purposes*, for example, coordination of language and technical subjects is formalised as part of the course resourcing.²²

4 **Involving a wider range of people in program delivery**

People who have practical experience in particular aspects of the vocational skills being developed in the program are also invaluable resources. These include employers involved in work experience components of programs, members of training committees, workplace line managers, trainers and practitioners in particular vocational fields.

In some enterprises, for example, employees have assisted in the development of training specifications, learning resources and the trialling of courses. This resulted in a better quality product as well as fostering ownership and greater participation in the workplace and in training.

²² See appendix 4 for a more detailed description of this course.
5 Supporting informal skill development opportunities

Some opportunities for skill development are informal ones that can be structured into normal work activities, and enable trainers and teachers to become familiar with different learning contexts as well as learn from practitioners in other vocational contexts or educational disciplines.

These include:

- teachers observing and taking part in workplace meetings or other training sessions in the workplace
- short placements for teachers and trainers in different vocational settings, such as workplaces, different sections of large provider institutions, or visits to different industry settings
- secondment of teachers to a workplace for the duration of a program
- collaborative partnerships on specific projects within providers, between providers, and between providers and enterprises. These partnerships may include competency standard and curriculum development projects.

6 Providing formal skill development opportunities

Initial and ongoing training programs for teachers, trainers and administrators may deal with the integration of the interrelated areas of language, literacy and numeracy, or the integration of these competencies with other vocational competencies. Some short courses aim to introduce teachers to the changing context of vocational and, in particular, workplace-based programs. Programs include:

- short staff development programs for vocational teachers and workplace trainers on strategies for addressing language, literacy requirements in vocational programs. The more effective of these are based on specific local requirements and allow for systematic follow-up and support of vocational teachers and trainers.
- initial and ongoing teacher education programs in tertiary institutions. A number of universities are including modules on language, literacy and numeracy issues in general and vocational adult education courses as part of initial and ongoing training programs for providers. A growing number include these modules as compulsory elements of vocational teacher training programs.
EXAMPLES OF STAFFING ARRANGEMENTS

The Mechanical Engineering Industry Group of Regency TAFE in Adelaide is an interdisciplinary team who collaborate to deliver a comprehensive service to industry. Members of the team have expertise in mechanical engineering, production, management, quality, industrial psychology, assessment and language, literacy and numeracy.

The Victorian Adult Migrant Education Services has expanded its services by encouraging language, literacy and numeracy teachers to upgrade or reactivate skills in other vocational areas. The service now tenders successfully for labour market programs which offer accredited certificate level awards in office skills, childcare and horticulture. These programs employ teachers with formal qualifications in both the vocational and language, literacy and numeracy areas.

EXAMPLES OF PROFESSIONAL SUPPORT

A 52-hour Train the Trainer course was designed by the Centre for Workplace Communication and Culture for State Rail Signals and Track trainers following concerns the trainers expressed about the failure rate of trainees in written exams.

The course included an initial language awareness session for training managers to explore requirements of trainers from the management perspective.

The course looked at how people read, the different genres involved in training, the use of technical language, effective questioning techniques and the relationship between the spoken language of training and the technical language of the manual. An important aspect of the course was how to incorporate this knowledge into teaching methodologies and strategies and into curriculum and test design.

Sessions were held 10 days apart to enable trainers to apply suggested language, literacy and numeracy strategies in their courses, rewrite materials and tests, and discuss issues that arose.

The detailed research phase was a significant contributing factor to success. This included a survey to course participants about the backgrounds of their trainees and problems they experienced. Detailed data collection and analysis of training sessions, materials and tests also ensured that course content was relevant to the trainers’ requirements.

(Joyce, Scheeres & Slade 1994)

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Swinburne University of Technology in Victoria offers a 3-day introductory course on *Workplace Orientation For Adult Literacy and Basic Education (ALBE) Personnel*. The course is competency-based, has been developed within the national framework for professional development of adult literacy and basic education personnel and relates to units of competency from national standards for adult literacy and basic education teachers. It aims to provide experienced ALBE personnel with:

- an understanding of industry culture and how it operates, both from public and private sector perspectives
- the skills to deliver programs to industry.

The University of Technology, Sydney offers a number of modules in their undergraduate and graduate adult education programs. These include:

- a compulsory unit on language and interpersonal skills in the Bachelor of Teaching for TAFE teachers, with electives in writing for special purposes or teaching in a multicultural classroom
- a compulsory language and literacy unit and an elective unit on multicultural skills for adult educators in the Bachelor of Adult Education.
2 PLANNING INTEGRATED PROGRAMS

INTEGRATION PRINCIPLES

3 Identification of education and training requirements should include attention to language, literacy and numeracy competence in relation to the essential requirements for work performance, and to the skills and resources of learners.

4 Workplace programs should be supported by initiatives to address language, literacy and numeracy factors in the organisation as a whole and by strategies to improve access to information and to improve the exchange of information.

INTRODUCTION

Planning integrated programs involves:

• identifying learners' education and training requirements

• identifying the requirements of industry, the job or occupation

• planning appropriate provision in relation to these areas and the contexts in which programs will be provided.

2.1 Identifying Language, Literacy and Numeracy Education and Training Requirements

ISSUES

Identifying language, literacy and numeracy education and training requirements is essential for vocational program planning. If these requirements are not taken into account, programs may well be inappropriate. Experiences such as that described below are quite common.

We spent all this money training them on the use of the new equipment, but it was only when they kept making mistakes that we realised most of them had not been able to follow either the consultant or the manuals. No-one felt confident enough to tell us there was a problem.

(Project consultations: Plant manager).

Industry and enterprise training plans provide a key source of information on education and training requirements, including language, literacy and numeracy development. Specific language, literacy and numeracy projects associated with industry training advisory boards, unions and enterprises have been a highly relevant way of building recognition of language, literacy and numeracy requirements into the training policies and planning processes of these bodies.
Policies and reports initiated by government and community bodies are other important sources of information relating to training requirements for particular groups or areas.

Input and advice will be needed on the specific industry and learner characteristics, and the contexts in which competencies are likely to be applied. This input and advice will need to be provided by stakeholders such as:

- industry and enterprises
- unions and workers
- government bodies and community organisations
- education and training providers
- learners.

The different expectations stakeholders bring to the process of identifying education and training requirements affect both the content and the process of program development. Unless these different agendas are negotiated to identify requirements and to develop commitment to agreed goals, mismatches will occur in expectations and outcomes.

The stakeholders who are involved in identifying education and training requirements and negotiating programs will vary depending on the nature of the program being developed. At the local level, for example, identifying requirements and negotiating education and training programs can involve enterprises and learners.

At national, State and Territory levels, however, education and training requirements have to be determined through less direct processes and in more general terms. It is vital that among these processes are mechanisms to ensure that language, literacy and numeracy factors are taken into account, particularly in areas like the operative level and access programs, where these factors are likely to have a significant impact on program appropriateness and outcomes.

STRATEGIES

1 Developing statements of language, literacy and numeracy education and training requirements

Statements can be incorporated in training plans, as a separate strategy to complement training plans, or as a basis for developing vocational programs. Such statements should include:

- a description of the language, literacy and numeracy competence requirements of the job or occupation
- a description of the likely language, literacy and numeracy training requirements of potential learners in relation to the essential language, literacy and numeracy requirements of jobs or occupations
• clear statements regarding how these requirements should be addressed
• priorities and specific strategies to address identified requirements.

2 Including language, literacy and numeracy input in mechanisms to identify education and training requirements and plan program provision

This involves:

• incorporating language, literacy and numeracy considerations in developing education and training plans and program implementation strategies

• including expertise in language, literacy and numeracy on advisory and steering committees to oversee national, State and Territory curriculum development and accreditation for courses where language, literacy and numeracy are likely to be significant factors.

Industry training advisory boards and unions which have language, literacy and numeracy project staff are well placed to provide this input. In other instances input should be sought from a language, literacy and numeracy provider or sector with experience in vocational and/or workplace education and training. This advice also needs to be validated by information relating to actual work requirements and practices.

• involving educational provider representatives from both technical and language, literacy and numeracy areas in steering committees for workplace programs.
EXAMPLES OF MECHANISMS TO ASSIST IN IDENTIFYING LANGUAGE, LITERACY AND NUMERACY REQUIREMENTS

The South Australian Workplace Education Services Unit of TAFE follows a four-point plan for the planning and implementation of workplace programs. Input from the Unit includes both language and literacy and other subject specialists. The steps followed in setting up workplace programs are:

1. Set up a tripartite consultative committee to advise on communication requirements specific to the organisation.

2. Set up a support group for the program to plan, promote, organise and evaluate the program.

3. Survey communication structures and skills and do a training requirements analysis leading to a formal program proposal.

4. Have the support group set training priorities and approve specific courses. (Adelaide Workplace Education Service, Communicating for Change, Adelaide Institute of TAFE, 1994)

As one of its integration strategies, the Australian Textile, Clothing and Footwear Industry Training Board has published a Resource Package *Communicating in the TCF Industries* which contains a number of booklets:

- *Tips for Trainers*. Compiled for managers, supervisors and in-house trainers to help in the planning and delivery of workplace training. The booklet provides practical information and hints to help trainers communicate more successfully.

- *Company Collections of Printed Materials: Fletcher Jones, and Actil*. This practical self-paced guide raises awareness of different types of texts in the industry, and provides hints for assessing and improving reader-friendliness of texts.

- *Who to talk to*: a list of useful contacts on advice and provision of language, literacy and numeracy services.

A further example of consultative processes relating to course design can be found in the *NSW Local Government Industry Certificate*, described in Appendix 4.
2.2 Identifying the Language, Literacy and Numeracy Competence Essential for Work Performance

ISSUES

Competency-based industry standards provide the basis for national skills recognition, course development and accreditation, so there is an important connection between the competencies identified in standards and the content and outcomes specified in vocational programs. Ideally, descriptions of vocational competence should include descriptions of the essential language, literacy and numeracy competence for the job or occupation, but there are few standards where this is the case.

One example of such a description is the National Clerical Administrative Competency Standards (Private Sector) where literacy and numeracy are identified at the module level as 'generic' or underpinning competencies. In the NSW Local Government Interim Competency Standards, language, literacy and numeracy aspects are integrated into the different components of competency descriptions.

There are three main reasons for the absence of explicit references to language, literacy and numeracy in industry standards.

- Some standards have not addressed language, literacy and numeracy because they have taken a narrow view of vocational competence and have not included dimensions such as contingency management where this competence may be more apparent, and they have not identified underpinning knowledge and skills.

- In most instances standards have incorporated language and literacy implicitly in other competency descriptions such as communication.

- Some industries have chosen not to identify language, literacy and numeracy competencies. They have concerns that this could lead to excessive emphasis on language, literacy and numeracy in the job, exclude participants from training, and be used to discriminate against workers with limited proficiency in these areas. Some also argue that identifying language, literacy and numeracy competencies can lead to inappropriate education and training in these areas.

Standards are now beginning to address broader aspects of competence, so they are more likely to include language, literacy and numeracy competence in the future. Both the National Training Board and the Australian National Training Authority encourage this. ANTA has recently recommended that standards should:

- be flexible
- guide curriculum development and assessment
- encompass all aspects of competency including underlying knowledge, ability to transfer skills to new applications and language, literacy and numeracy competencies (ANTA 1994a, p. 9).

See for example Seldon, Waterhouse and Doakins eds (1994, p. 20); NBEET and ALLC (1993, p. 3); Burton (1994, p. 21).
The absence of explicit references to language, literacy and numeracy in competency descriptions can pose problems for vocational education and training. If these competencies are not addressed in standards there is a danger that they may not be addressed in curriculum development. Their omission also makes it difficult to ensure that the language demands of training are consistent with the language, literacy and numeracy needed for actual work performance.

There is broad agreement that where language, literacy and numeracy competence has not been identified or made explicit in standards, it needs to be drawn out and identified for educational and training purposes.24

In developing vocational programs, this analysis may involve identifying implicit language, literacy and numeracy requirements within standards, within actual jobs or occupations, and within existing vocational curriculum.

Some industries are now doing this. The food industry, for example, has identified the essential language, literacy and numeracy requirements in the core modules of the National Certificate in Food Processing.

In a number of integrated programs, education and training providers have reviewed and revised existing courses to identify language, literacy and numeracy requirements and address them in program provision and outcomes.

Strategies for identifying language, literacy and numeracy competence for vocational purposes are similar, whether the descriptions are for inclusion in standards, for course development purposes or both.

The National Framework of Adult English Language, Literacy and Numeracy Competence is a very useful resource for highlighting the communicative aspects of vocational competence and identifying language, literacy and numeracy competence. (See Appendix 3.)

As part of an evaluation of the place of English language and literacy competence in industry standards, the Australian Language and Literacy Council (ALLC) identified seven points which should guide and inform a model for explicitly incorporating this competence in industry standards:

A model should:

- be based upon a coherent set of principles
- have internal consistency
- describe degrees of complexity of English language and literacy skills
- state its assumptions about the educational, linguistic or cultural backgrounds of the worker

24 See for example NBEET and ALLC (1993); Bishop, MacDonald and Manidis (1994); Australian TCFITB (1994).
describe English language/literacy competencies in such a way that appropriate assessment procedures and training curriculum can be written to deliver those competencies

• make clear the links between English language and literacy competencies and the range of activities an individual is likely to be involved in at any level of performance covered by the Standards; and

• demonstrate appropriate relationship to the national Framework of Adult English language, Literacy and Numeracy Competence. (NBEET/ALLC 1993, p. 14)

As a follow-up to this study the ALLC, in consultation with the NTB, has commissioned a study into the explicit incorporation of language, literacy and numeracy competencies into the standards being developed for the warehousing and distribution industry. This may provide a useful model for similar exercises in other industries and industry sectors.

STRATEGIES

1 Involving stakeholders in identifying language, literacy and numeracy competencies

The active involvement of workers at all levels, and course developers, helps to ensure that descriptions of vocational competence do not over-emphasise language, literacy and numeracy. It also fosters ownership of standards and training programs.

Strategies include:

• organising group and individual consultations about language, literacy and numeracy job requirements

• undertaking functional analysis or DACUM workshops and critical incident surveys

• undertaking language audits and surveys of workers.

The development of competency standards for local government in NSW is an example of different ways of involving stakeholders.25

2 Obtaining feedback about language, literacy and numeracy factors in current or past vocational programs

The experiences and opinions of all stakeholders regarding the appropriateness and effectiveness of education and training programs give invaluable information about language, literacy and numeracy requirements. Feedback on the initial implementation of the Vehicle Industry Certificate, for example, identified significant language, literacy and numeracy factors as major issues. This resulted in the development of specific integrated projects.26

25 See appendix 4 for a description of this process.
3 Unpacking implicit language, literacy and numeracy competencies in standards and curriculum

This can be a useful first step but needs to be informed and validated by other strategies to ensure the competencies identified are consistent with those essential for work performance. Relying on this strategy alone can, for example, restrict descriptions to those competency areas addressed in the standards of the course and miss essential components of the job. Frequently, language, literacy and numeracy have been assumed to exist at levels beyond those necessary for competent performance of the work.

4 Observing work performance and collecting and analysing examples of typical language, literacy and numeracy tasks and texts

This is an important strategy to ensure that the language, literacy and numeracy competence identified is comprehensive and reflects actual work performance.
EXAMPLES OF STRATEGIES TO IDENTIFY LANGUAGE, LITERACY AND NUMERACY COMPETENCIES

The development of the NSW Local Government Interim Industry Standards described in Appendix 4 provides an example of strategies used to identify language, literacy and numeracy competencies at an industry level.

At The Smith’s Snackfood Company in Sydney, the NSW AMES English in the Workplace teacher worked with the training personnel to develop workplace communication competency standards and assessment criteria. The steps involved were:

- initial background research relating to the food industry and language, literacy, and numeracy issues

- research into the specific jobs at Smith’s and the communication requirements of those jobs, both present and future

- analysis of the available industry competencies to identify the language, literacy and numeracy skills involved in competent performance at Smith’s

- interviewing Smith’s personnel to provide an overview, give details, fill in gaps and validate descriptions.

People interviewed included:

- people doing the job

- immediate supervisors

- managers – especially for predicted future requirements of jobs

- union representatives.

The project also used the AMES English in the Workplace Competency Framework to assist in subsequent course design for training programs. Once completed, the communication competencies became an integral part of the overall Smith’s competencies to be used for assessment and placement on the company’s skills matrix.

As part of the research and interviewing process staff briefings were held to explain the purpose and processes of the project. A component on the communication competencies has also been included in the company’s assessors course and was delivered by the EWP teacher. Workplace trainers will continue to deliver the component in the future.
The Australian Vocational Training Scheme (AVTS) Pilot Program in Geotechnical Field Operations developed by the Rural and Mining Training Division of the NSW TAFE Commission is an example of identifying language, literacy and numeracy competencies from curriculum. In this case, curriculum development involved recasting the original curriculum into a competency-based format and in this process identifying the generic skills, including language, literacy and numeracy, essential to specific vocational competencies.

The original curriculum was expanded, new components were developed and literacy and numeracy learning outcomes were incorporated where necessary. Curriculum development involved collaboration between specialists in vocational subject areas and basic education.

A joint project between the Centre for Studies of Language and Education (CSLE) of the Northern Territory University, the National Languages and Literacy Institute of Australia (NLLIA) and Kakadu National Park investigated the uses and functions of written material in the work of park rangers as a basis for determining the literacy requirements for the job.

The research survey was undertaken to identify the types of written material used, the interconnections between them, and the kinds of difficulties these materials are likely to present for park rangers.

This information provides a planning basis for developing appropriate language, literacy and numeracy strategies and literacy learning resources to develop essential skills in these areas.

A new training program for park rangers, the Certificate in Lands, Parks and Wildlife Management, has recently been introduced. This program caters for both Aboriginal and non-Aboriginal rangers.
2.3 Determining Appropriate Types of Program Provision

In addition to determining the education and training requirements of industry and learners, decisions regarding appropriate educational responses to these requirements will be significantly affected by the context of teaching and learning and the relationship between this and the vocational context.

**Issues: Workplace Programs**

In workplace contexts, particularly, integration strategies are often linked to organisational and operational changes which are not necessarily best met by a set course. As one workplace teacher put it:

I made the decision that an integrated approach was actually a dual-edged sword. Not only did I need to work with people to develop their literacy skills, but I had to create a working environment where barriers were also removed .... this meant my clients were all those clients employed by manufacturing, not just those people who would normally work with adult basic education teachers. In fact I found the fastest results were to be achieved by concentrating to some extent with management rather than solely the operators because some of the barriers could be removed even before there was much skill enhancement or development.

**Strategies**

As well as developing and implementing integrated vocational courses, workplace integration strategies may involve:

- circulating information about why programs are being organised and participating in briefing sessions. These information strategies are most effective when they are seen to have broad support or endorsement from key stakeholders such as ITABs, senior management, union organisations or community groups.

- developing specific initiatives and programs for managers and team leaders to raise awareness of language, literacy and numeracy issues in the workplace and strategies to improve communication practices

- working with staff to improve communication and training strategies across the organisation. In a number of workplace language and literacy programs, the major focus of provision is on supporting training and communication activities in the enterprise, rather than the provision of specific language, literacy and numeracy courses.

- participating in education and training planning processes

- working with staff on-the-line to provide specific advice and learning support relating to new work practices.
While these roles are sometimes negotiated at the outset of the program, it is often the case that they evolve over a period of time in the organisation, once rapport and trust have been established, and the teacher has become familiar with the particular workplace culture.

**Examples of Workplace Integration Strategies**

*Cross-cultural communication* workshops or *Train the Trainer for a Multicultural Workforce* sessions are usually part of workplace programs conducted by the Adult Migrant Education Program. These programs target workplace managers, supervisors and trainers, and focus on raising awareness and developing specific strategies for improving communication on-site.

Similarly, some unions, such as the Automotive, Food, Metals and Engineering Union, conduct short courses for delegates and union officials on working with multicultural groups and integrating language, literacy and numeracy issues into industry training plans and enterprise agreements.

At Containers’ Packaging in Sydney, the AMES English in the Workplace teacher has been involved in the collaborative development of the quality accreditation system and training resources, and in the delivery of training for team leaders, and trainers.

The teacher has been regularly used in an informal way as a consultant on written communications such as memos, and job procedures, as well as strategies to facilitate employees’ active participation in the negotiation of the enterprise agreement.

**Issues: Integrated Courses**

At the course level, choices in both workplace-based and provider-based programs are also influenced by the vocational training context as well as the relationship between language, literacy and numeracy and vocational competence development.

The way that programs are labelled and promoted, for example, is often crucial to their success. In many vocational contexts, terms such as ‘literacy’ or ‘basic skills’ have negative associations, so that people are reluctant to nominate for such courses. Integrating language, literacy and numeracy programs with other vocational skills development, and naming programs in terms of work-based skills, removes the ‘school-based’ associations.

There are four broad types of course structure used in integrating language, literacy and numeracy into vocational education and training.27

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27 Examples of each type of program are included in Appendix 4.
In the first two types, the language, literacy and numeracy requirements of the job or occupation are identified and addressed as part of vocational competency development. Courses may have taken language, literacy and numeracy factors into account from the outset, or they may have been subsequently reviewed to incorporate language, literacy and numeracy considerations.

1 The language, literacy and numeracy requirements of the job or occupation are identified and addressed together with other vocational competencies. Courses of this type include a small number of fully accredited vocational certificates, short courses or modules which are recognised as components in larger certificate-level courses, and short, locally developed courses designed to meet the particular requirements of a specific workplace or group of learners.

2 The language, literacy and numeracy requirements of the vocational program are recognised in all course components but are also addressed in separate modules. These complement and reinforce language, literacy and numeracy aspects which arise in other program components. This type of provision is more commonly found in formal accredited courses consisting of a number of modules.

Where learners can immediately apply what they are learning to the job and can draw on existing knowledge and skills, limited language, literacy and numeracy should not exclude them from undertaking vocational training in program types 1 and 2 above.

In the following two course types the vocational training component exists in its own right apart from forming part of an integrated program. So effective integration depends on two factors:

- the extent to which language, literacy and numeracy aspects in the vocational component have been identified and included in program outcomes, and
- the extent to which the language, literacy and numeracy and vocational components inter-link and reinforce each other.

3 Programs consist of separate vocational components and additional language, literacy and numeracy components. The focus of these courses is on vocational outcomes. Vocational components are sometimes accredited short courses, or components taken from other vocational courses. In other cases they are developed to suit the requirements of a particular group of learners. Many labour market courses and a growing number of workplace-based programs are of this type.
Language, literacy and numeracy programs include accredited modules from mainstream vocational training courses. If these modules are successfully completed they are credited towards the mainstream vocational award course. The balance between vocational and language, literacy and numeracy components varies. In some instances the vocational component is sufficient to provide the basis for employment, in others it is not. There are a growing number of courses in this category which provide an articulated pathway into further vocational training.

Where type 3 and 4 courses give no consideration to language, literacy and numeracy competence in vocational components or do not express language, literacy and numeracy outcomes in terms of vocational skills, they cannot be regarded as integrated. They provide for parallel development of vocational and language, literacy and numeracy competence but the links are tenuous.

There are a further group of programs which are often included in descriptions of integrated provision. They are more accurately described as adjunct or support programs.

- Language, literacy and numeracy programs are separate from specific vocational courses. But the content of the language, literacy and numeracy program is designed to assist people cope with the language, literacy and numeracy demands of other training. Many bridging courses and workplace-based programs are of this type. These programs may be integrated into the training activities of the organisation but the components of the actual training program are not integrated.

- "Tutorial support" and "supplementary support" programs are offered as an additional option to support learners in vocational programs. This model is a useful supplement to other strategies but becomes an expensive mechanism if it is the only strategy used to address significant and extensive language, literacy and numeracy requirements.

Where these two types of program are the only way in which language, literacy and numeracy factors are addressed, the onus is solely on the learner to develop the language, literacy and numeracy competence needed to undertake the existing vocational training. There is no provision to adjust the vocational program design, content or delivery to more appropriately address learner requirements. There is also no explicit attention to the language, literacy and numeracy requirements of the job or occupation.

Adjunct and support programs have a highly valuable function in supporting both integrated and traditional vocational programs. But it is neither appropriate nor realistic to use them as the only means of addressing significant language, literacy and numeracy development requirements. It is far better to recognise the need for language, literacy and numeracy development as the norm rather than the exception in many courses and to build appropriate provision into course structures from the outset.
3 PROVIDING APPROPRIATE RESPONSES

INTEGRATION PRINCIPLES

5 Program design and delivery should provide for concurrent development of language, literacy and numeracy and other vocational competencies in ways which recognise and build on learners' existing skills and resources.

6 Programs should ensure that the language, literacy and numeracy requirements of training and assessment are consistent with the language, literacy and numeracy requirements of the job or vocational area.

7 Programs should provide opportunities for the application of job-related language, literacy and numeracy competence to the immediate job or occupation as well as to wider work and social contexts.

8 Assessment criteria and processes should assess language, literacy and numeracy outcomes in terms of successful performance of relevant and authentic vocational tasks.

INTRODUCTION

Developing and implementing programs which integrate language, literacy and numeracy into vocational education and training involves:

- building learning pathways
- developing course content
- identifying and developing learning resources
- assessing learners for selection
- implementing programs
- assessing learning outcomes
- evaluating program effectiveness.

3.1 Building Learning Pathways

ISSUES

Learning pathways which build systematic links between education and training programs are particularly important for skills-based awards and career paths. Learners need to be able to move easily from program to program building on their existing skills as they progress.
The extent to which integrated programs provide learning pathways varies. Some programs link language, literacy and numeracy and vocational competence development but the vocational component may not lead smoothly into further training. Nor is articulation assured just because a program is accredited. So integrated programs should identify learning pathways as part of program development.

STRATEGIES

1 Identifying the articulation arrangements in accredited programs

Not all accredited programs have clear articulated links into further vocational education and training programs. It is important to clarify articulation as well as accreditation arrangements.

2 Incorporating accredited vocational components in programs

Where programs develop initial vocational skills, together with language, literacy and numeracy, as in many labour market and language, literacy and numeracy access courses, it is important to include accredited vocational components wherever possible. This involves ensuring that satisfactory completion of these modules will be recognised for subject credit purposes in the vocational award course.

3 Negotiating formal articulation arrangements between programs

Formal arrangements so that learners can move from one provider to another are a highly useful way of planning learner pathways, particularly in moving from language, literacy and numeracy focus programs into vocational training.

4 Recognising prior learning

Provision for recognition of prior learning (RPL) in programs is important, but it is an unsatisfactory compromise for programs to rely on this mechanism alone to ensure articulation. It is far better to negotiate recognition of the relevant program components so that satisfactory completion of these components is automatically recognised in subsequent programs.
The Pilot Regional ESL Project (PREP) is a DEET coordinated project in the south-west of Sydney. It is an example of a program which includes:

- learning pathways between programs
- learning pathways between providers
- an integrated program component.

In cooperation with a working party consisting of the NSW Adult Migrant English Service (AMES), NSW TAFE and Skill Share providers, an integrated, articulated pathway was developed in 1993 for NESB long-term unemployed learners. There are five phases in the pathway.

- An intensive AMES English for Work component.

- A goal clarification/industry awareness component where there is a focus on recognition of prior learning, goal clarification and awareness of the labour market.

- A pre-vocational bridging component, where students select a particular stream, e.g. clerical/accounts or hospitality. The focus in this phase is to develop the language, literacy and numeracy competencies required for the particular occupational stream, with the assistance of vocational skills providers.

- An integrated skills phase where vocational providers offer modules from accredited industry certificates. Work experience and the integration of key competencies are also key elements of the course.

- Employment/further education and training with post program support.

The courses described in Appendix 4 have clear learning pathways and articulation mechanisms.

### 3.2 Developing Course Content

#### Issues

Making learning relevant and accessible is vital for learning success. This is particularly important in integrated programs, given the characteristics of the learners, and the 'high stakes' involved for unemployed or workplace target groups.
Elements to be considered in developing course content and in sequencing learning include:

- introductory modules which clarify goals and orientate learners
- initial practically focused modules where learners can get ‘runs on the board’
- linking on- and off-the-job aspects so that learning is as closely related as possible to the settings where it can be applied
- the relationship between language, literacy and numeracy components and other skills components so that learning in one subject area complements and reinforces other areas.

It is also important to address the language, literacy and numeracy demands made by the vocational program areas. Where learners need to develop skills to cope with processes of formal learning, these should be developed as part of the education and training program.

In most instances it will be necessary to review aspects of vocational courses to make learning and assessment strategies and processes more suitable for particular learners. Changes to existing programs may involve:

- drawing out of language, literacy and numeracy vocational skills within existing courses so that these can be addressed explicitly within course learning outcomes
- modification to the language, literacy and numeracy demands of the training program so that resources, delivery methods and assessment tasks are more in line with the language, literacy and numeracy requirements of the job or vocational area and more appropriate for the particular learning group.

**Strategies**

1. **Including introductory modules**

These are particularly important for learners who have little or no experience in structured vocational programs and for groups such as early school leavers whose past educational experiences have often been negative.

2. **Ensuring that initial program modules are highly relevant and accessible**

The content of initial modules needs to be highly relevant for learners and practical. As far as possible, it should build on learners’ knowledge and experience. The language, literacy and numeracy competence should be set at a level consistent with the requirements of the actual task or job.
3 Reviewing existing vocational programs for suitability

This enables them to better meet the requirements of learners with limited language, literacy and numeracy competence. This may involve modifications to program content and sequencing, teaching and learning methods, resources and methods of assessment to take into account language, literacy and numeracy factors. The NSW Local Government Industry Certificate, for example, included a wide range of modules from other courses, many of which have been specifically adapted to suit the target group. 28

4 Ensuring that language, literacy and numeracy and vocational content areas are integrated

This can involve:

- linking learning outcomes and processes in language, literacy and numeracy and vocational program components
- assessing language, literacy and numeracy outcomes in terms of relevant and authentic vocational tasks
- providing time for consultation between language, literacy and numeracy and 'technical' teachers and trainers working in integrated programs.

5 Integrating informal and on-the-job learning with course content

This is important for motivation and building confidence. It also enables learners to draw on their experiences and apply learning in vocational contexts. In workplace programs, linking program content to particular aspects of work performance directly affected by language, literacy or numeracy issues increases learner and workplace commitment to the program.

28 See Appendix 4 for a fuller description.
EXAMPLES OF STRATEGIES RELATING TO PARTICULAR ASPECTS OF COURSE CONTENT

The Community Services Work Advanced Certificate AVTS developed by NSW TAFE is a one year course designed for existing workers in the community services area, many of whom have no post-compulsory education.

The course aims to integrate workplace and in-class learning and sees the teaching and learning process ‘as important as the course content’. It uses flexible delivery modes and a variety of assessment methods to meet specific learner needs, and incorporates specific language and literacy outcomes and teaching strategies to develop these skills.

As one of its initial modules, the Certificate contains a module focusing on helping students to identify their skills and achievements. As well as assisting the students to develop their presentation and research skills, this module enhances their ability to take advantage of the RPL process in future modules through the development of skills portfolios.

At Ajax Spurway, a Sydney metal industry plant, there had been no history of formal training before the involvement of a teacher from the Swinburne Work Skills Unit. As the general manager pointed out, there was a need for a gradual systematic, flexible approach to integrated skills development.

The building blocks have to be in place before vocational training can be totally effective. Given the limited time and substantial cost, a lot of efforts are directed at doing things in parallel. The key is to choose a particular problem and eventually a hierarchy of problems in the company, and build your training around it. Find a problem that everyone can win on. We chose the task of getting all forklift permit holders licensed – an ideal first-up training need. Many people made considerable progress with their literacy plus they gained their licences. Then we moved up the scale of difficulty and worked on making the work instructions for our accreditation to AS 3902 simple to understand and, as a result, much more useful. This involved getting small teams of management and shop floor people to develop work instructions with the help of the teacher. Along the way, people developed communication and language skills and simultaneously achieved a vocational outcome.

This year we may well be ready to look at the Engineering Production Certificate, and hopefully many workers will be able to gain advanced standing or some credit transfers from the learning they have been doing this year.
At Merck Sharp and Dohme, a Sydney-based pharmaceutical company, one of the first courses run by the NSW TAFE teacher addressed an operational need: discrepancies in reconciliation records in the Packaging section. A requirements analysis identified numeracy skills as the problem. A short course on calculator skills was offered to all employees within the section, as well as a recommendation to standardise all calculators. The course was highly successful. It addressed an operational need, raised the awareness of language, literacy and numeracy skill requirements in the section, and legitimised the need for skills development as a response to changing operational procedures. As a result of the program, standardised calculators were installed on the production line for use by all staff.

3.3 Identifying and Developing Learning Resources

Issues

There is often a lack of flexible, accessible learning materials and resources for use in integrated programs, for backing up formal instruction and for use in a range of learning environments. Frequently, written material is unnecessarily complex and more demanding than the language, literacy and numeracy competence required for the vocational area or job. Attention to the design of learning resources can significantly improve learning outcomes. It is important to allocate resources for developing learning and teaching materials that take account of likely language, literacy and numeracy requirements and the different ways in which programs can be provided.

Strategies

1 Making teaching and learning resources more accessible and user friendly

Strategies include:

- using a range of resources such as videos, actual samples of materials, and photos, so that there is less reliance on print
- using authentic materials drawn from the vocational context
- using consistent layout, presentation, and sequencing of information
- using clear diagrams and flowcharts
- explaining and highlighting key information
- avoiding unnecessarily complex language
- including revision exercises to reinforce technical terms and concepts introduced.

2 Using resources which directly relate to particular vocational contexts

These are highly relevant to particular groups of learners, but the degree of contextualisation reduces their applicability to other groups and situations.

EXAMPLES OF DEVELOPING APPROPRIATE LEARNING RESOURCES

The curriculum documents for the *Australian Vocational Training Scheme Certificate in Geotechnical Field Operations* (NSW TAFE Commission), are accompanied by a resource booklet specifically designed to give vocational teachers some basic strategies to assist them in working with learners with limited literacy and numeracy competence. The booklet complements instructions in the curriculum for teaching and assessing in the most practical, hands-on style possible, keeping written material to a minimum and using pictures and clear diagrams to illustrate points.

A study conducted at the Queensland Mts Gravatt College of TAFE (Kliese 1993) found an average gain of 19% was achieved by students of motor mechanical courses following improvements to the design and content of instructional materials.

Instructional materials were modified by:

- making the page layout consistent
- using plain English and illustrations
- varying the types of questions asked
- including a revision section.
In the Northern Territory, the Department of Local Government is trialling a Community Government Office Traineeship based on the Career Start Traineeship, Certificate in Clerical and Administrative Skills developed by the National Office Skills Formation Advisory Board (NOSFAB). As part of the development of the Traineeship, existing National Office Skills Modules are being modified to make them more accessible and appropriate for Aboriginal learners undertaking programs through distance learning arrangements.

The materials development component of the project is being undertaken by specialist staff at Batchelor College, Northern Territory. Modification includes additional language, literacy and numeracy support material and changes to make module content more meaningful and culturally appropriate for Aboriginal workers in remote locations.

*Numeracy on the Line – Language Based Activities for Adults* is a learning resource developed for the National Automotive Industry Training Board for use in a variety of learning situations. It contains background notes, short activities and practice sheets dealing with basic numeracy, measurement, charts, percentages and graphs. While it was initially designed for the automotive industry, it can be used in other vocational contexts.

(Marr, Anderson and Tout 1994)

### 3.4 Assessing Learners for Selection

**Issues**

In many education and training contexts, course applicants are assessed for selection purposes in terms of their competence in English language, literacy and numeracy. Such assessments can be useful for placing learners in appropriate programs, but it is crucial that the criteria used to make these decisions are valid and that assessment does not act as a barrier to participation in vocational education and training.29

Wherever possible programs should be designed to meet the needs of learners rather than selecting learners to meet the requirements of programs. Many potential learners (such as operators or unemployed young people) have had limited positive formal education and training experience. Now that designing appropriate programs for operative level classifications is a high priority29, programs should address language, literacy and numeracy development needs within vocational education and training.

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29 The Workplace Language, Literacy and Numeracy Skills Taskforce of the NSW Government (1994) has developed a *Code of Good Practice in Workplace Language and Numeracy Assessment*. Similarly, a recently completed DEET/ALLP project has developed guidelines for *Assessment and Moderation Processes in Adult Literacy and Adult ESL in Tendered Labour Market Programmes* (Cope et al. 1994).


Integrating English Language, Literacy and Numeracy into Vocational Education and Training
In many programs, assessments of general competence in language, literacy and numeracy are used to determine learners’ ability to cope with vocational program demands. This applies in many labour market programs and courses offered by major education and training providers. However, the use of such general assessment instruments is dubious for a number of reasons.

- Competence in language, literacy and numeracy is not simply a uniform general ability, but varies according to the context and the people involved. A person may act at a number of different stages of competence, depending on factors such as the complexity of the activity, or the person’s familiarity with it. Learners’ competence in language, literacy and numeracy in their specialised vocational area is often more developed than their general language, literacy and numeracy competence. So general assessments of competence will not necessarily give a true indication of the learner’s ability to cope with a vocational program in a particular area.

- Assessments of learners’ language, literacy and numeracy competence are frequently based on comparisons with ‘standard’ or ‘correct’ norms, which may be higher than the actual norms of the vocational context.

- Relying solely on measures of language, literacy and numeracy competence at the beginning of a period of study is not a good predictor of final success. As a number of projects reviewed for this project have shown, factors such as learner motivation, experience, and the quality and relevance of the training program are also important determining factors.

- Finally there are the ‘real-life’ implications of using such general assessments as the only way to determine learners’ access to vocational education and training. Excluding people from training programs on the basis of such assessments may affect their prospects of job promotion, job retention or finding work. Using such assessment measures to direct learners to particular ‘remedial’ courses can be counter-productive and demotivating when the primary interest is vocational skills development.

There is also evidence to suggest that education and training providers tend to overinflate the language, literacy and numeracy competence required both for the program and for work performance. At the same time as assessing prospective learners’ competence in these areas, it is also necessary to ensure that the language, literacy and numeracy requirements of courses are realistic and equitable.

Where learners’ competence in language or literacy and numeracy is sufficient to cope on the job, in the majority of cases this should be a sufficient indicator of their ability to undertake vocational training related to the particular job or vocational area. Competencies relating to specific aspects of learning should be addressed as part of the program, rather than used to exclude prospective applicants from participation.

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31 See for example Mikulecky (1984b); Stieht (1990); Mawer (1991); ACTRAC (1993).
32 See, for example, Crisp & Davies, cited in McNamara (1989); Stieht (1990).
STRATEGIES

1 Using initial assessment for needs analysis rather than screening purposes

Initial assessment is best used to identify learners’ competence in language, literacy and numeracy in relation to the requirements of the job or occupation they are training for. It is a matter then of planning appropriate ways to further develop language, literacy and numeracy at the same time as other vocational competencies.

2 Using a combination of indicators to assess learners’ suitability for programs

Where learners are selected for programs, criteria should not be based on competence in language, literacy and numeracy alone. They should also include learners’ relevant experience, background, motivation, training requirements and available support.

3 Basing assessment tasks on the essential language, literacy and numeracy requirements for work performance

Where language, literacy and numeracy assessments are necessary, a combination of indicators should be used. While they may include general proficiency measures, specific assessment tasks should be developed based on the essential language, literacy and numeracy requirements of the program in question. These should be jointly developed by subject experts in both the technical and language, literacy and numeracy areas.

EXAMPLES OF ASSESSMENT PRACTICES FOR SELECTION

The Community Services Advanced Certificate AVTS developed by NSW TAFE has designed an assessment tool for course applicants to assess their language and literacy and numeracy requirements. Results of this assessment are used to place learners in appropriate learning arrangements rather than exclude them from the course.

At BHP Slab and Plate in Port Kembla general language and literacy audits are undertaken by different departments to gain an indication of the literacy competencies held by their employees. The individual results of such assessments are confidential, but the collated information is used to develop appropriate training plans.

For specific training programs, the language, literacy and numeracy requirements are reviewed with the help of a language, literacy and numeracy teacher to ensure their appropriateness to the target group. Specific assessment tasks are then developed and are used to assess the progress of individual applicants and to help determine suitable learning outcomes.
3.5 Implementing Programs

Issues

Interdisciplinary approaches to skills development, such as integrating language, literacy and numeracy into vocational programs, whether in workplace programs or college or community settings, require flexible approaches to program delivery.

Effective methods of learning for adults are those which build on learners’ experience and preferred modes of learning. They also need to be cost effective and provide an opportunity to apply the skills learnt to actual vocational contexts.

Classroom-based instruction divided into theory and practice, for example, is frequently inappropriate for learners with limited experience in formal education. Teaching and learning methods which are more closely related to the workplace are usually more appropriate. They enable learners to see the relevance of what they are learning and enhance the transfer of skills from the classroom to the job. They also have the advantage of reducing the need for abstraction and reliance on print. The application of skills also enhances possibility of gains such as improvement in work practices or greater participation (in a work context) or increasing the chances of employment.

Sharing program implementation between language, literacy and numeracy and other subject matter teachers and trainers is a particularly useful approach to integrated programs. More experiential learning arrangements and project work, for example, can involve the development of competencies from across different course modules and a team of teachers to facilitate the process of learning. For example, combining the delivery of a language component and a vocational skills component is frequently a more appropriate approach than delivering them separately.

Flexible delivery modes are particularly valuable in enabling greater access by learners who have traditionally had difficulty participating in more formal learning situations, for example shift workers, and learners in isolated areas.

There are, however, a number of features about some flexible delivery methods that may cause problems for the learners they are trying to help. 35

- They make more demands on learners’ reading and writing skills than other forms of learning, and, for many people, reading is the most unpopular way of learning.

- Learners often have to be better organised and motivated.

- The idea that more self-reliant learners achieve better outcomes is questionable.

- If there is not more learning support than in traditional programs, or limited contact with teachers and support staff, flexible delivery may further disadvantage learners.

35 Misko (1994).
As a lecturer from the Mechanical Engineering section of Regency TAFE observed, face-to-face contact with teachers and mixing with other learners can be very important for people who are unaccustomed to formal learning.

Distance modes and computer-based ways of learning haven’t worked for us. Maybe later on, after the learning culture has become part of the workplace, they will. But for now, people need to feel valued and encouraged. You don’t get that from a computer.

**Strategies**

1 **Linking programs to the workplace**

On-the-line training or learning support has been used by a number of workplaces to develop language, literacy and numeracy competence as part of vocational competence. Placing greater emphasis on work experience and learning on-the-job is effective with learners who value practical skills and their application in real contexts.

2 **Using task-based and problem-centred approaches**

These approaches help learners to critically reflect on their learning and transfer what they have learnt to real-life situations. Learning contracts or projects which require learners to apply skills to real vocational issues are particularly useful, because they provide opportunities for people to apply what they have learnt in ways which challenge learners and offer immediate feedback. The NALLCU project in the vehicle industry has also emphasised the use of real problem-based approaches to learning to encourage risk-taking, critical thinking and the development of a supportive, participative learning culture in the organisation.

3 **Using team-teaching**

This allows for special requirements of learners to be addressed as they arise. Because of the interactive nature of team teaching, this approach also models effective workplace communication and teamwork. Further, it allows for cross-skilling of teachers and trainers from different disciplines, and broadens their professional practice.

4 **Selecting culturally appropriate approaches**

Particular teaching practices can be culturally inappropriate. For example, activities such as role plays and simulation games can be insensitive to age and status differences, and many learners find these types of activities unrelated to their reasons for being in the course.

5 **Using a range of flexible approaches to program implementation**

These are an effective way of accommodating learners who are unable to take advantage of formal learning opportunities because of factors such as work release constraints,
geographic isolation or family responsibilities. They include open learning centres, mentoring, peer teaching and computer-based learning. As well as allowing greater access, some of these approaches can offer specially designed learning resources and individual support.

**EXAMPLES OF STRATEGIES FOR RESPONSIVE PROGRAM IMPLEMENTATION**

Other examples can also be found in the case studies in Appendix 4.

The Adelaide plant of Mitsubishi Motors Australia Ltd has 5000 employees, of whom 25% have a non-English speaking background. The company has a no retrenchment policy, and is implementing a systematic training program, based on the *Vehicle Industry Certificate*, with the assistance of the Workplace Education Services (WES) team from Onkaparinga Institute of TAFE. The WES team consists of ten lecturers from a range of subject areas working across three plants. They are involved in writing modules together with workplace personnel, delivering a range of courses in the *Vehicle Industry Certificate*, supervisory training, preparing RPL packages for prospective applicants, helping with the training of shop stewards in the plant, and assessment.

The training that is delivered integrates on-the-job and off-the-job, formal and informal learning. Learners work in small groups, with a team made up of a language and literacy and a technical lecturer or Mitsubishi trainer. The group approach was found to be very successful as learners became more motivated to learn about their work, and to transfer their skills among the group. Some older NESB workers, for example, were not very interested in learning English. But pairing them up with younger employees proved an effective strategy, in that the older ones were keen to share their technical skills and experience, while the younger, less experienced employees helped to enhance their co-workers’ communication skills.

Collaborative partnerships between experts in different areas have been a very effective way of providing a useful educational ‘cross-skilling’ for the partners involved as well as delivering meaningful, user-friendly vocational programs. The Mechanical Engineering Industry Group of Regency TAFE in Adelaide, is an interdisciplinary team who collaborate to deliver a comprehensive service to industry. Members of the team have expertise in mechanical engineering, production, management, quality, industrial psychology, assessment and language, literacy and numeracy.

They are involved in the development, adaptation and delivery of a range of vocational programs in workplaces, such as the Engineering Production Certificate or specifically designed courses. Depending on the particular need of the enterprise and learners, the programs are jointly developed and delivered, or teachers coordinate complementary service provision.
The Spray-Rite Kit: A Guide to Using Chemicals on the Farm was developed by the Distance Learning Centre of the Victoria College of Agriculture and Horticulture. It is a step-by-step guide to using chemicals on the farm and is specially designed for rural learners with limited literacy and numeracy competence. It can be worked through alone or with the help of a friend or tutor. It develops the associated literacy and numeracy tasks in association with the safe handling procedures of a commonly used rural herbicide ‘Roundup’ from purchase to disposal.

3.6 Assessing Learning Outcomes

Issues

One of the main issues in vocational education and training programs is the confusion of occupational and language, literacy and numeracy competence. Another is the methods used for assessment, and their effect on performance, especially if learners are not familiar with them. Both Australian and overseas research in the field has shown that the test methods and formats adopted can significantly affect the performance of those being assessed. 36

So it is crucial that assessment criteria and processes in programs are consistent with those essential for work performance. It is also important to ensure that assessment methods are practical and cost-effective.

Inappropriate assessment tasks are frequently cited as a prime factor in learners’ difficulties with vocational education and training programs. All too frequently learners have been assessed by being asked to write about a particular procedure, for example, rather than actually demonstrating it in context. This frequently assesses reading and writing skills and familiarity with questioning techniques rather than the competencies required to complete the task. Multiple choice questions, for example, are especially problematic as the subtle differences in the options often require considerable cognitive and linguistic skills in order to understand the answers offered and then select the most appropriate one.

Verbal assessments are often less demanding for learners in terms of literacy skills. For example, a recent report on a Food Industry Certificate module observed that learners who opted to be assessed verbally achieved higher results than those opting for written assessment. This was despite the fact that those undertaking a written assessment had a higher level of proficiency in spoken and written English. (NFITC 1993c, Fine Food: Group Training, p. 19)

The National Assessor Standards usually form the basis for selecting and training assessors in vocational settings. While these standards stress the need for valid and reliable assessments, they give little attention to the underlying skills and knowledge necessary to

36 See for example, Bachman (1990), McEamara (1990), Brindley (1989, 1994).
apply the national assessment principles to different groups of learners, such as those with language, literacy and numeracy requirements. Similarly, training for assessors often pays little attention to the specific strategies needed to ensure valid and fair assessment outcomes. Assessor training is frequently undertaken as an initial exercise, with little provision for moderation and review processes. Yet to ensure valid assessments in the long term, it is vital that assessment tasks, and assessment decisions made by different assessors, are reliable and consistent.

**STRATEGIES**

1 **Jointly developing assessment criteria and methods**

Because integrated vocational programs aim to develop language, literacy and numeracy skills concurrently with other vocational skills, it is usually necessary for experts from both subject areas to jointly develop the assessment criteria and methods for the program. This helps ensure that the assessment instruments designed are well within the literacy and numeracy expectations of the target group, and relevant to the work performance.

Holistic assessment tasks that relate closely to the work context are often able to assess a number of competencies at the same time. These tend to be more valid and meaningful than itemised lists of disjointed assessment criteria. If language, literacy and numeracy is, for example, assessed as part of overall vocational competence, there may be little point in assessing these aspects separately.

2 **Providing a choice of assessment methodologies to accommodate individual differences and local requirements**

Provided the different assessment methods are equated for difficulty, this can greatly enhance the validity of assessment decisions, as it allows learners to choose the method they feel most comfortable with to demonstrate their competence. A number of vocational courses are structured so that assessment tasks are as practical as possible and learners can choose whether they are assessed orally, in writing or by more direct methods such as observation or work samples.

3 **Using a range of sources of information rather than relying on one task or one source**

Assessment is a process of collecting evidence about what learners can do, rather than an exam. It makes sense therefore to draw on different sources for evidence of competence. Assessment tasks during the course of the program (formative assessment) are useful in helping learners become more familiar with assessment methods and gain confidence in self-assessment. A number of these tasks can be integrated as part of other learning activities. They include:

- group and peer assessment tasks
- self assessments
• small projects
• portfolios.

In a number of vocational programs, workplace personnel are involved in providing feedback on learner progress. These include peer-tutors, supervisors of work placements, and team leaders.

A recently completed research project has developed guidelines for consistent and ethical assessment in Adult Literacy and Adult ESL in Tendered Labour Market Programs. This project suggests some principles for ‘high stakes assessments’, such as using properly validated and equated tasks and using at least two independent assessors (p. 76).

4 Supporting learners being assessed

Learners need to be familiar with both the criteria and method by which their competence will be assessed. They will also need opportunities to practise with the particular assessment methods and terminology. Where indirect methods of assessment such as written questions are used, for example, it cannot be assumed that learners are familiar with test formats such as true/false and multiple choice questions.

5 Using trained assessors

Assessors need to be able to apply the national principles for competency-based assessments to a range of situations and learners. Training for assessors should pay particular attention to language, literacy and numeracy and cultural issues to enhance the validity and fairness of assessment outcomes. This training should also include ongoing moderation and review processes to ensure reliability and consistency of assessment tasks, and of assessment decisions by different assessors.

Examples of assessment strategies

In the Vehicle Industry Certificate modules, an assessment approach was used that was holistic, contextualised and performance-based. It included conferencing, investigative reports, class presentations, oral assessment using genuine components and documents, practical problem-solving, demonstrations, group work, interpretation of documents and preparation of flow charts models and tables.

Assessment processes were negotiated with the various stakeholders. Written assessment was kept to a minimum, as it was generally considered the least appropriate form of assessment. Project officers were particularly concerned to avoid rote-learned responses, the use of yes/no responses, double negatives and multiple choice questions which place significant and unnecessary demands on trainees’ linguistic ability rather than workplace competence. (Sefton, Waterhouse and Deekin 1994, p. 307).

37 Cope et al. (1994).
In the DEET Assessment Practical Guide, Rumsey (1994, p. 21, p. 35) recommends the following steps when developing assessment criteria and methods to ensure valid quality outcomes.

- Develop transparent process and criteria for assessment – this includes easy-to-understand information, freely available.

- Identify the characteristics and situations of all potential assessment candidates.

- Take into consideration, in the selection and development of the assessment scheme, whether the chosen assessment approach(es) could disadvantage some candidates.

- Develop strategies to counter potential disadvantage through a process of trialling and improvement.

- Establish processes for reviewing assessment arrangements. These should also include people who may have been unfairly prevented from accessing the assessment opportunities available.

- Evaluate assessment instruments and inter-rater reliability over time.

At The Smith’s Snackfood Company language and literacy were taken into account in developing a skills assessment system for the workplace.

In training assessors, one of the training modules looks at language and literacy issues. Our AMES teachers are helping us in its development and delivery. We say, for example, that there shouldn’t be any written answer or multiple choice questions unless you are in a job where you have to write, that all the assessment criteria must be in plain English.

(Training and Development Manager, The Smith’s Snackfood Company)
3.7 Evaluating Program Effectiveness

ISSUES

Evaluation of integrated programs provides information to:

- determine whether the program has achieved its agreed objectives
- monitor progress and provide feedback for improving current and future programs
- satisfy accountability requirements.

In integrated programs, it can be difficult to identify and agree on indicators of program effectiveness and ways of measuring this. It is often also difficult to find the appropriate balance between qualitative evaluation and quantitative evaluation. Qualitative evaluation, which reports on stakeholders’ views about the program, is useful in gaining feedback on program relevance and learner satisfaction, but can often be subjective. It can also be influenced by factors such as different stakeholders’ interests in seeing the program as either successful or unsuccessful.

Quantitative evaluation (which measures outcomes against ‘hard’ data such as learner enrolments compared with completions) can be highly reductionist in accounting for the difference the program has actually made to the learners. In workplace-based programs, these measures also fail to take into account changes in training or communication practices in the organisation as a whole. Yet it is usually the quantifiable measures which are needed to ensure continued funding of programs.

Often, program outcomes or their relative importance change in response to unforeseen factors, so the final results may include different outcomes from those initially specified.

STRATEGIES

1 Jointly establishing evaluation criteria and methods

Evaluation criteria and methods should be developed at the beginning of programs in consultation with the various parties concerned. These include different providers or sections of providers, funding bodies and community groups. In workplace contexts or locally developed programs, learners and other immediate stakeholders, such as line management and other trainers should also be involved in developing evaluation criteria and methods. This also allows for a shared understanding on the indicators of effectiveness, and how they will be measured.
2 Establishing broad evaluation criteria

Evaluation criteria need to broadly reflect program goals and allow for incidental learning. Points which should be addressed in evaluating vocational programs include:

- reaction to the program - do stakeholders and learners express satisfaction with the program?
- learning - have learners demonstrated through performance the vocational competencies identified in the program objectives?
- transfer - are the competencies used in the vocational context?
- results - is there an improvement in work or communication practices?
  - have participants found work?
  - have participants gone on to further education and training?

Evaluation should also attempt to document the application of learning to wider areas, such as family life and broader social settings, as well as achievements due to increased confidence or improved morale. Strategies such as critical incident surveys are particularly useful in reporting on these aspects.

3 Collecting base line data

Where evaluation criteria require some measure of gain or improvement, it is important that base line data is gathered before or at the beginning of programs so that meaningful comparisons can be made. Learners' familiarity with work requirements, or critical incidents relating to the impact of language, literacy and numeracy issues, for example, should be documented for later reference.

4 Establishing mechanisms for ongoing and final evaluation

In integrated programs, it is important that mechanisms are established to discuss progress and issues of concern on a regular basis, rather than when there are significant problems with negative legacies. It is also often necessary to review program objectives in the light of new opportunities or unanticipated problems.

Where possible, final evaluation should be undertaken by an independent party, or at least validated by a number of stakeholders to provide an objective assessment.

5 Evaluating over time

Frequently program effectiveness is best evaluated some time after completion. Indicators such as learners’ ability to find jobs, gain promotions or successfully complete other
training programs are dependent on more than just the effectiveness of the program. It can take quite a while for learning to translate into significant quantifiable outcomes.

From the communications skills course, and the engineering production certificate that we have had running here now over the last two years, I can see some real benefits. Some of the people are now trainers, some involved in Occupational Health and Safety committees, in computers, in quality, they are helping to work out the graphs, they are on the consultative committee, they are a lot more active, and they are taking more interest and more control of their working life.

(Personnel officer, Sunbeam Victa)
APPENDIX I

Background to Integrating Language, Literacy and Numeracy and Vocational Education and Training

The Australian Language and Literacy Policy, released in 1991, reflects the emphasis on language, literacy and numeracy for employment work and training. This can also be seen in increased government spending in these areas since that time.

Over the past ten years discussion about developing language, literacy and numeracy has included a growing number of references to integrating their development into vocational programs. Until recently these references have concentrated on workplace language, literacy and numeracy programs and integrating these into the organisational and training agendas of particular enterprises.¹

Part of the scope of workplace projects is the development of a workplace English language and literacy strategy, preferably integrated into mainstream industry training, which specifically targets the overall language and literacy needs (including basic numeracy) of the workplace.

(WELL Selection Considerations, 1994)

The second program area where there have been references to integrating of language, literacy and numeracy and vocational training is in Labour Market Programs.² Since the implementation of the Australian Language and Literacy Policy in 1991 there have been important increases in language, literacy and numeracy provision under Labour Market Programs. But there are still calls for the inclusion of language, literacy and numeracy components in all labour market training.³

Over the last five years integrating language, literacy and numeracy into accredited vocational training has become a more pressing issue as industry, enterprises and training providers begin implementing structured training for operative level workers. Experiences such as the early implementation of the Vehicle Industry Certificate are not unique.

When nearly half the workforce were having problems with the training program that had been designed specifically for them, one has to question the program. This is especially so when it is apparent that employees who cope with complex work processes are being redefined as incompetent in the classroom (Sefton 1993, p.41).

Pre-course language, literacy and numeracy programs are not always the answer. They delay vocational skills development, and there are questions regarding the relevance and transferability of the skills learnt. Also they do not address the suitability of the vocational training programs or whether these courses are failing to develop essential elements of vocational competence by neglecting language, literacy and numeracy.

² See for example Kirby report (1985); DILGEA (1990) and International Literacy Year Secretariat (1992).
In education and training institutions such as TAFE systems, the main way of helping learners in vocational education and training programs is through supplementary or adjunct programs. These provide additional language, literacy and numeracy support but they were developed to help what was originally a small percentage of students only. Now, as the clientele for vocational programs widens and more learners struggle to cope with standard vocational courses, demand for language, literacy and numeracy help has increased.

Many providers see this as an expensive option. In some States funding for language, literacy and numeracy support is no longer available. In these and in other States and territories there have been calls for a reassessment of strategies to address language, literacy and numeracy requirements in mainstream programs.  

Policy statements about integrating language, literacy and numeracy into vocational programs such as those in the National Collaborative Adult English Language, Literacy and Numeracy Strategy and Skills for Australia, reflect these concerns.

POLICY STATEMENTS

The references to integrating language, literacy and numeracy into vocational programs in recent national policies and strategies are very general. There is no clear statement as to what constitutes an integrated program or the range of strategies and programs which come within the scope of integration. For example one of the objectives in the National Collaborative Adult English Language and Literacy Strategy is to:

- diversify and expand effort in the integration of English language and literacy in vocational training.

There are three strategies identified to achieve this goal:

- integrate language and literacy competence into vocational training through curriculum and professional development

- develop English language and literacy supplementation and support for jobseekers and other students undertaking vocational training or seeking recognition of prior learning acquired formally or informally

- develop programs to remove barriers to participation in workplace training, e.g. Train the Trainer, Plain English.

Many key questions are not answered. Does integrating language, literacy and numeracy into the curriculum require language, literacy and numeracy to be taken into account in all aspects of the training program, or would it be sufficient to include a language and literacy component or module? Are all three strategies necessary for integrated programs or can they stand alone? Is a language or literacy support program for learners in a current vocational training course an integrated program or does the vocational training program

4 Concern regarding programs of this type was raised in a considerable number of project consultations.
have to integrate language, literacy and numeracy competence as well? Does the training have to be part of a structured training program?

Towards a Skilled Australia, ANTA's National Strategy for Vocational Education and Training, identifies two initiatives related to integration.

Vocational education and training programs will increasingly incorporate language, literacy and numeracy competencies

and

Integrated English language and literacy training will be incorporated into vocational education and training. (p19)

The two strategies are inter-linked. Where the language, literacy and numeracy requirements of the vocational area have been incorporated into programs, integration of 'language and literacy training' is likely to be more comprehensive and effective. The combined statements are similar to the integration objective in the National Collaborative Adult English Language and Literacy Strategy, and equally general.

This is not to criticise such statements but to highlight the considerable room for differences of opinion as to exactly what integration involves.

The second ANTA statement raises another question about integration. It not only refers to including language, literacy and numeracy training in vocational education but also to integrating the three areas of language, literacy and numeracy. There is considerable overlap between teaching and learning in these three areas but most people see them as separate discipline areas and there is much debate in the respective fields about the wisdom of integrating them.  

At the State level there are a number of policy statements and strategies which refer to integration. While some States and Territories have had language, literacy and numeracy policies for some years, all states have now agreed to develop implementation statements to address the National Collaborative Adult English Language and Literacy Strategy. As these statements are closer to the provider level they have more details about implementation. But views about what integration actually is have to be drawn out from the strategies and these vary greatly. Some statements emphasise moving in a sequence through program levels which align with general education levels. Others develop language, literacy and numeracy as part of vocational courses.

A number of national and State industry training advisory bodies and unions have also developed training plans and strategies which include commitments to integrated programs. They vary in degree of detail but their focus is strongly on strategies which ensure that all workers have access to appropriate vocational training.

6 For discussion of the relationships between language and literacy see Hammond, J. et al. (1992); also Cope et al. (1994), section 2.4.23. For discussion on the relationships between literacy and numeracy, see Adult Literacy Information Office (1994); Lee, A., Chapman, A. & Roe, P. (1993).
STAKEHOLDER VIEWS

In the literature and in project consultations most stakeholders saw integration as addressing a number of complementary and overlapping purposes. But different stakeholders tended to emphasise different purposes. This in turn influenced views about what integration actually was and appropriate ways of integrating language, literacy and numeracy into vocational programs.

Integration is concerned with sound educational practice

People particularly interested in the theoretical and educational aspects of adult learning and language, literacy and numeracy development tend to stress the importance of developing language, literacy and numeracy in context as a way of achieving the most effective learning outcomes. So where developing vocational language, literacy and numeracy is the issue they stress integration with vocational contexts.

As with any other aspect of a learned performance, the language and literacy feature required for the specific vocational task should be taught and learned at the specific instance of its application, and precisely in the same fashion (immediacy, relevance) as any other feature of the required vocational performance.

(Falk, project consultations 1994)

Language and literacy cannot be taught independent of context. They need to be integrated into skills - based training. The provision of language assistance in a withdrawal situation can be beneficial to the employees involved, however these classes need to be a meaningful part of skills training. Workplace language must be taught in workplace contexts.

(Cope, 1994, quoted in The Cultural Workplace, CWCC)

Integration is concerned with achieving enterprise goals

Enterprises tend to stress integrating language, literacy and numeracy programs and organisational training goals. They see integrated programs as addressing the language, literacy and numeracy requirements of changing work practices, the introduction of new technology and such things as the increased documentation associated with quality assurance standards.

Computer controlled manufacturing processes required increased literacy skills. The consultative committee initiated a language and literacy program to support this; also an increased emphasis on training highlighted language, literacy and numeracy needs - as a part of workplace change. Our enterprise agreement was also being developed participatively, which implies communication needs. There was also a need to support the trainers in their delivery of training.

(Coca-Cola Bottlers, quoted in In Their Own Words, 1994, p.9)

This view is more interested in the relevance of training to the particular enterprise or job than to whether training is accredited or not. As one manager put it:

You can have a beautifully integrated program with language, literacy and numeracy and vocational skills developed together, but if it is marginal to the main business and goals of the enterprise it's not integrated.
Integration is concerned with incorporating language, literacy and numeracy awareness into organisational policies and practices

In addition to language and literacy courses, workplace-based programs also emphasise a range of activities which encourage organisational policies and practices to take into account language, literacy and numeracy and issues of diversity.

I made the decision that an integrated approach was actually a dual edged sword. Not only did I need to work with people to develop their literacy skills, but I had to create a working environment where barriers were also removed ... this meant my clients were all those people employed by manufacturing, not just those people who would normally work with adult basic education teachers. In fact I found the fastest results were to be achieved by concentrating to some extent with management rather than solely the operators because some of the barriers could be removed even before there was much skill enhancement or development.

(WELL TAFE teacher)

People can argue that this extends the idea of integration beyond the boundaries of vocational education and training, but improving workplace communication needs strategies that address all levels of the organisation. Also the boundaries between training and work are becoming less distinct. There is growing interest in the notion of the 'learning organisation' or 'enterprise learning'. This involves the integration of learning and doing:

A learning enterprise requires ... a shift away from the 'bums on seats' training mentality to innovations in interlacing work and learning; to the sharing of the development, transfer and use of knowledge and skills; and to continual improvements in what is provided, how it is provided and when it is provided.

(Ford 1991, p. 60)

In this model of working and learning, language, literacy and numeracy teaching and learning, along with other vocational competencies, would ideally extend beyond formal programs and integrate with all aspects of the organisation’s operations.

The integration model developed by the National Automotive Language and Literacy Coordination Unit (NALLCU) reflects this wider view of organisational learning:

The project arose from a proposal that a model of training, which integrated key elements of the training, would provide a more effective strategy for addressing not only the literacy and language issues, but also other issues of workplace reform ...

The collaborative process is intended to facilitate the development of a genuine learning culture and commitment to more realist, not just rhetorical, strategies for continuous improvement in the workplace.

(Sefion, Waterhouse and Deakin 1994, p. 13)

Integration is concerned with access to vocational education and training

Learners, unions, groups concerned with access and participation - including sections within vocational education and training, and a growing number of industry training boards and enterprises, see integrating language, literacy and numeracy as a way of making vocational training more accessible.
Literacy, English language and numeracy skills are not to be prerequisites for training. Structured, accredited training is to be made accessible to all persons regardless of the level of an individual’s literacy, English language and numeracy skills. (NFITC Directory 1993d, p. 10)

Integrating literacy training with mainstream vocational training is not only educationally sound, it is a significant industrial relations issue. There is an expectation that workers will have opportunities for multi-skilling. If their entry to these opportunities is delayed or they are excluded from the process until such time as they have acquired ‘basic’ skills, then they will rightly perceive this as discrimination. (Brown and Prince 1993, p. 113)

This view places greater emphasis on access to accredited training and building learning and career pathways. It stresses the importance of appropriate vocational curricula and ways of making programs relevant and accessible for learners with limited language, literacy and numeracy competence. Those emphasising this view may include as integration strategies language, literacy and numeracy adjunct and support programs to help learners cope with the demands of vocational courses.

Integration is concerned with incorporating the key competencies into vocational programs

Some industry standards bodies and vocational curriculum developers see integrating the Mayer Key Competencies into vocational programs as including language, literacy and numeracy development. But as the Australian Language and Literacy Council points out:

English language and literacy competencies are central to what the Mayer Committee defines as ‘Communicating Ideas and Information’, a competency it describes as “the capacity to communicate effectively with others using the range of spoken, written, graphic and other non-verbal means of expression”. But English language and literacy competencies extend well beyond the range of this single key competency.

People involved in the relationship between vocational programs and language, literacy and numeracy did not see integration of these areas as being satisfactorily addressed in the Key Competencies.

TYPES OF INTEGRATED PROGRAMS

There is very little in the literature relating to what integrated programs actually are. An issues paper prepared to trigger discussion in the United States about integrating basic skills in the workplace identifies three types of program:

• sequential – basic skills usually preceding occupational skills
• concurrent – time divided between basic skills and occupational skills within the training day or week
• integrated – basic skills and occupational skills taught together. To the learner the skills are transparent (US Department of Education 1990, p10).

In Australia, An Emerging National Curriculum (a TAFE NSW 1992 DEET funded national project to document the range of current adult literacy programs), identified four program categories:

• literacy focus – courses with a primarily literacy focus
• mixed focus – courses with a mixed literacy and other (vocational or further education) focus
• vocational focus – literacy support or adjuncts to other courses with a vocational focus
• training and/or awareness focus.

The mixed focus category includes both concurrent and integrated programs as identified in the US categories.

'Mixed focus' (sometimes called 'Linked Skills') programs have literacy (and/or numeracy) skills, knowledge and attitudes objectives as well as other aims such as further education and vocational goals. Some are balanced between literacy and another focus, others have the literacy embedded as one of a number of subjects (p.34).

'Balanced' programs are described as having explicit literacy and vocational aims while 'embedded' programs are described as having primarily work-oriented objectives although literacy objectives are included.

The report describes programs in the 'vocational focus' category (Compensatory Programs, Tutorial Support, Vocational Support, and Tutorials) as follows:

The literacy component is seen merely as a means of achieving those aims. 'Vocational Focus' programs are most frequently, but not exclusively, offered in institutions like TAFE as a means of assisting students to achieve their goals. (ibid)

In policy and practice in Australia, all three types of programs are frequently included within integrated program strategies.

Whether these should all be seen as integrated programs concerns the extent to which they interrelate with the vocational program and whether that program has taken into account the language, literacy and numeracy requirements of the job or occupation.
Concepts Underlying Integrated Approaches

1 Language, literacy and numeracy are important aspects of vocational competence. So the language, literacy and numeracy competence essential for the job needs to be addressed as an integral part of vocational competency development.

The National Training Board guidelines recognise this and define competence broadly so that all aspects of work, such as task management and role/environment skills, can be incorporated into competency descriptions. As industry standards become more refined they are now beginning to reflect this broader notion of competence and are less task oriented and segmented.¹

Competence includes the observable skills needed for effective work performance and the knowledge, skills and attitudes which underlie and support performance. Where work performance requires the use of English language, literacy and numeracy competence, either explicitly or as underlying knowledge or skills, these also become part of the full competence for the job and need to be identified and addressed in training.

It is vital not to overstate language, literacy and numeracy requirements in descriptions of vocational competence. But if essential language, literacy and numeracy competence are not identified, there is a danger that they will be overlooked or taken for granted in training programs. This limits the ability of these programs to develop the full competencies needed for the job or occupation and has already led to difficulties in implementing accredited training for operative workers.

When the language, literacy and numeracy requirements of the job are unclear it is difficult for course developers to make sure that the language, literacy and numeracy demands of the training program are appropriate. How industries have chosen to identify these competencies in standards or by other means is discussed in Section Three.

2 People learn most effectively when learning is closely linked to where it will be applied, when the different elements of programs interrelate and when people can also relate what they have learnt to wider work and social contexts.

So vocational education and training programs need to make sure that teaching and learning are linked to work contexts, that the elements within programs (including language, literacy and numeracy development) are not treated in isolation, and that learners can make critical connections between learning and wider work and life experience.

¹ For discussion of competency standards their strength and limitations see Hager and Oliver 199, Deakin University 1994.
Just as a broad notion of competence recognises that there are a number of interrelated aspects that contribute to successful work performance, similar views of learning see people learning best when the different components of learning are integrated. This involves:

- closer overlap between working and learning, so that opportunities for learning in everyday work are recognised and used, and the value of such ‘informal’ or ‘hands-on’ processes are taken into account in vocational education and training programs
- greater integration of what people learn and how they learn such as developing teamwork and problem solving skills at the same time as technical skills
- developing learning in the contexts where they will be used so that learners are able to draw from their experience and apply skills learnt to their everyday situations
- taking into account learners’ knowledge and experiences and actively involving them in the what, where and how they learn, so they are more able to critically reflect and act upon their experiences, what they are learning and the relationship between these and wider aspects of work and life.

One of the reservations many educators have had about developing language, literacy and numeracy competencies in vocational programs is that these programs may restrict learning to the specific task skills for the job. The view of learning and the workplace presented here sees vocational settings and demands as being as complex and complete in their interconnections and relationships as any other setting for learning. Vocational training to develop a ‘knowledge-based’ workforce needs to encourage and support people who are critically aware, who can manage unpredicted situations, who can make informed judgements and who can see beyond the particular job to the relationships with wider organisational and social contexts and concerns.

3 Language and literacy are social processes which are shaped and influenced by a range of factors including the setting, familiarity with the subject matter, the relationship between speakers, confidence in the particular situation and the sort of language being used.

So, teaching and learning these competencies should take account of this range of factors and closely link with the areas in which the skills are to be used.

Language is a social process which is shaped and influenced by the setting and its demands. Language, literacy and numeracy are context specific skills which vary from one setting to another.

So language, literacy and numeracy cannot be viewed as only ‘general’ abilities which are learnt once and can then be applied to a range of different contexts and purposes. Nor will measures of people’s ‘general’ language, literacy or numeracy necessarily give an indication of their abilities to use these competencies in particular workplace settings.

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There is substantial evidence, for example, that people often successfully acquire the specialist language of their technical field, or as one manager put it, 'shopfloor language', despite low 'general proficiency' in English. There is also evidence that learning language, literacy and numeracy in vocational contexts is more effective than learning in general language or literacy programs.

Current writing in the field of language, literacy and numeracy and vocational skill development argues strongly for programs that develop these skills together. This allows learning to build on existing knowledge and skills, relate to learners' motivation and goals, and enable more effective transfer of learning to actual vocational contexts.

Documented vocational education and training programs both in Australia and elsewhere have demonstrated that learners with limited competence in English language, literacy and numeracy can successfully undertake training if programs are appropriately designed.

4 Successful learning is related to life goals and real situations. So, when the goal is vocational skills development, language, literacy and numeracy competence should be addressed as part of the vocational education and training program.

People learn most effectively when what they are learning is relevant to their goals and needs. Many learners see referral to initial language, literacy and numeracy programs to develop competence in these areas as frustrating and only indirectly related to their reasons for training. This is particularly so when they have been performing competently at work or where they need to get a job.

A survey of non-English speaking workers in the labour market adjustment program for retrenched textile, clothing and footwear workers, for example, found that most people recognised the importance of developing competence in language, literacy and numeracy. But they wanted to combine improving these competencies with developing vocational skills to get work. Many enterprises have found the same thing.

There’s no point in doing language, literacy and numeracy training unless people see an end use for what they’re doing - the end use may be other training, but people can’t wait three years to get enough literacy to do it. So we’ve modified the training to make it accessible now to people. They can see the point.

(Coca-Cola Bottlers, In Their Own Words 1994)

Workplace education programs in the UK and North America have also found that many participants have similar views and that programs need to integrate language and literacy with vocational skills development.

If learners feel frustrated in educational programs they are not likely to learn effectively. By contrast, linking language, literacy and numeracy learning to vocational skills development can be a significant factor in learning success. In such programs learners are more likely to feel that their existing knowledge and skills are valued and relevant and that

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*See for example Mikulecky and Ehlinger 1987.
* Sticht 1987/90.
* See NSW EAC & Human Rights & Equal opportunity commission. 1993.
they are achieving ‘real-life’ outcomes. In workplace training, in particular, integrated programs can also avoid marginalisation and possible stigmatisation of certain workers.

5 Australia has one of the most diverse workforces in the world in terms of language, culture and educational backgrounds.

So vocational education and training must recognise and value learners’ skills, resources and differences through accessible and appropriate programs and services.

There are a range of Commonwealth, State and Territory policies and strategies about access to vocational education and training for all groups in the community, including those who are under-represented in vocational programs. But the extension of vocational education and training to many groups who have traditionally not taken part in structured training poses new challenges.

Programs need to be able to cater for people who are unfamiliar with formal training contexts, who have had negative experiences at school, who are unfamiliar with Australian education systems and methods, who are unsure of their ability to take part in formal training, who come from different linguistic and cultural backgrounds, and people with limited competence in language, literacy and numeracy. To do this, more flexible ways of organising and offering programs need to be developed which recognise existing knowledge and resources and build on learners’ strengths.

Treating everyone the same way is not a way of achieving fair and equitable outcomes for all. Program organisers, developers, materials writers, teachers and trainers need to be aware of the range of different backgrounds, experiences, knowledge and skills which different groups and individuals bring to learning.

Inclusive programs recognise that there are no ‘standard’ learners and see ‘standard’ courses as catering for this diversity. Vocational education and training programs are inclusive when they:

- provide non-discriminatory and equitable access
- identify and remove barriers
- build in positive measures for assisting learners
- provide for equitable participation
- value and include the diverse experiences of learners
- enhance employment and career path options.

(Barlow, Junor and Spark, 1995 p.1)

6 Integrated models of vocational education and training are efficient and cost-effective ways of developing the language, literacy and numeracy essential for work performance.

So administrative policies and practices should support their development as an integral part of vocational education and training.

Integration strategies are concerned with improving the quality and appropriateness of courses. This makes programs more accessible and improves retention and completion rates. For industry, the cost benefits are apparent if workers with limited competence in
language, literacy and numeracy can develop vocational skills from the outset of the program. The benefits are also obvious for learners who want to develop vocational skills.

For vocational education and training providers, improved course outcomes are becoming more important. As government funding for vocational programs changes from being based on how many people start courses to how many successfully complete courses, improving learning outcomes becomes a critical financial as well as educational factor.

Integrated programs do not necessarily involve costly additional provision. Learners needing development in language, literacy and numeracy traditionally undertake initial programs in these areas before undertaking their vocational training. Integrating the two types of programs may involve a different way of organising resources but it may not involve additional resources. In fact, they may well reduce overall costs in the long term as all the evidence suggests that integrated language, literacy and numeracy learning is a more effective way of developing competence in these areas.13

But vocational education and training has not traditionally catered for operative level workers.14 So suitable programs will inevitably involve additional initial costs in working out new ways of doing things, developing or changing existing programs and resources, and broadening the knowledge and skills of program designers, teachers, trainers and assessors so that programs meet the needs of industry and learners. As in all modern areas of effort, the skills base of the workforce is critical to success.

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13 See Sticht 1990.
14 For example training for operative workers takes up 7% of all expenditure on vocational training in Australia compared with 48% for trade and technical levels.
APPENDIX III

The National Framework of Adult English Language, Literacy and Numeracy Competence: A Brief Overview

The ACTRAC National Framework of Adult English Language Literacy and Numeracy Competence has been developed as a common point of reference for the identification, recognition and development of language literacy and numeracy competence. In its attempt to adequately capture the complexity of this competence in today's context and the ways in which it develops, the Framework has multi-dimensional components:

- **Aspects** - which refer to the different facets of communicative competence: procedural, personal, technical, systems, cooperative and public communication

- **Stages** - which refer to the developmental stages of competence: from assisted, through to independent and collaborative stages

- **Phases** - which refer to the learning phases of reflecting on prior knowledge and experience, engaging in activities, broadening applications and critical reviewing.

The National Framework was developed by an Australia wide team of experts, managed by the Victorian Adult, Community and Further Education Board. It was endorsed by ACTRAC in 1993, along with a series of support documents explaining its specific applications to different fields.

The Application to Workplace Settings paper (ACTRAC 1994a) explains some of the ways the National Framework can be used in industry as an educational tool and resource to develop:

- Industry competency standards that reflect a broad notion of competence and highlight the communication demands placed on people in the restructured workplace

- Locally relevant and responsive training programs that effectively meet both individual and organisation needs

- Focused individual or group training plans that recognise the resources individuals bring to their work situations and identify realistic goals to be achieved.

A National Reporting System Project is currently being undertaken, with the aim of designing a comprehensive system for reporting on the outcomes of adult English language and literacy provision in the vocational education system, labour market programs and adult community education sector, and in addition, to be able to report on numeracy in relation to language, literacy and numeracy activities.
APPENDIX IV
Case Studies of Integrated Programs

THE CERTIFICATE IN TEXTILE ART, (ABORIGINAL ENTERPRISE)
The Certificate in Textile Art (Aboriginal Enterprise) offered by Nungalinya College, Darwin, is an example of a type one integrated program. In other words the language, literacy and numeracy requirements of the vocational area are integrated into all relevant aspects of the curriculum.

The course is designed specifically for Aboriginal and Torres Strait Islander people although others may be admitted at the discretion of the College. It covers the technical aspects of producing art or craft items together with the promotional and business aspects of marketing and selling the work which has been produced.

Core subjects cover:

- Drawing and design
- Basic fabric printing
- Screen Printing Techniques and Commercial Screen Printing
- Dyeing Fabrics with Natural Dyes and Dyeing Fabrics with Synthetic Dyes
- Marbling Fabric and Advanced Marbling
- Batik
- Occupational Health and Safety
- Tourism
- Handling Cash
- Product Pricing and Product Distribution
- Layout Design for Promotion
- Planning a Business Venture and Running a Business Venture
- Personal Promotion
- Organising an Exhibition.

Nungalinya College has offered small and ad hoc provisions associated with other courses over the past ten years but there was a growing demand for a structured award course which would enable “control of the art, from conception to point of sale to stay in the hands of the artist.” Language, literacy and numeracy were recognised as critical to achieving this objective.

The one year full-time certificate was developed in consultation with the arts industry, including: Northern Territory Arts Training, practising artists and those involved in galleries, museums, promotion and retailing; other arts training providers including the Department of Fine Arts, Northern Territory University, Batchelor College, TAFE and the NT Department of Education - Arts Practice; and past Nungalinya College students in related
areas. Research and development work in determining vocational competencies and course content was supported by funding from DEET and the Aboriginal Development Board.

The emphasis in the course is on the development and application of practical skills. Practical application of language, literacy and numeracy within the course structure are also important. As one of the course developers put it:

Language, literacy and numeracy needed to be included in a way that was not only acceptable to the students but also in such a format that made sense in terms of what they were learning.

There are no academic pre-requisites for the course and participants range from people with basic primary education only to those with year 11. The program was offered for the first time in 1994 with an enrolment of 16. Of the graduates, seven have been accepted for the Associate Diploma in Fine Arts at the Northern Territory University, Darwin. Demand for the program is high with 21 participants enrolled in 1995.

Specific integration strategies used include:

• attention to vocational language, literacy and numeracy competence in all relevant modules

• attention to the language, literacy and numeracy competence of learners in program delivery methods including an emphasis on practical and project-based learning

• assessment methods suited to learners' language, literacy and numeracy competence such as review of workbooks, oral presentations, practical demonstrations, presentation of portfolios and finished work

• teachers who have an understanding of Aboriginal culture and are aware of language, literacy and numeracy demands.

Other strategies which enhance flexibility and appropriateness include:

• a modular format with flexible entry and exit points - except for term three where work assumes competence in earlier module areas

• guest lecturers including practising Aboriginal artists

• flexibility in program delivery which allows learners to move on if they can demonstrate competence in a particular course outcome

• support for present and past learners through ongoing access to workshops and establishment of a cooperative selling outlet and resource centre – Dunnilli Art.
THE NSW LOCAL GOVERNMENT INDUSTRY STANDARDS AND CERTIFICATES

The NSW Local Government Interim Competency Standards and the NSW TAFE Certificates in Local Government are examples of integrating language, literacy and numeracy into standards and program development for employees in the first three classifications of the Australian Standards Framework.

In 1992, TAFE NSW received a request from the NSW local government to develop accredited courses for operational employees (ASF levels 1-3), who make up approximately 50% of the workforce in NSW local councils. New awards and restructuring of local government operations stressed the importance of accredited training and learning pathways. Available courses were ad hoc, and many were not accredited or had no mechanisms for systematic building of skills for career and promotion. Language, literacy and numeracy were identified by all parties as a significant factor in developing appropriate training programs.

The Development of Interim State Industry Standards

The development of the first certificate (Certificate in Local Government Foundation Studies - ASF 1) took place at a time when interim state standards were also being developed, but in the absence of endorsed national standards for the industry. The NSW Local Industry Training Committee worked with industry parties and consultants from the Centre for Workplace Communication and Culture (CWCC) at the University of Technology to establish interim competency standards for operational workers.

Functional analysis workshops were held with experienced employees from each functional area (e.g. Library, Recreation). The ACTRAC National Framework of Adult English Language, Literacy and Numeracy Competence was used in mapping and determining the relevant skills. NSW TAFE project officers involved in developing the certificates in Local Government also attended these workshops as observers.

As a result of this process, the industry standards developed were broader in scope than previous drafts. They also became more specific as they highlighted the communication interactions and the language, literacy and numeracy skills involved in the work. Explicit language, literacy and numeracy aspects are integrated into the different components of competency descriptions (such as units, elements, performance criteria, the range of variables and underpinning knowledge and skills). Some of the new work design principles and changes in organisational culture for example were also made explicit. Similarly, the diversity of skills and resources in the workforce was able to be recognised and reflected in the final standards.
The Certificate in Local Government, Foundation Studies

To develop the Certificate in Local Government, Foundation Studies, TAFE NSW set up an advisory Group consisting of TAFE representatives, including language, literacy and numeracy specialists, the NSW Local Government Industry Training Committee (ITC), the employer association, the union and local council enterprises. The advisory group was responsible for providing key advice about the industry, employees and training needs to the TAFE course developers.

Local council employees work in a range of vocational areas, so the certificate was designed to ensure maximum flexibility and a variety of career path options. It consists of core modules (such as Working In Local Government, Participating In Workplace Change) as well as elective modules. Some of these elective modules are nationally recognised (such as Office Skills) or state recognised (such as Horticulture, Traffic Control, Study Skills). A number of existing modules have been adapted, and the certificate is designed so it can be delivered on and off the job in a variety of ways. There are no selection criteria in terms of applicants' competence in language, literacy and numeracy.

Consultation and collaboration between language, literacy and numeracy specialists and other subject specialists from a number of vocational areas was a critical part of the development process. Where necessary, reference groups from different areas of TAFE and the local councils were formed. The certificate was also reviewed by groups of 'critical friends' consisting of local council representatives, the CWCC, the ITC members not on the advisory group and TAFE staff from relevant areas who were not involved in the course development.

The certificate is being offered for the first time in a number of locations in 1995.

Specific integration strategies used include:

- training for module writers to orient them to the target group they were developing the modules for, and to their own educational and cultural biases. (This extended to the selection of learning resources, delivery strategies, and choice of assessment strategies. The ACTRAC National Framework of Adult English Language, Literacy and Numeracy Competence was a useful educational tool in this respect.)

- attention to language, literacy and numeracy in all relevant modules

- identifying the main texts and tasks in the course syllabus, so that teachers can address them as part of program delivery and developing a number of learning resources to support this process

- training for vocational teachers in addressing language, literacy and numeracy issues and working with culturally diverse groups, before they are involved in implementing the modules.
THE CONSTRUCTION, FORESTRY, MINING AND ENERGY UNION
SHORT COURSES

The Construction, Forestry, Mining and Energy Union offers a range of on-and off-the-job training programs to employed and unemployed building and construction workers. The union is registered as a private provider of vocational education and training with the State Training Board of Victoria.

The union has also developed a data base to record learner profiles and competencies achieved by learners. As building and construction workers move across employment situations and work sites the data base enables them to maintain continuity in training and skills recognition. Workers can, for example, access information on the data base for RPL purposes.

The training programs have been designed to meet the national standards for the Building and Construction Industry in the absence of nationally accredited training programs. Successful completion of courses enables participants to get industry recognition for the particular competencies being addressed.

Short courses include:

• Occupational Health and Safety
• Safe Work at Heights
• Reading Construction Drawings
• Train the Trainer
• Skills Assessor Training.

The courses have been designed to provide maximum access to workers regardless of educational levels or language, literacy and numeracy competence. Reading Construction Drawings, for example, is a 40-hour course covering the basic industry stream competency standards to:

• read and interpret plans and specifications
• carry out basic measuring
• calculate quantities
• communicate essential information
• carry out interactive workplace communication.

Integration and other strategies particularly appropriate to learners with limited language, literacy and numeracy competence include:

• building a language and literacy focus into program content and delivery
• customising the course to specific work sites and delivering it on site linking into work and experience on-the-job
• using a mix of teachers, trainers and relevant site personnel to deliver the program including language, literacy and numeracy teachers, specialist vocational content teachers, site architects and engineers, site supervisors and trades contractors.
THE CERTIFICATE IN BASIC LANDCARE AND ENVIRONMENT ACTION

The Certificate in Basic Landcare and Environment Action is an example of a type 2 integrated course. That is, it integrates language, literacy and numeracy development into all course components but it also includes specific literacy and numeracy provision. The certificate is used in many DEET funded Landcare and Environment Action Programs (LEAP). LEAP is a labour market program of 26 weeks designed to give unemployed young people aged between 15 to 20 formal off-the-job training and vocational placement training on-the-job. The program gives priority to long-term unemployed and others who are disadvantaged in the labour market.

The certificate was developed by the Brotherhood of St Laurence in Victoria in collaboration with the Australian Trust for Conservation Volunteers and addresses both off-and on-the-job training components. In the absence of national competency standards the course has been developed in consultation with the Agriculture and Horticulture Industries Training Board (Victoria), LEAP sponsors and DEET and has articulation arrangements with the Certificates in Occupational Studies - Rural and Horticulture (Victoria).

The course can lead to employment at ASF level 1 in the construction maintenance, horticulture and agriculture fields. However it is envisaged that for most graduates, the course will provide preparation for further vocational education and training such as the Certificate of Occupational Studies Rural or Horticulture or other trades areas.

The certificate provides for at least 25 per cent off-the-job training and up to 75 per cent on-the-job training. It consists of a core of off-the-job modules and an on-the-job project which consists of a compulsory core and elective modules. The ten core off-the-job modules are:

- Workplace Communications
- Personal Development
- Occupational Health and Safety
- First Aid
- Tools and Equipment
- Literacy
- Workplace Mathematics
- Job Search
- Conservation Concepts
- Environmental Audit.

The three on-the-job core modules (Sound Work Practices, Use and Maintenance of Project Specific Tools and Equipment and Job File) are embedded into the on-the-job electives which vary according to the project and the LEAP sponsor. The off-and on-the-job components are designed to complement and reinforce each other.
The following points highlight key integration strategies used in the course.

- Literacy and numeracy competencies are identified in all core modules. Specific learning outcomes in modules are flagged as areas where literacy and numeracy skills can be further developed and enhanced.

- Separate literacy and maths components are included to allow specific attention to development of these areas. However the curriculum stresses that “participants in the program will gain most from literacy projects ... in conjunction with other practical tasks”.

- The curriculum support documents include advice regarding attention to the literacy and numeracy competence of participants in all aspects of the course. “In all areas of the curriculum, regardless of the specific content, we need to present information which takes into account the literacy level of participants”.

While not specifically relating to integration, the course also emphasises program delivery strategies which are well suited to learners with limited language, literacy and numeracy competence. These include:

- negotiation of an action plan between project participants and trainers to achieve identified outcomes in terms of learning needs, goals for modules and provision for ongoing review and re-assessment of the plan

- provision of a range of teaching/learning strategies including project work and team-teaching

- significant on-the-job learning and opportunities to apply learning in the vocational context.

A survey of LEAP participants at the Manly Warringah Community College highlighted the importance of this connection. As one participant put it:

"I didn't learn at school, and I left thinking I couldn't learn anything. But I've gained the self-confidence now ... I know I can learn and will make it through tech if I want to. Just being able to see how what we're learning makes sense on site, and helps us work to better and faster. I can see how I'm going each time better than before. Not like school where you sit and they talk. Because I'm working and questions come up on site, it just sticks up there (pointing to head)."
THE PRACTICAL TRAINING PROGRAM - A LABOUR MARKET COURSE

The Practical Training Program offered by the Literacy Access Unit of the Southbank Institute of TAFE, Queensland, is an example of a type 3 course. The 18-week full-time labour market course combines literacy and numeracy components with a suite of specific vocational short certificate courses in Coffee Shop Practice, Cooking for Beginners, Hygiene for Food Handlers, Canteen Fast Food Assistant and Bar Attendants. These equip participants to seek employment in the hospitality industry or move on to further education and training. The program includes work experience on campus in the coffee shop at the College.

Vocationally specific literacy and numeracy components, together with Communications and Customer relations modules constitute 50 per cent of total course time and are designed to complement and support vocational course components.

The Access Unit at South Bank Institute believes that neither literacy, numeracy and communication courses alone nor ad hoc short vocational courses adequately equip long-term unemployed people for the workforce. The unit focuses specifically on integrating language, literacy and numeracy into labour market vocational programs.

Specific integration strategies used include:

- the development of a range of integrated programs which provide a learning pathway for participants within the hospitality industry ranging from initial basic skills development through programs such as the Practical Training Program to the full-time Certificate of Catering and other award courses offered by the Institute in Professional Cookery, Food and Beverage and Bakery

- adaptation of vocational component delivery methods, resources and assessment tasks to better suit learners with limited language, literacy and numeracy competence

- design of language and literacy components to address the specific vocational requirements of the jobs and occupations together with requirements relating to finding work and presenting for job interviews

- close integration of work experience and other training components

- use of multi-skilled teachers who are qualified to teach language, literacy and numeracy components as well as accredited hospitality subjects

- development of a team-based approach to program delivery

- learner counselling and support from initial assessment and course placement to assisting in finding work experience and job placement services.
THE CERTIFICATE IN ENGLISH FOR VOCATIONAL PURPOSES

The NSW TAFE Certificate in English for Vocational Purposes is an example of a type 4 integrated course where English language is taught concurrently with technical subjects. The vocational strands provide the content for the language components and enable participants to apply their language learning in context while developing initial vocational skills.

Current strands offer modules in 14 vocational areas which include accounting, automotive, community welfare, computer programming and cabinet-making.

The course was initially developed in 1987, and formally accredited and placed on the VETAB register in 1993. Course development involved close liaison and negotiation between Foundation Studies Training Division and industry specialists from other Training Divisions responsible for curriculum in other vocational areas, and the Multicultural Education Unit.

The course length is 342-440 hours, depending on the strand chosen. It consists of:

- one of 14 vocational strands (126-220 hours depending on the strand chosen)
- at least an equal number of hours of integrated language, inter-cultural and study skills.

The vocational strands all offer modules from accredited vocational courses, some nationally accredited, and some state accredited. Successful completion of the course provides recognised credit for these subjects in the relevant vocational award course. For example, completion of Commercial Computing 1 as part of the English for Vocational Purposes Certificate provides recognised credit for that module in any of the following award courses:

- Advanced Certificate in Accounting
- Advanced Certificate in Customs
- Associate Diploma in Accounting
- Associate Diploma in Banking and Finance.

Some of the integration strategies used in developing and implementing the course include:

- guaranteed support hours for teachers on the course to familiarise themselves with different components of course content, meet and consult with teachers of different components about learner progress and assessment
- sharing of responsibility for course outcomes between ESOL and technical subject teachers
• providing professional development for vocational teachers in addressing language, literacy and numeracy issues and working with culturally diverse groups

• adapting some vocational modules to provide for extended language development. For example, the course *Writing at Work* provides for extended language development relating to the learning outcomes of the National Communication module *Writing Skills for Work* and may, under certain conditions, be recognised as equivalent to the national module.

An evaluation of the course indicated that this model of transition into mainstream vocational awards was cost effective. Student final success rates more than compensate for the additional six months to the duration of a standard vocational course.
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Integrating English Language, Literacy and Numeracy into Vocational Education and Training
FOCUS GROUPS

Sunbeam Victa, SRA Training Centre, Sydney (employees, trainers and union representatives) (NSW)
AMES, Sydney & Wollongong; Foundation Studies Training Division, TAFE NSW (NSW)
Broadmeadows College of TAFE (Vic.)
Brisbane Institute of TAFE (Qld)
Ithaca College of TAFE (Qld)
Mt Gravatt TAFE College (Qld)
Johnstone College of TAFE, Innisfail (teachers and administrators) (Qld)
Construction, Forestry, Mining and Energy Union, and the vehicle division of the Automotive, Food, Metals and Engineering Union (union officials, delegates and members).
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### ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>ACAL</td>
<td>Australian Council for Adult Literacy</td>
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<td>ACER</td>
<td>Australian Council for Educational Research</td>
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<td>Australian Education Council</td>
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<td>Automotive, Food, Metals and Engineering Union</td>
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<td>Australian National Training Authority</td>
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<td>Australian Public Service</td>
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<td>Adult Basic Education Resource and Information Service</td>
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<td>Australian Second Language Proficiency Rating</td>
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