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ABSTRACT
        This document, intended to assist Australia's national
industry training advisory bodies, is a practical guide to developing English
language, literacy, and numeracy inclusive national training packages. The
guide is divided into three sections devoted to the following topics: (1)
context (literacy in the workplace, literacy in training, literacy in
national training packages, procedures for identifying categories of
communication used in the workplace and required literacy and numeracy
skills, and an overview of the National Training Package); (2) endorsed
components of the National Training Package (literacy in competency
standards, literacy in assessment guidelines, and literacy in national
qualifications); and (3) nonendorsed components of the National Training
Package (literacy in the learning strategy, literacy in assessment materials,
and literacy in professional development materials). The benefits of literacy
and literacy training to employers and employees are illustrated by way of
actual examples that have been included throughout sections 1 and 2. Appended
are the following: overview of Australian Qualifications Framework levels;
reference to the National Reporting System; states' accredited curricula
aligned to the National Reporting System; states' language, literacy, and
numeracy support services; and annotated list of 19 recommended resources.
Contains 13 references and a list of recommended readings and a glossary.
(MN)

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Workplace Communication

in

NATIONAL TRAINING

PACKAGES

a practical guide

Developing
English language,
literacy & numeracy
inclusive
National Training
Packages

Lynne Fitzpatrick
& Anita Roberts

AUSTRALIA

Department of Employment,
Education, Training and Youth
Affairs

ERIC

WORKPLACE COMMUNICATION IN NATIONAL TRAINING PACKAGES:

A PRACTICAL GUIDE

Developing English language, literacy
and numeracy inclusive
National Training Packages

LYNNE FITZPATRICK & ANITA ROBERTS

ACKNOWLEDGEMENTS

Note: For brevity in titles throughout this document 'Literacy' has been used to encompass language, literacy and numeracy.

CONTENTS

INTRODUCTION

In May 1995 the Commonwealth, State and Territory Ministers for Vocational Education and Training agreed that English language, literacy and numeracy competencies must be incorporated into competency standards. Current activity in reviewing and developing industry competency standards required for the development of National Training Packages presents an ideal opportunity for doing this.

This guide will assist National Industry Training Advisory Bodies (ITABs) with the task of developing language, literacy and numeracy inclusive National Training Packages by providing straightforward guidance and recommended resources. Fortunately, much of the background work for identifying language, literacy and numeracy in the workplace has been completed in the National Reporting System. [1]

The National Reporting System is a nationally recognised resource which provides a comprehensive reference point for language, literacy and numeracy competencies. By drawing on this resource the work required of ITABs for the identification and inclusion of language, literacy and numeracy will be simplified.

The National Reporting System (NRS) can assist the:
- development of competency standards which include nationally consistent language, literacy and numeracy competencies;
- development of assessment guidelines which promote fairness, validity and reliability;
- alignment to National Qualifications of language, literacy and numeracy competencies via an NRS-AQF alignment;
- development of Learning Strategies which relate directly to the competency standards and assessment guidelines;
- development of Assessment Materials for language, literacy and numeracy competencies; and
- development of Professional Development Materials which support the implementation of training packages in the workplace.

This guide contains information to assist the inclusion of language, literacy and numeracy in National Training Packages. It is divided into sections as follows:

Section 1: Context

The importance of recognising the breadth of language, literacy and numeracy in the workplace is revealed in this section. Recent research recommends including language, literacy and numeracy in training packages. An outline of the National Training Package model, in which language, literacy and numeracy are to be incorporated, completes the section.

Section 2: National Training Package—Endorsed Components

Practical steps for identifying and including language, literacy and numeracy in competency standards, assessment guidelines and national qualifications comprise this section.

Section 3: National Training Package—Non-endorsed Components

This section provides resources and advice for developing Learning Strategies, Assessment Materials and Professional Development Materials which will support the inclusion of language, literacy and numeracy in National Training Packages.

Appendices, Glossary and Recommended Reading

The appendices contain supporting information for the steps proposed in Sections 2 and 3. A full list of terms used in this document is contained in the glossary. The recommended reading list includes publications and resources which will assist the development of language, literacy and numeracy inclusive National Training Packages.

CONTEXT

1.1 LITERACY IN THE WORKPLACE

Concerns about inadequate literacy in the workplace are not new. In 1991 it was estimated that problems associated with adult literacy levels in the workplace could be costing the nation as much as $3.2 billion each year in lost productivity. [2]

By requiring that language, literacy and numeracy be included in competency standards, Commonwealth, State and Territory Ministers for Vocational Education and Training aimed to address these problems. The Australian National Training Authority (ANTA) has continued this approach by requiring the inclusion of language, literacy and numeracy in National Training Packages, as part of the new National Training Framework.

In the rapidly changing work environment of 1990s Australia, people need language, literacy and numeracy skills to participate effectively in society and the workplace. Many of the recent changes in Australian industry have increased the need for effective workplace communication.

Effective communication is crucial at all levels of industry, and many obvious examples can be cited. In order to create an environment where efficiency and productivity can flourish, employees need to participate in meetings, undertake training, interpret instructions, follow safety procedures and report relevant information to superiors. By establishing effective two-way communication, management can receive useful information from all levels of the organisation and communicate business goals and priorities to all employees. To meet legal obligations, businesses must have numerous forms completed by employees, and for the operation of a successful business, effective communication with customers and suppliers is essential.

A number of less obvious, but extremely significant, benefits are secured when language and literacy are included in workplace training. A recent study of language and literacy inclusive training in a range of industries has found that training resulted in higher productivity and improved competitiveness. [3] Improving the language and literacy skills of workers resulted in better safety practices, improved Quality Assurance, and the creation of more effective work teams. All of these factors contributed to demonstrable increases in productivity and competitiveness.

Increased acceptance of workplace change was also found following language and literacy inclusive training. Training allowed for a greater, and less painful, rate of workplace change by providing workers with increased job flexibility, more readiness to accept and use new technology and a greater acceptance of further workplace training.

These identified benefits are invaluable where the restructuring of workplaces and work processes increases the emphasis on teamwork and consultation. In an industry environment where rapid technological advances require ongoing skill development, and where flexible workers are required to adapt to new roles, the benefits of language and literacy training cannot be overstated.

Bad News Daily [4]

Guesswork poisons 12

Under the intense scrutiny of a news media crew, twelve workers from a food processing plant were rushed from their factory to hospital yesterday afternoon.

The workers, including one pregnant woman, were suffering from chemical inhalation.

Oxygen was administered on-site to a number of factory workers who had collapsed. The evacuated factory building will be aired for twelve hours before it will be safe for workers to return.

It has been found the toxic fumes were caused by a new chemical cleaning agent used by the factory's cleaner.

Unable to interpret the dilution instructions on the new, more concentrated product's label, he estimated based on his experience with previous products.

Cleaning alongside shift-workers, the cleaner treated half of the factory with a dangerously concentrated chemical mixture before the problem became apparent.

1.2 LITERACY IN TRAINING

Every industry has disaster tales resulting from communications breakdowns. Overwhelming anecdotal evidence demonstrates the enormous cost of failure to acknowledge the communication skills needed to perform workplace tasks. The resulting costs to industry may be worker injuries, financial losses, adverse publicity or reduced staff morale.

Recent studies have quantified the value to industry of language, literacy and numeracy training. Hard evidence of the benefits of such training has been documented in a study by Geoff Pearson, *More Than Money Can Say: the impact of ESL and literacy training in the Australian workplace.* [5] Most workplaces in the study identified a direct cost saving from workplace language and literacy training.

Table 1 outlines direct cost savings recorded by four employers in the study.

Employer	Training	Estimated cost savings
Civil & Civic / Lend Lease Interiors *Construction industry*	Integrated language & literacy training conducted at construction sites for more than 40 participants. With improved communication skills workers could make use of on-site computers for filing more accurate reports. Improved reporting allowed the company to better monitor work and equipment time.	$4.75 million (cost/benefit analysis) $60,000 in recovered crane costs at one site $64,500 in unproductive labour costs $10,000 in fork-lift costs at one site
Johnson & Johnson Medical *Pharmaceuticals manufacturing*	Language & literacy program integrated with specific workplace training for 19 employees. Improved reporting skills allowed workers to transfer to a new production line, avoiding their redundancy. Greater worker independence made it unnecessary to employ a full-time quality control officer for the new production line.	$250,000 in avoided redundancy payments $40,000 pa in salaries
Victorian Hide & Skin Producers *Leather manufacturing*	Language & literacy training integrated with specific workplace training for 20 employees. With improved communication skills factory workers could participate in workplace training and better identify problems for maintenance workers.	$82,080 pa in reduced downtime $10,670 pa in reduced maintenance costs
Goodman Fielder Milling *Flour manufacturing*	Literacy and numeracy awareness Train the Trainer program involving 20 employees. Improved communication gave workers access to on-the-job training and saved time previously wasted clarifying instructions with supervisors.	$21,700 pa in unproductive labour costs $4,660 pa in more accurate packing

All 24 workplaces in the study identified positive gains from language and literacy training. A key reason for success was that improved communication skills gave participants access to other job-specific training. Previously, workers with limited communication skills had been unable to participate in, or benefit from, the workplace training programs offered to them.

One of the recommendations of this study is that language and literacy skills should be fully integrated into all mainstream workplace training programs. Where those skills are necessary for successful participation in workplace training programs, or for the performance of workplace tasks, they should be made explicit in the training package.

To ensure that such training is provided for employees in Australian industry, it is necessary to have industry standards that acknowledge the significance of communication skills in the workplace. For industry to secure the full benefit of workplace training, language, literacy and numeracy requirements must be identified alongside other training needs in industry specific National Training Packages.

Good News Tribune

Leather manufacturer saves hides

Improving the language and literacy skills of employees has resulted in annual savings of more than $90,000 for a Victorian leather manufacturer. This sizeable cost saving has been realised by reducing maintenance bills and downtime.

Due to the limited English language skills of workers, the company had been unable to adequately train the team preparing skins for tumbling. Incorrectly prepared skins were causing frequent jams in factory machinery.

According to the company secretary, downtime on drums has now dropped by nearly 50 percent.

Sixty percent of this decrease has been directly attributed to the workers' language and literacy training. Improved language and literacy skills provided the work-team with the confidence and commun - ication skills necessary to participate fully in job training.

For the company the outcome could not be more positive - increased productivity, reduced costs and greater job satisfaction among employees.

1.3 LITERACY IN NATIONAL TRAINING PACKAGES

To make language, literacy and numeracy skills explicit in National Training Packages these skills must be specifically addressed in the competency standards. The following industry scenario and standards examples highlight the need for explicit reference to language, literacy and numeracy competencies in standards documents.

> **Mining Disaster**
>
> In a written report a worker in the mining industry made a note indicating there was a minor problem with the structure of a shaft. His report did not specifically ask for action to be taken. From the note's wording the site supervisor and manager assumed action was unnecessary and signed off the report.
>
> The minor problem escalated over the following months and contributed to a major crisis in which lives were lost.
>
> Ways of succinctly detailing a problem and organisational requirements for reporting had not been included in staff training on the site. The mine's culture and communications system did not encourage workers' initiative. In this environment one inadequately written report and management misinterpretation of the report resulted in an industry tragedy.

Comparison of the two mining industry competency standards overleaf (Standard A and Standard B) shows how language, literacy and numeracy demands of tasks can be explicitly included.

Without explicit reference to language, literacy and numeracy in competency statements, it is possible that the specific demands of particular tasks may be overlooked. When these competencies are stated explicitly, as in Standard B, users of training packages can take them into account when choosing, delivering, developing and assessing workplace training.

While Standard A, below, outlines the technical demands of the job, it does not explicitly refer to the language, literacy and numeracy demands of tasks which are central to satisfactory performance. Standard A would provide little guidance for a trainer or assessor in the crucial area of effective reporting of hazards. Statements added to Standard B make the required language, literacy and numeracy competencies explicit.

Standard A

UNIT 3	PERFORM SHAFT MAINTENANCE
ELEMENTS	**PERFORMANCE CRITERIA**
1.1 Perform routine checks of site	1.1.1 Carry out checks on equipment... 1.1.2 Carry out routine maintenance...
1.2 Control damage to the environment	1.2.1 Minimise spread of contaminants... 1.2.2 Take action to minimise spread of contaminants...
1.3 Check shaft for potential hazard(s) to health and safety	1.3.1 Conduct safety inspection... 1.3.2 Identify and report any malfunction... 1.3.3 Identify and report any potential hazard...

RANGE OF VARIABLES

Routine checks can include...
Symptoms of faults can include...
Procedures for inspection can include...
Damage to the environment can include...
Potential hazards can include...

EVIDENCE GUIDE

Standard B

UNIT 3	PERFORM SHAFT MAINTENANCE
ELEMENTS	**PERFORMANCE CRITERIA**
1.1 Perform routine checks of site	1.1.1 Carry out checks on equipment... 1.1.2 Carry out routine maintenance... 1.1.3 Read and interpret simple written and diagrammatic materials relevant to duties.
1.2 Control damage to the environment	1.2.1 Minimise spread of contaminants... 1.2.2 Take action to minimise spread of contaminants...
1.3 Check shaft for potential hazard(s) to health and safety	1.3.1 Conduct safety inspection... 1.3.2 Identify any malfunction... 1.3.3 Identify any potential hazard... **1.3.4 Report malfunctions and potential hazard(s).**

Routine checks can include...
Symptoms of faults can include...
Procedures for inspection can include...
Damage to the environment can include...
Potential hazards can include...
Reading texts can include safety signs, instructions and maps.
Organisational requirements for reporting and organisational response procedures are known to work teams.
Writing is appropriate for the workplace and conveys meaning even if grammar and spelling are not accurate.

EVIDENCE GUIDE

Reads enterprise materials appropriate to hazard identification and safety requirements and procedures. Completes reports to identify safety hazard(s).

1.4 IDENTIFYING LITERACY IN THE WORKPLACE

Communication is integral to the workplace. It underpins many fundamental areas of work including recruiting, defining tasks, team work, feedback, following orders, acquiring job skills, and organising workloads and schedules.

In most instances communication skills are so closely interwoven with specific job skills they are no longer identified as language, literacy or numeracy tasks. Reading a workplace memo is easily identified as a reading task, but language, literacy and numeracy skills can be overlooked in tasks such as checking train tickets, loading a truck, collecting garbage, or adding chemicals to mixing vats.

Identifying categories of communication can be helpful to capture the broad range of communication activities involved in workplace tasks. Dividing language, literacy and numeracy tasks into groups based on the purpose of the communication reveals the variety of communication tasks in a workplace.

The purpose of the communication may be:
• **procedural**, to carry out a task;
• **technical**, to use tools or equipment;
• **personal**, to express personal needs;
• **cooperative**, to interact in a group;
• **systems**, to participate in an organisation;
• **public**, to interact with the community; or
• **learning**, to participate in learning activities.

The first six of these categories of communication were identified in the National Framework[6] and the National Reporting System. In these documents they are referred to as Aspects of Communication. Learning has been added as a seventh category following studies of communication in the workplace. [7]

Categories of communication provide a comprehensive look at the requirements of workplace tasks. Using them to examine specific workplace roles helps to identify the range of language, literacy and numeracy competencies implied within larger tasks.

These underpinning competencies are necessary for the successful performance of workplace tasks. When language, literacy and numeracy are explicitly identified and included in National Training Packages workplace tasks can be realistically assessed.

The full range of communication skills required by tasks identified overleaf is revealed when all categories of communication are considered.

Task	Category - purpose of communication						
	Procedural	Technical	Personal	Cooperative	Systems	Public	Learning
checking train tickets	Identifies date & time on ticket	Tells members of public how to use ticket machine	Telephones to arrange extension of child-care for late shift	Arranges lunch breaks to coordinate with other staff	Completes time sheets and leave requests	Asks members of the public to show tickets	Participates in on-the-job training
loading a truck	Recognises symbols for fragile & this way up	Reads scale to determine weight of load	Explains personal reasons for request for special leave	Writes note identifying fragile goods for driver	Completes stock control form	Follows supplier directions for loading order	Participates in demon-stration of safety procedures
collecting garbage	Gives spoken directions to truck driver	Explains truck's bin-lifting mechanism to new worker	Enquires about eligibility for entitlement	Gives opinion on new roster	Participates in OHS meeting	Answers public queries on rubbish removal	Participates in workshop on hazardous waste
adding chemicals to mixing vats	Accurately interprets dilution instructions	Uses measuring equipment to calculate precise quantities	Explains request for direct pay deductions to payroll officer	Uses correct quantity terminology in notes for co-workers	Completes in-process Quality documenta-tion	Advises visitors to site of safety issues	Completes evaluation form following training session

Bad News Daily

SLIPPERY COMMUNICATION PROBLEM

Within the last three weeks, two workers at a steel factory have been injured after falling on dangerously slippery steps. The accidents have resulted in a sprained ankle for one machinery operator and a damaged spine for his supervisor.

Both workers were lucky to escape more serious injury as the incidents occurred in the factory's acid bath area. Chemicals used in the acid bath gradually coat the steps leading to the walkway with a slick and slippery surface.

After the first incident the factory's Occupational Health and Safety officer requested that the problem be fixed. However, the officer's written request was not clearly explained.

His failure to outline the exact problem resulted in an inappropriate material being used to resurface the steps. Rather than ensuring a long-term solution, the officer's limited communication skills meant that within a week the steps were slippery and dangerous once again.

1.5 NATIONAL TRAINING PACKAGE OVERVIEW

The Australian National Training Authority has developed a new framework for industry training. The National Training Framework has been designed by ANTA to make training more relevant for industry. This system will be based on industry and enterprise requirements and will emphasise assessment based on on-the-job performance. Industry standards will be linked to National Qualifications. This will allow Australia-wide flexible training arrangements and provide portability of skills and qualifications across all States and Territories.

National Training Packages, as represented in Diagram 1, are a key feature of the National Training Framework.
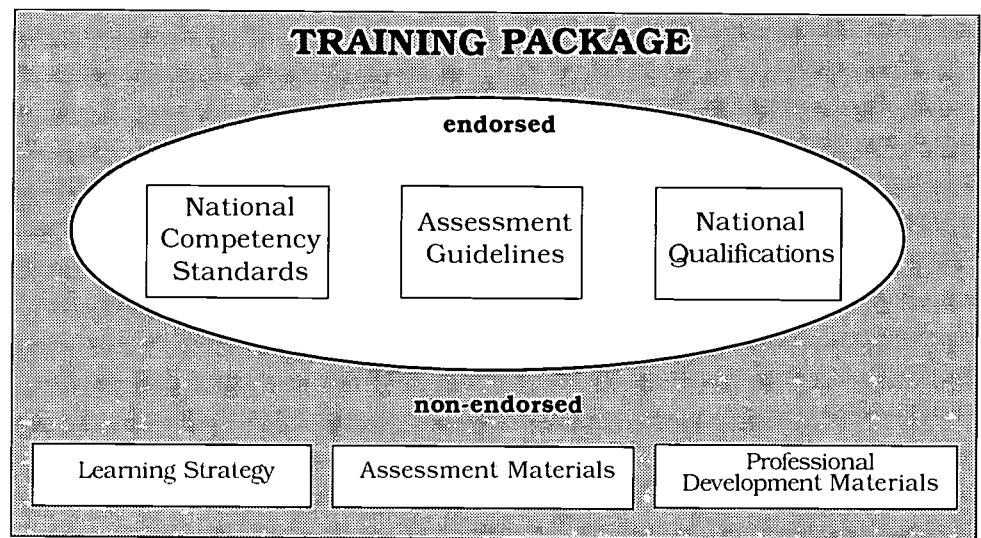
Diagram 1 [8]

Competency Standards

National competency standards cover the entire range of work functions required in an industry. Standards documents express competencies as workplace tasks. For these documents to truly reflect workplace requirements it is crucial that underlying skills, knowledge and core competencies, such as language, literacy and numeracy, are included. [9]

UNIT TITLE Title of a general area of competency	
UNIT DESCRIPTOR Optional, assists with clarifying title	
ELEMENTS Describe outcomes which contribute to a unit.	PERFORMANCE CRITERIA Specify the required level of performance.
RANGE STATEMENT Range of contexts and conditions to which performance criteria apply.	
EVIDENCE GUIDE Assists with interpretation and assessment of unit.	

Standards should be related to realistic work practices, expressed as outcomes and be understandable to employers, employees, supervisors and trainers. The format for competency standards has been developed by ANTA to promote national consistency and transferability.

The emphasis in National Training Packages is on assessment of performance against industry standards. For assessments to be fair and valid, it is important that the standards developed provide clear guidance on the workplace communication requirements of work activities.

Assessment Guidelines

This endorsed component of National Training Packages describes the assessment arrangements that apply in an industry, or industry sector. The purpose of assessment is to confirm that an individual can perform tasks to workplace standards as expressed in the relevant standard. Where the standards and guidelines provide clear guidance for the design and conduct of assessments, the process should be a straightforward one.

ANTA has indicated that Assessment Guidelines should include gathering methods that are gender and culturally inclusive and which take into account the language, literacy and numeracy skills of both assessor and assessee. This is important given that validity, reliability and fairness will be one focus of external audit.

National Qualifications

National Qualifications are defined in accordance with the Australian Qualifications Framework (AQF). A review of the AQF descriptors is currently under way.

Alignment of packages of competencies to the AQF will mean that qualifications from National Training Packages will be transferable across industries and States and Territories.

Learning Strategy

This non-endorsed component of National Training Packages provides additional support for Registered Training Organisations to put together special training programs related to industry competencies.

Assessment Materials

This non-endorsed component provides assessors with information for judging whether a competency has been attained.

Professional Development Materials

This non-endorsed component may contain materials and resources for trainers and assessors. It provides background information on the new National Training Framework and Training Packages, industry specific information, and existing professional development materials.

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SECTION 2

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NATIONAL TRAINING PACKAGE

ENDORSED COMPONENTS

2.1 LITERACY IN COMPETENCY STANDARDS

The following approach is suggested when developing new industry standards or reviewing present standards, as required in the development of National Training Packages.

Step One   - gather information about language, literacy and
                  numeracy activities [10]
Step Two   - organise information according to the AQF
Step Three   - analyse information
Step Four   - include language, literacy and numeracy in standards
                  format

STEP ONE

For each workplace role, gather information about language, literacy and numeracy activities.

To ensure that the standards developed reflect industry requirements it is important to obtain detailed information through consultations, about the language, literacy and numeracy requirements of workplace tasks. This can be done as part of the process of reviewing standards. A representative sample of workplaces and industry employees should be included in this process, as would be the case during standards review and development.

Techniques for gathering data may include observation of work, formal and informal interviews, analysis of documents, and small group meetings. The technique, or combination of techniques, used will be influenced by the profile of the workforce.

To ensure appropriate methods are used it will be necessary to identify:
- cultural, educational, and language backgrounds of the employees;
- gender balance of the workforce;
- length of employment of employees within the industry; and
- criteria used for recruitment.

This information can also be used to ensure a representative sample of the industry and workplace is involved in the standards development/review process.

Where a high proportion of the workforce comes from a non-English speaking background, the use of peers to act as translators, or interpreters, should be considered.

Where employees in a particular industry traditionally have low levels of education, collecting data through discussion or interview rather than in writing may be more productive.

During consultations questions should aim to clarify the breadth and complexity of language, literacy and numeracy activities for each workplace role by focussing on:
- different categories of communication (Procedural, Technical, Personal, Cooperative, Systems, Public, Learning); and
- types of communication (reading, writing, oral communication, numeracy and learning strategies).

Categories and types of communication

The purpose of Step One is to consider language, literacy and numeracy activities as broadly as possible in order to capture the full range. To prepare for this exercise it is worthwhile exploring the different ways in which people need to communicate in industry. In any industry there is likely to be a broad range of communication, both formal and informal, which contributes to the satisfactory performance of work tasks.

Purpose of communication

To gain an understanding of the extensive demands that workplace tasks place on employees' language, literacy and numeracy skills, consider the following categories of communication common to workplaces:

> What communication **systems** are in place within the organisation? How does the workplace communicate with its employees? How does it expect employees to communicate with it? What paperwork is required by all parties for the workplace to meet its obligations to employees?
>
> How do employees communicate **cooperatively** with other workers about work matters? Do they read/write shift reports? Listen to/read/write messages? Discuss and agree on rosters? Participate in collective enterprise bargaining?
>
> Do employees have to follow/give written or verbal instructions to perform **procedures**/tasks/have tasks performed? Prepare funding submissions?
>
> Do employees have to interact with the **public**/wider community? Take phone enquiries? Deal with customers/clients? Give oral presentations?
>
> Do employees have to follow/give instructions to use **technology** to complete tasks, read manuals, use a computer, use the correct technical term?
>
> How do employees learn new skills? How do employees communicate when **learning** new skills? What on-the-job training is done? By whom? Do they have to use a training manual?
>
> Do employees have to use language, literacy and numeracy to pursue **personal** needs or goals? Respond to a colleague who needs support in a personal matter? Write a letter? Give/listen to an explanation of a personal matter which affects work?

Mode of Communication

To consider the full range of language, literacy and numeracy relevant to each workplace role, consultations should address the types of communication present in the workplace. The following questions should be asked for each of the above categories.

> What reading, writing, speaking and listening does someone have to do to complete industry tasks satisfactorily?
>
> What do they have to listen to, or read? Collect representative examples of texts.
>
> What do they have to write or say? Collect representative examples of texts.
>
> Does a mathematical process or calculation have to be carried out? For what purpose? Collect representative examples of texts.

If you are struggling with this process, Appendix 2 provides a list of reading, writing, speaking and listening competencies which reflect common workplace language, literacy and numeracy activities. These may help with the identification of similar activities in your workplace.

At the completion of Step One, you should have:
- background information about how the workplace role fits within the industry, including details of the workforce, technology used, training available, industrial relations, and communication systems and networks;
- language, literacy and numeracy activities for each workplace role covering the full range of categories of communication, organised by the type of communication;
- samples of specific and characteristic language, literacy and numeracy activities in the workplace; and
- sample texts from the workplace.

It may be the case that for a particular industry, language, literacy and numeracy activities are more obvious in some categories than others. This is due to the extraordinary variety of activities between and within industries.

STEP TWO

Organise information according to the AQF

The language, literacy and numeracy activities identified in Step One can now be organised according to their level of complexity. Given that industry standards are to be aligned to the Australian Qualifications Framework, it will be helpful to also align language, literacy and numeracy activities to the AQF.

At this point it may be wise to work with a language/literacy/numeracy practitioner who is familiar with the AQF. It is important that the analysis of data collected in Step One is thorough, and that the standards developed are clear and detailed, providing sufficient information for workplace assessors to make fair judgements.

Resources contained in the appendices will assist with this task. Appendix 1 contains an overview of AQF levels. Appendix 2 contains examples of workplace language, literacy and numeracy competencies grouped according to AQF level.

To judge the level of difficulty of the language, literacy and numeracy activities and texts refer to Appendix 1. For each activity identified in Step One consider the following questions:

> How complex is the task? Does it involve routinely following a sequence of one or two steps, or choosing from a limited range of options, or using discretion and judgement to choose from a number of likely options?
>
> How complex are the texts people are using? Short, simple texts, or longer texts with abstract or highly technical language?
>
> Who is involved in the communication? What are the power relations between the parties concerned? How do the parties involved in the communication relate to each other (hostile, neutral, or supportive)?
>
> What knowledge and experience does the person have of the task?
>
> Is the task performed independently? Does the person require support from peers? Does the person assist others? Is the person responsible for the work of others?

At the conclusion of Step Two you should have language, literacy and numeracy activities (reading, writing, speaking, listening and mathematics) organised into AQF levels.

STEP THREE

Analyse information

You now have language, literacy and numeracy activities for workplace roles organised into AQF levels. Before including these activities in the competency standards it is useful to examine the part they play in the main workplace role function. Some language, literacy and numeracy activities will be central to the workplace role, such as telephone communication skills for a receptionist. Others will form a small part of a larger vocational task, such as reading an LED message while monitoring machinery on a production line.

The centrality of language, literacy and numeracy activities to the main workplace role function will determine how they are incorporated into the standards. In this step it should be possible to determine whether the language, literacy and numeracy activities stand alone, are crucial to other workplace role functions, or are simply part of another workplace task.

At the completion of this step you should have language, literacy and numeracy activities for workplace roles, aligned to an AQF level and sorted according to the task's centrality to the main workplace role function.

STEP FOUR

Including language, literacy and numeracy in standards format

Industry standards will now need to be written to include the language, literacy and numeracy tasks identified in Steps One, Two and Three. The standards format should be followed with explicit reference to language, literacy and numeracy.

The alternative you choose will be determined by the analysis of information completed in Step Three. There are four alternatives which can be used. They are:

- adding to Range Statements and Evidence Guide. This option is suitable only when language, literacy and numeracy are already included in the Units, Elements and Performance Criteria sections of the standard.
- rephrasing Performance Criteria, or adding additional Performance Criteria. This alternative is appropriate when the language, literacy and numeracy competencies have been identified as important parts of larger tasks.
- rephrasing Elements of Competency, or adding an additional Element of Competency. When language, literacy and numeracy tasks are crucial for the satisfactory performance of a workplace role function this alternative is the appropriate choice.
- adding language, literacy and numeracy Units of Competency to standards. This alternative is appropriate when the language, literacy and numeracy tasks form a central workplace role function.

ALTERNATIVE ONE: ADDING TO RANGE OF VARIABLES AND EVIDENCE GUIDE STATEMENTS

> **Range of variables** statements place the competency in context and provide a focus for assessment. They may contain references to particular equipment, methods or systems used in the workplace.
>
> The **evidence guide** guides the assessment of the unit. It outlines how satisfactory performance may be demonstrated and how assessment is to take place.

Adding language, literacy and numeracy components to these sections of the standards document is appropriate when the Units, Elements and Performance Criteria already capture language, literacy and numeracy in work practices. It is important for assessment purposes that the Range of Variables and Evidence Guide statements accurately reflect these components.

A courier company used owner-operators for the delivery of goods to customers. Freight consignments were prepared by the Dispatch Supervisor and left in the dispatch area for owner-operators to collect.

The owner-operator's job was simply to "go to the allocated freight position; load; leave". However, one owner-operator's inability to read the freight manifest and match it to the consignment resulted in late and incorrect deliveries.

The industry standard for freight delivery could, minimally, be expressed as **go to the allocated freight position; load; leave.** However, this workplace task has been included in the National Industry Competency Standards for the Manufacturing and Merchandising sector of the Forest Industries [11] with considerably more detail.

The existing standard provides considerable detail about the steps involved in the workplace task of delivering and collecting materials. It is interesting to note that all of the items listed under Performance Criteria are language, literacy and numeracy tasks. These language and literacy tasks are all sub-tasks of the task 'plan deliveries and collections'.

This is a good example of an inclusive standards document, but it could be additionally clarified by specifically identifying language, literacy and numeracy texts and requirements in the Range of Variables and Evidence Guide statements. The additional information in coloured text will ensure that the necessary language, literacy and numeracy skills are not overlooked when planning training or assessment.

Adding to Range of Variables and Evidence Guide statements

UNIT M4.3 Manufacturing and Merchandising	Deliver and collect material
ELEMENTS	PERFORMANCE CRITERIA
M4.3.1 Plan deliveries and collections	a. Loads to be delivered and collected are identified from order list, dispatch notices, purchase orders, schedules and/or supervisor's instructions. b Loads are assessed for weight, handling requirements and space requirements visually or by estimate from documented details. c. Delivery and collection addresses are located using maps or local area knowledge. d. Truck loads, numbers of trips and travel routes are planned to meet load restrictions and minimise driving time and distances. e. Personnel and material handling equipment needs are planned to ensure loads can be moved in accordance with enterprise standards procedures. f. Communication with supervisor and other workers is maintained to ensure efficient work flow coordination and personnel cooperation.

RANGE OF VARIABLES

Vehicle used will be...
Collection and delivery locations may be...
Material required to be collected or delivered may be...
OH & S requirements include...
Texts may include order lists, dispatch notices, purchase orders, schedules, and/or supervisor's instructions

EVIDENCE GUIDE

Demonstrates the ability to:
identify loads typically supplied by or to the enterprise
identify requirements from documents
determine load weights and weight restrictions
secure loads
deal with customers and suppliers courteously
maintain documents and money securely
plan and follow efficient delivery and collection routes
handle material safely and without damage
locate specific information in written materials, eg—
locate relevant address information from delivery paperwork
consult street directory to pinpoint address and best route

ALTERNATIVE 2: ADDING PERFORMANCE CRITERIA

Performance criteria specify what is to be assessed and the required level of performance.

Language, literacy and numeracy are best included in this part of the standards document when the element, which may appear quite technical or manual, relies on language, literacy and numeracy skills for its success. Adding performance criteria will often be suitable for the tasks identified in Step Three as important parts of larger tasks. An example of this situation was examined in Section 1.3 in the Unit Perform Shaft Maintenance.

Adding performance criteria was also an option suggested in a recent report for Main Roads Queensland. [12] Carry Out Interactive Workplace Communication was the unit used as an example in this report.

Although this unit already dealt exclusively with workplace communication, a thorough examination using categories and types of communication showed that some key underpinning skills were missing. The new performance criteria (in coloured text on the following page) have added information on language, literacy and numeracy skills which are crucial for performance of the existing elements. It is also necessary to add to the Range of Variables and Evidence Guide to ensure that the included language, literacy and numeracy Performance Criteria can be adequately assessed.

ADDING PERFORMANCE CRITERIA

Stream	Civil Operations	No. CO1031
Field	Common Skills - Civil Operations	
UNIT	Carry out Interactive Workplace Communication	

ELEMENT	**PERFORMANCE CRITERIA**
1 Carry out face to face communication.	1.1 Routine messages and schedules are given and followed.
	1.2 Workplace procedures are adhered to
	1.3 Relevant information is assessed and analysed from a range of sources.
	1.4 Information is selected and sequenced correctly.
	1.5 **Interpersonal exchanges are transacted, demonstrating some awareness of appropriate language and interactional strategies in order to give or receive instructions or complete tasks.**
	1.6 **Information is clarified in order to successfully complete a task.**
2 Work with others.	2.1 Suggestions and information are provided as appropriate to contribute to the planning and conduct of activities.
	2.2 Communication carried out in simple English is efficient and messages are understood.
	2.3 **Oral exchanges are conducted with one or more workers to solve everyday problems related to work issues.**

RANGE OF VARIABLES

Information sources may include: instructions, signage, work schedules, work bulletins & charts.
Range of variables may include: clear instruction about familiar procedures, relevant signage, relevant work schedules, work bulletins & charts, known fellow workers, impartial or supportive persons in exchanges.

EVIDENCE GUIDE

Performance is assessed by workplace observation.
Performance of effective oral exchanges is demonstrated under a variety of circumstances and over a period of time.

ALTERNATIVE 3: ADDING ELEMENTS OF LANGUAGE, LITERACY AND NUMERACY TASKS TO STANDARDS

> **Elements of competency** describe functions a worker is able to perform. These are written as outcomes and must be demonstrable and assessable.

It would be appropriate to add an Element to a Unit where language, literacy and numeracy skills are crucial for satisfactory performance of a workplace role function. The following example is from the customer service area common to many industries. This task is obviously dependent on oral communication skills. It is therefore essential that these be explicit throughout the sections in the standards document for inclusion in training and assessment. When adding to the elements section it is necessary to also develop performance criteria, range of variables and evidence statements to capture the added language, literacy and numeracy.

UNIT	Provide Customer Service
ELEMENTS	**PERFORMANCE CRITERIA**
1 Identify and assess the needs and expectations of different types of customers.	1.1 Identifies different types of customers accurately according to potential areas of interest and special needs. 1.2 Identifies individual customer needs and expectations correctly.
2 Ask and reply to simple questions about familiar workplace matters.	2.1 Listens strategically to identify customer needs. 2.2 Responds to unproblematic enquiry detailing possible services. 2.3 Conducts communication in a manner which promotes trust and satisfaction.
3 Provide service to customers.	3.1 Provides products and services appropriate to customer needs and expectations. 3.2 Anticipates problems to minimise effects on customer satisfaction. 3.3 Takes opportunities to enhance the quality of service whenever possible.
4 Identify and resolve difficult customer situations.	4.1 Participates in discussion to identify and remedy complaint. 4.2 Completes relevant documentation. 4.3 Refers complaint and documentation to manager for solution if necessary.

RANGE OF VARIABLES

This unit applies across all sectors of the industry.
Customers include all end users of service or product.
Interactional strategies may include adjusting verbal communication to clarify and repair understanding, negotiate, and reconcile points of view.
Documentation is completed in accordance with enterprise policy.

EVIDENCE GUIDE

Evidence of competency may need to be collected over a period of time and in different customer service contexts.
Observation of verbal interchange indicates customer is satisfied with service.
Complaints used as opportunity to develop good customer relations.

ALTERNATIVE 4: ADDING UNITS OF LANGUAGE, LITERACY AND NUMERACY TO STANDARDS

> Within industry standards **units of competency** are broad areas of competence which can logically stand alone.

If the analysis at Step Three reveals that language, literacy and numeracy tasks form a central workplace role function, it is appropriate to add discrete units for these competencies to the standards. These units may apply to a number of workplace roles.

The National Reporting System is a nationally recognised document describing the English language, literacy and numeracy competencies people need to communicate. It is the only national system to comprehensively identify these competencies. The NRS has served as a standard for aligning disparate English language, literacy and numeracy curriculum, training packages and learning outcomes (see Appendix 3). As such it is an effective tool for developing competency standards which include nationally consistent language, literacy and numeracy competencies.

Appendix 2 contains competence and variable statements drawn from the NRS which can be used in the various sections of the standards document. These statements are organised by AQF level. Refer to Appendix 2 to determine whether these NRS descriptors can be used in the standards to represent the data you have collected in Steps One, Two and Three.

Opposite is an example of a standard Unit of basic communication skills developed from the NRS. It is included as an example of what such a standard might look like. Its level of generality makes it useful across a range of industries, but it would need further refinement to be used in a specific industry. It has been developed using the NRS descriptors in Appendix 2. It could also provide the basis for training materials in the non-endorsed Learning Strategies component of National Training Packages.

To develop this type of unit you will need a language and literacy person familiar with the NRS. A list of these people can be found in Appendix 4.

Adding Units of language, literacy and numeracy to standards:

UNIT	Basic Communications Skills for process worker (or industry appropriate position title)
ELEMENTS	PERFORMANCE CRITERIA
1 Reads short simple written materials to perform routine workplace duties.	1.1 Reads work signs/symbols/diagrams/ dials/charts from workplace. 1.2 Follows routine written instructions/procedures in sequence. 1.3 Reads notes/messages.
2 Locates specific information in written materials.	2.1 Identifies purpose of message/note. 2.2 Locates specific information relevant to purpose. 2.3 Interprets key information correctly.
3 Listens strategically to short simple spoken texts.	3.1 Listens for specific information. 3.2 Interprets meaning correctly. 3.3 Follows instructions/procedures in sequence.
4 Asks and replies to simple questions about familiar workplace matters or personal matters.	4.1 Asks questions about simple routine workplace procedures. 4.2 Answers questions about simple routine workplace procedures.
5 Participates in discussion to clarify issues, solve problems or consolidate working relations.	5.1 Attends team meetings. 5.2 Expresses own opinions and listens to those of others.
6 Completes relevant documentation requiring personal or factual information.	6.1 Completes a range of forms requiring autobiographical data. 6.2 Completes a range of forms about routine duties.
7 Counts and measures using simple instruments graduated in familiar units.	7.1 Carries out a range of routine measurements. 7.2 Uses prior experience and estimation skills to check reasonableness of measurements.

RANGE OF VARIABLES

Types of written material to be read include instructions, symbols, signs, tables, simple graphs, personnel information, safety material, phone numbers, dockets with customer details.

Forms to be completed may include personnel forms, telephone message forms, safety reports, shift reports.

Materials required to be read or listened to should be short, phrased in simple sentences, and contain vocabulary familiar to the intended reader.

When writing short notes on forms the writer conveys overall meaning even if grammar and spelling is not 100% accurate.

May need examples of standardised forms or reports to work from.

May seek clarification by asking for repetition and rephrasing.

May speak slowly and repeat or rephrase utterances for clarification.

Communication is made easier if all participants are sympathetic to language demands of the interaction.

Communication is assisted by use of body language, dictionaries, or supportive peer.

EVIDENCE GUIDE

Assessment tasks reflect workplace requirements.

A range of techniques should be considered for assessment: these may include direct observation of on the job performance, third party observation, third party reports, practical tasks, projects, written/oral questioning and simulation.

Assessment should not be on a one-off basis. Assessees must be given a number of opportunities to demonstrate competence.

A language, literacy and numeracy specialist who is experienced with the NRS can employ the detail of the full NRS document. The sections of the NRS can be used in the following way:

STREAM	
FIELD	
UNIT	Industry determined (Could use Indicators of Competence)
ELEMENTS	PERFORMANCE CRITERIA
Indicators of Competence Sample Activities	Features and Performance Strategies Sample Activities
RANGE OF VARIABLES	
Features and Performance Strategies Workplace and Social Contexts Conditions of Performance	
EVIDENCE GUIDE	
Sample Activities Assessment Principles	

As the NRS is based on assessment principles which ensure validity, reliability and fairness, these principles must also be embodied in any unit of competency developed from the NRS. Appendix 2 contains a version of these assessment principles suitable for use in National Training Packages. Using or adapting these statements when writing the evidence guide section of units will contribute to the development of sound assessment guidelines.

Good News Tribune

Literacy training saves 10 jobs

In a move that has pleased unions, employees and international markets, a medical manufacturer has retrained existing staff for work on a new product.

The Sydney based manufacturing company won a US contract for a new suture manufacturing process.

The new process required multi-skilled workers capable of documenting quality assurance checks. However, the majority of workers on the company's old production line were women from non-English speaking backgrounds. They did not possess the communication skills necessary for participation in the demanding new work environment.

Rather than replace the existing workers, the company chose to include language and literacy training in a retraining program for the new manufacturing process.

Language and literacy inclusive training provided workers with the skills necessary for redeployment.

The identification of language and literacy skills required for the new process, and their incorporation in a targeted training package, allowed the company to avoid redundancy and recruitment costs.

The success of the retraining program has allowed stringent US Quality standards to be met, securing the manufacturing contract.

2.2 LITERACY IN ASSESSMENT GUIDELINES

Assessment guidelines form the second endorsed component of National Training Packages. They describe the industry or industry sector's assessment system, and comprise:

- Assessment system overview;
- Assessor qualifications and training;
- Guidelines for designing assessment materials;
- Guidelines for conducting assessments; and
- Sources of information on assessment

Assessment guidelines must be written for each training package. These guidelines explain the assessment procedures to be followed when the competency standards are assessed.

The purpose of assessment is to confirm that an individual can perform tasks to workplace standards as expressed in the relevant endorsed competency standard. Assessment arrangements must ensure that assessments conducted in enterprise settings are valid, reliable, and fair to individuals. Assessment guidelines will be externally audited by State or Territory Training or Recognition Authorities in conjunction with industry organisations.

The NRS is based on assessment principles which ensure validity, reliability and fairness. Appendix 2 contains a version of these assessment principles suitable for use in National Training Packages. Statements along these lines should be included in the evidence guide sections of competency standards. They can then be drawn on when developing assessment guidelines to govern the assessment process.

Audits will focus on improving both the operation and outcomes of the assessment system and will consider issues related to 'fairness'. Addressing language, literacy and numeracy issues in the assessment guidelines will contribute to the 'fairness' of an assessment system. Language, literacy and numeracy issues are also relevant to appeal and reassessment processes which must be included in the assessment guidelines.

Once language, literacy and numeracy are explicit in industry standards they must be taken into account as part of the assessment process. The aim is not to assess the reading, writing and numeracy skills of individuals, but to ensure that people are able to perform workplace tasks. To be assessed fairly, the language, literacy and numeracy requirements of the workplace should not be overstated or under-rated during the assessment process. Assessment guidelines therefore need to be written clearly with due regard for language, literacy and numeracy issues.

A group of workers were given first aid training using a First Aid Certificate. The course had a higher than expected failure rate. Students repeating at their own expense, could not understand where they went wrong. Using the National Reporting System, the teachers examined the language, literacy and numeracy demands of the first aid work, the course materials and the assessment.

Through this process they identified a major difficulty. The language, literacy and numeracy skill level of the first aid work and the course delivery was approximately NRS Level 3. However, the assessment task was NRS Level 4, meaning that the assessment required participants to have more developed language, literacy and numeracy skills than they would need to perform the work.

It was decided that the course had been delivered at a level appropriate for the first aid work and for most of the students. The process had shown that the assessment tasks needed to be redeveloped in line with the language, literacy and numeracy level of the work tasks.

This example illustrates the dangers of poorly designed assessment tasks which do not reflect the true language, literacy and numeracy requirements of the job. Carefully developed assessment guidelines can help to avoid such discrepancies between workplace requirements and assessment tasks.

INCLUDING LANGUAGE, LITERACY AND NUMERACY IN YOUR ASSESSMENT GUIDELINES

Assessment guidelines should capture the general principles of valid, fair and reliable assessment. The evidence guide of a well-written standard will provide information for designing and conducting appropriate assessment tasks for that unit.

One: Assessment system overview

This section of the guidelines identifies the unit or units to which the guidelines refer and summarises the guidelines' contents. Specific language, literacy and numeracy issues can most effectively be included in sections two to five.

Two: Assessor qualifications and training

This section of the guidelines provides an outline of the qualifications required for assessors and the ways in which these requirements can be met.

The focus of assessment is on competence in the workplace. When language, literacy and numeracy inclusive standards are used as the criteria for judgement, assessors must be capable of interpreting the language, literacy and numeracy requirements of the standard. To ensure that this is the case, the assessment guidelines should require that assessors have completed a unit of language, literacy and numeracy awareness. (See Professional Development component.)

When competency standards and assessment tasks have been

properly developed, assessors with this training who meet the requirements of Workplace Assessor 2 should be able to assess job performance without specialist intervention.

However, when the unit to be assessed is purely a language, literacy and numeracy unit, or in cases involving an appeal related to language, literacy and numeracy criteria, you will need to consult a specialist. The language, literacy and numeracy specialist used in these instances should be experienced in working with adult learners with language, literacy and numeracy difficulties.

Where necessary a formal partnership arrangement may be established between the enterprise or industry and a qualified language, literacy and numeracy provider or consultant. This arrangement allows the responsibility for training, assessment, credentialling and quality assurance to be shared between the industry and the provider.

Summary:
This section of your assessment guidelines should include:
* language, literacy and numeracy awareness requirements of assessors;
* situations which will require specialist intervention;
* criteria for selecting a specialist when required; and
* partnership arrangements which may be used for assessment.

Three: Guidelines for designing assessment materials
When assessors have participated in language, literacy and numeracy awareness programs, as outlined in section two, they will be in a stronger position to design assessment materials which are valid, fair and reliable.

Assessment tasks should focus on performance in the workplace and be guided by the competency standards. Where language, literacy and numeracy have been addressed in the standards, the evidence guide will provide direction for the design of appropriate assessment materials.

To be fair, assessment methods must allow all assessees the opportunity to demonstrate competence. A variety of evidence gathering methods could be included in the assessment materials. These include workplace performance, simulation, role-play, presentations, reports, and questioning. The method chosen for each assessment task must take into account the language, literacy and numeracy skills of both the assessee and assessor.

The language, literacy and numeracy required for performing an assessment task should always mirror the language, literacy and numeracy requirements of the workplace task being assessed. If performance of the workplace task requires minimal language, literacy and numeracy, it would be inappropriate to select an assessment method which draws heavily on language, literacy and numeracy skills, such as producing a written report.

Where language, literacy and numeracy competencies are central to the workplace task being assessed, it would be appropriate for the assessment task to draw on language, literacy and numeracy. It is in these instances that a language, literacy and numeracy specialist can be consulted to ensure that the assessment task is appropriate, ie that only those language, literacy and numeracy competencies required in the workplace are assessed.

To judge the difficulty of language, literacy and numeracy embedded in specific workplace tasks and assessment materials, a specialist may use sections of the National Reporting System. The Language and Literacy Features and Performance Strategies sections provide information that can assist this process.

Summary:
This section of your assessment guidelines should take into account:
*   language, literacy and numeracy requirements of workplace tasks identified in the standards;
*   assessment methods that reflect the language, literacy and numeracy requirements of the task;
*   the need for specialist assistance to design assessments for language, literacy and numeracy units; and
*   resources available, such as the National Reporting System.

Four: Guidelines for conducting assessments

For the assessment process to be fair the assessee must understand the requirements and expectations of the assessment. It is necessary to include procedures for informing the assessee in the assessment preparation process. If the person to be assessed speaks little English, an interpreter may be required to explain the purpose and method of assessment.

In some cases it is not possible to design assessment tasks with language, literacy and numeracy requirements identical to those required on the job. This is particularly true when the workplace task must be simulated due to danger or cost, for example, responding to a chemical spill. In these instances understanding the assessment task will require language, literacy and numeracy competence at a higher level than the real workplace task. Assessees must be provided with the assistance they need to understand the task. This may require a translator for some assessees, or oral questioning, rather than a written test, for others.

As identified in section three, if assessment is to properly reflect the competence requirements of workplace tasks it should be conducted in a way that will reflect the realities of the workplace. Assessees who have access to support materials, such as dictionaries, calculators, or recourse to another language, in their workplace role should also have access to those support materials during the assessment process.

At the conclusion of the assessment, assessees must be provided with feedback. Consideration needs to be given to the best means of informing assessees of their assessment results. The language, literacy

and numeracy skills of assessees will influence the choice of feedback methods. Obviously it is inappropriate to give someone with poor literacy only a written report of their assessment.

Assessors will need language, literacy and numeracy awareness, as identified in section two, to provide effective feedback, especially on tasks that involve language, literacy and numeracy skills.

Language, literacy and numeracy must also be considered in the design of appeal and reassessment processes. As with the provision of information on assessment procedures, translators or other particular methods may be necessary to inform assessees of the appeal process.

Summary:
This section of your assessment guidelines should take into account:
- language, literacy and numeracy considerations for informing assessees about assessment procedures;
- processes to ensure all assessees understand the assessment tasks;
- support materials which may be required by some assessees;
- language, literacy and numeracy considerations for selecting feedback methods; and
- language, literacy and numeracy considerations for informing assessees about appeal and reassessment processes.

Five: Sources of information on assessment
In this list of resources and organisations relevant to assessment it may be useful to include sources which will assist with the inclusion of language, literacy and numeracy. The following sources could be drawn on when developing guidelines for the development and conduct of workplace assessment:

Coates, S. et al *National Reporting System.* Melbourne Victoria, Australian National Training Authority and Department of Employment, Education and Training: 1995.
This document builds on the National Framework by maintaining the six Aspects of Communication, and outlining five levels of competence in each type of communication (reading, writing, etc). A fundamental characteristic of the NRS is its attempt to capture the complexity of communication and computational skills. People should not be assumed to be at any given general level. It is to be expected that a person's competence will differ across modes of communication.

Mikulecky, L. and Lloyd, P. *Evaluation of Workplace Basic Skills Programmes.* Stanmore NSW, Adult Literacy and Basic Skills Action Coalition: 1993.
This paper is one in the focus series of occasional papers in adult basic education published by ALBSAC. The authors claim that to evaluate workplace basic skills programs effectively, two types of evaluation are desirable - formative evaluation and summative evaluation. Formative evaluation takes place during beginning and middle stages of program operation and seeks the views of all participants on the goals, resources, instructional process, and impact of the program, in order to

detect discrepancies likely to impair program effectiveness. Summative evaluation usually takes place at the end of a program and is designed to assess how well the program has succeeded. This paper describes how·to conduct both formative and summative evaluations, how to assess learner gains, how to assess family literacy changes and how to measure improvements in productivity.

Sticht, Thomas G. *Workplace Literacy Programs : Resources for Program Design, Assessment, Testing and Evaluation.* El Cajon California, USA, Applied Behavioural and Cognitive Sciences: 1995. This US report aims to provide information on the design and evaluation of workplace literacy programs, and an overview of concepts about the nature, uses and abuses of standardised tests in program evaluation and accountability. It does not aim to be a 'how-to' guide but discusses concepts and issues and provides bibliographic resources for those readers who want to learn about designing, developing and evaluating workplace literacy programs.

Toop, L. Gibb, J. and Worsnop, P. *Assessment System Design.* Canberra, Australian Government Publishing Service: 1994. This guide provides design options for developing assessment systems. It discusses the factors that influence how an assessment system can be designed to meet the needs of particular organisations. It provides a stocktake of assessment systems operating in industry, identifying common issues faced by industry in developing these systems and gives ten examples of good practice.

For information on the availability of these resources, contact: Language Australia—ARIS, Box 372F, MELBOURNE 3001, 03 9614 0255.

Bad News Daily

Costs add up for builder

A suburban home-owner was left scratching his head today when he learned that window and door openings had been incorrectly positioned for his new second story extension.

The mistake was discovered by the site foreman when he inspected the extension's completed timber frame.

Responsibility for setting out stud spacings had been given to a second year apprentice. Although the job was a simple one, the apprentice had not been able to accurately interpret elevations on the building plan.

When questioned further it became apparent that he was incapable of basic addition or subtraction to determine the correct position for the windows and doors.

Through his poor literacy and numeracy skills, one worker has delayed work on the extension and created additional work for the whole construction team.

2.3 LITERACY IN NATIONAL QUALIFICATIONS

As the third endorsed component of National Training Packages, National Qualifications are defined in accordance with the Australian Qualifications Framework. The AQF is presently being redeveloped to provide qualifications guidance to the education sector. It will then be used to align 'packages' of competencies, which are combinations of units of competency.

This means that an achieved unit, rather than being an isolated, industry-specific unit, will form part of nationally recognised qualifications. These alignments will allow portability of qualifications across the National Training Framework. Nationally recognised qualifications from workplace training, RPL and on-the-job assessment provide for greater workforce flexibility, training pathways and skills transfer.

Accredited language, literacy and numeracy curriculum and the National Reporting System have been aligned to the Australian Qualifications Framework. As packages of units of competency will be aligned to the AQF, these alignments will be useful for identifying the language, literacy and numeracy tasks which complement packages at particular AQF levels.

Good News Tribune

Language training increases production

English language training at a cardboard manufacturing factory has provided workers with new skills to increase their productivity.

Prior to the training, one machine operator had trouble accurately reading his job sheets.

To avoid the wastage and costly delays caused by incorrect interpretation of job specifications, the operator spent approximately twenty minutes each day seeking clarification from his foreman.

During workplace training a language trainer helped the operator improve his understanding of job-sheet vocabulary. He also increased his ability to decipher handwriting and speak clearly on the telephone.

Providing the machine operator with communication skills necessary for interpreting job-sheets has reduced downtime and increased output for his machine.

After taking all other factors into account, the foreman's calculations show that improving one operator's English language skills has resulted in a two percent productivity increase on his machine.

SECTION 3

NATIONAL TRAINING PACKAGE

NON-ENDORSED
COMPONENTS

3.1 LITERACY IN THE LEARNING STRATEGY

The Learning Strategy component is the first of the non-endorsed components of National Training Packages. It provides information on how training packages may be organised in workplaces and training institutions.

A training program is a structured approach to the development and attainment of competencies for a particular AQF qualification to meet the requirements of the endorsed components of National Training Packages.

Existing training programs will need to be reviewed in the light of these changes. Future learning strategies will need to:
- be based on relevant industry competency standards; and
- tie assessment to the demonstration of industry competencies.

The Learning Strategy component may include three sections:
- Qualification Pathways;
- Model Training Programs; and
- Training Materials.

QUALIFICATION PATHWAYS

The Learning Strategy component of a National Training Package identifies one or more pathways to the achievement of AQF qualifications. Appendix 3 lists the major language, literacy and numeracy curriculum documents which have been aligned to the National Reporting System. This relationship may be helpful when possible qualification pathways are being developed for individual employees who have undergone, or need to undergo, language, literacy and numeracy training.

MODEL TRAINING PROGRAMS

Model Training Programs will provide industry guidance to Registered Training Organisations on recommended training approaches for a specific training program.

Model Training Programs may include such information as:
*   Training Plans. These can include sets of core and elective training modules and information about how to structure a training program. Training plans might also specify advice about delivery of training to particular client groups. This could include training to develop underpinning language, literacy and numeracy skills, and appropriate assessment guidelines.
*   Assessment strategies based on, and consistent with, the industry's endorsed Assessment Guideline.
*   Lists of training materials, eg trainer guides, flexible delivery materials, and guidance for workplace mentors.

A range of approaches can be adopted in developing Model Training Programs.

Approach 1: Training Program based on modules, which have been broadened to fully encompass competency standards

This approach has the advantage of allowing industries to select core modules and alternatives to accommodate their specific requirements. It is useful when there is a need for an extensive body of knowledge or underpinning skills, such as language, literacy and numeracy skills, to support the development of competencies.

The NRS is a resource which facilitates just such a flexible approach to the development of language, literacy and numeracy modules for inclusion in the Learning Strategies section of National Training Packages. It can be used for identifying and packaging language, literacy and numeracy competences into training materials to meet the needs of particular industries. Appropriate competencies from the NRS (listed in Appendix 2) could be selected according to the needs of the client and packaged into modules. A language, literacy and numeracy specialist who is familiar with the NRS, and the industry for which the package is relevant, should be employed to develop such modules.

The following modules have been developed from NRS competences to demonstrate how these may be used.

Module for Warehouse Storemen (at AQF level 1) designed to develop underpinning language, literacy and numeracy skills:

Workplace Reading

Reads short simple written materials to perform routine workplace duties, eg simple instructions, notes and messages, work signs, symbols, and diagrammatic information.

Locates specific information in written materials, eg docket information.

Workplace Writing

Completes relevant documentation requiring personal or factual information, eg job sheet, phone message sheet, personnel form.

Workplace Oral Communication

Listens strategically to short simple familiar spoken communication.

Asks and replies to simple questions about familiar workplace matters or personal details, eg responds to unproblematic enquiries from customer/supplier.

Workplace Numeracy

Locates relevant mathematical information in routine work tasks.

Selects and uses straightforward mathematical actions, eg calculates with time, money, simple fractions, decimals, and percentages.

Uses estimation skills to check reasonableness of calculations.

Uses maths language and symbols to communicate, eg spoken and written forms.

Hospitality module focussing on waiting skills designed to develop underpinning workplace communication:

Practical experience: Front of house 60%

Workplace Reading

Reads short simple written materials to perform routine workplace duties, eg menu items, simple instructions, notes and messages, and work signs and symbols such as safety signs.

Locates specific information in written materials, eg particular item on menu list, own name on a roster or pay slip, customer name on list of bookings.

Workplace Writing

Completes relevant documentation requiring personal or factual information, eg job sheet, phone message sheet, personnel form, in-house order form for kitchen.

Workplace Oral Communication

Asks and replies to simple questions about familiar workplace matters or personal details, eg responds to unproblematic enquiries from customer, gives opinion on new roster arrangements, participates in job interview or appraisal.

Gives short spoken instructions of one or two steps, eg passes on specific request from customer to kitchen staff.

Participates in discussion to clarify issues, problem solve or consolidate working relations, eg assists with solving a technical problem in the workplace, deals with complaint, participates in informal conversation with customer or fellow worker.

Listens strategically to short simple familiar spoken communication, eg follows short spoken instructions of one or two steps, listens to customer request in order to make suggestions.

Workplace Numeracy

Locates relevant mathematical information in routine work tasks.

Selects and uses straightforward mathematical actions, eg calculates with time, money, simple fractions, decimals and percentages.

Uses prior experience and estimation skills to check reasonableness of calculations.

Assessment: role play of waiting situation.

Alternatively, currently accredited language, literacy and numeracy curriculum may be used to support the learning strategies. The advantage of using existing Communication Skills Modules or language, literacy and numeracy curriculum packages is that these are known to practitioners in the field. They are written in generic terms which can be customised to meet industry needs, although they will have to be reviewed to ascertain whether they match competency statements. Major curriculum documents have been aligned to the NRS (Appendix 3), so if competency statements are written using the NRS, curriculum is available to support them.

> If you decide on this approach, you should consult a language, literacy and numeracy practitioner to talk through your requirements. Most packages cover a broad range of language, literacy and numeracy activities. It may not be necessary to take on all modules to meet a particular industry's requirements. A language, literacy and numeracy practitioner who is familiar with a range of curriculum documents can assist with this fine tuning.

Approach 2: Training Program Based On Regular Work Activities.

With this approach competencies can be achieved through regular work activities. In these cases training programs need to be well defined in relation to the competency standards, so competencies, including underpinning skills and knowledge requirements, are achieved. Such a training program may be based on systematic job rotation, or the use of flexible delivery materials. There is also scope for incorporating off-the-job training.

Workplaces may employ a language, literacy and numeracy practitioner as an enterprise teacher or in an independent learning unit. This practitioner is then available to support employees who are training, supervising and assessing other workers.

Approach 3: Training Program Based on Self-Study Materials.

This approach uses various types of flexible delivery materials, rather than a face-to-face training program. Before embarking on a training program to be delivered mainly in this mode, it would be worthwhile to determine the independent language, literacy and numeracy skills and learning strategies of potential participants.

If the training programs are for employees working in jobs which traditionally require low levels of education, or which traditionally employ significant numbers of people from non-English speaking backgrounds, adequate support for emplyees must be provided.

TRAINING MATERIALS

The Learning Strategy may also incorporate a range of training materials for use by trainers, teachers, trainees, supervisors, or mentors. Existing curriculum materials could be adapted for inclusion in the Learning Strategy section of National Training Packages, but these will need to be reviewed to ensure they relate directly to competency standards and that assessment is tied to demonstration

of those competencies. There must also be a clear relationship with industry competencies and wider qualification pathways.

Training materials might be developed to complement the changed emphasis of Training Packages in the following ways:

- Modules may be developed to match (one-to-one) particular competencies. Given the numbers of competency standards likely to be developed, this may be an inefficient approach in the long run.

- Materials may be developed to extend the language, literacy and numeracy skills which apply across a range of competency units. This guide has demonstrated the importance of language, literacy and numeracy in achieving workplace goals across a range of industries and in competency units where the emphasis is on technical skills as well as workplace communication. Core language, literacy and numeracy competencies were identified and developed in the NRS project (see Appendix 2). These nationally consistent generic competencies could form the basis of training materials which apply across a range of competency units. The assessment of competencies based on generic language, literacy and numeracy skills could be closely tied to competency standards developed using the NRS, as described in Section 2.1.

3.2 LITERACY IN ASSESSMENT MATERIALS

Assessment Materials is the second of the non-endorsed components of National Training Packages. It provides information for assessors for making judgements on whether competency has been attained.

Resources can include:
* observation schedules;
* simulation activities;
* practical projects;
* demonstrations;
* individual projects;
* written/oral tests;
* portfolios.

These might comprise a set of assessment materials covering all units of competency in a training package, a bank of assessment materials from which assessors select as appropriate, or exemplar materials to be used as models.

To support the use of the NRS for assessment, DEETYA has funded an ANTA Adult Literacy National Project to:
* develop and trial a model for the development of assessment materials for language, literacy and numeracy competencies consistent across a multiple range of learning sites within the vocational education and training sector;
* produce assessment materials which will include guidelines, principles and exemplars benchmarked to the NRS;
* improve the reliability, validity and fairness of language, literacy and numeracy assessments, directly and as part of integrated vocational training and workplace training.

This project will be undertaken by Language Australia, and will commence in April 1997. It is due to be completed by the end of September 1997. The product of this project will provide Assessment Materials for language, literacy and numeracy based on the NRS suitable for National Training Packages.

3.3 Literacy in Professional Development Materials

Professional development materials may include:
- information for trainers on National Training Package components;
- professional development resource materials; and
- reference to other related professional development materials.

ONE: INFORMATION ON TRAINING PACKAGE COMPONENTS

This information explains the components of specific training packages. It should be developed from general ANTA materials, covering the National Training Framework, National Training Packages, and the Modern Australian Apprenticeship and Traineeship System.

TWO: PROFESSIONAL DEVELOPMENT RESOURCE MATERIALS

These materials are to be developed as industry-specific professional development resources which will aid the smooth implementation of National Training Packages. Language, literacy and numeracy awareness training should be included in professional development packages for trainers, supervisors and mentor guides, as it is for assessors and assessment designers.

Participation in a language, literacy and numeracy awareness program is essential for those who need to develop fair assessment tasks, administer assessment, and those who need to communicate results and provide feedback to assessees. This will be particularly important when the learning strategy selected is on-the-job training. In these instances workplaces may elect to employ a language, literacy and numeracy practitioner as a staff member, or use a consultant in training and professional development, to provide support for the training and assessment process.

Appendix 5 contains a list of industry relevant resources which can assist the development of appropriate professional development. These resources can be included in section three of the Professional Development Materials component of your training package.

THREE: REFERENCE TO OTHER RELATED PROFESSIONAL DEVELOPMENT MATERIALS

This section should contain a list of broad professional development materials which will be a useful starting point for National Training Package developers. Many resources developed by the National Staff Development Committee are suitable for this purpose. A starting point for developing a resource list is provided in Guidelines for Training Package Developers (endnote 12) in the section on Professional Development Materials.

The list of resources in Appendix 5 would be a useful addition to your list of professional development materials. These resources focus on identifying and addressing language, literacy and numeracy needs in the workplace.

END NOTES

1 Coates S, et al *The National Reporting System*. Melbourne, Australian National Training Authority and Department of Employment, Education and Training: 1995.

2 Dawkins J, *Australia's Language: The Australian Language and Literacy Policy*. Australian Government Publishing Service, Canberra: 1991.

3 Pearson G, *More Than Money Can Say: the impact of ESL and literacy training in the Australian workplace*. Department of Employment, Education, Training and Youth Affairs: 1996. Available from ARIS, GPO Box 372F, Melbourne Victoria 3001.

4 Good and bad news stories have been documented by language and literacy practitioners working in industry settings throughout Australia.

5 Pearson G, *More Than Money Can Say: the impact of ESL and literacy training in the Australian workplace*. Department of Employment, Education, Training and Youth Affairs: 1996.

6 Australian Committee for Training Curriculum *National Framework of Adult English Language, Literacy and Numeracy Competence*. Frankston Victoria, ACTRAC Products Ltd: 1993.

7 Gibb, J; Keenan, M and Solomon, N; *Literacy at Work : Incorporating English Language and Literacy Competencies into Industry/Enterprise Standards*, Australian Language and Literacy Council: 1996.

8 Australian National Training Authority *Guidelines for Training Package Developers*. Melbourne, ACTRAC Products Ltd: 1997.

9 Australian National Training Authority *Standards Best Practice Manual*. Melbourne, ACTRAC Products Ltd: 1997.

10 This is the approach suggested in *Literacy at Work, op. cit.*

11 Forest and Forest Products Employment Skills Company Ltd *National Industry Competency Standards for the Manufacturing and Merchandising Sector of the Forest Industries*. Nunawading Victoria: 1995, page 74.

12 Mullins S. *Options Paper for Incorporating Language, Literacy and Numeracy Skills in Competency Framework for Main Roads*, Queensland: 1996. (unpublished)

13 Australian National Training Authority *Guidelines for Training Package Developers*. Melbourne, ACTRAC Products Ltd: 1997.

APPENDIX 1: OVERVIEW OF AQF LEVELS

AQF 1
Demonstrate knowledge by recall in a narrow range of areas.
Demonstrate basic practical skills such as the use of relevant tools.
Perform a sequence of routine tasks given clear direction.
Receive and pass on messages.

AQF 2
Demonstrate basic operational knowledge in a moderate range of areas.
Apply a defined range of skills.
Apply known solutions to a limited range of predictable problems.
Perform a range of tasks where choice between (sic) a limited range of options is required.
Assess and record information from varied sources.
Take limited responsibility for own outputs in work and learning.

AQF 3
Demonstrate some relevant theoretical knowledge.
Apply a range of well developed skills.
Apply known solutions to a variety of predictable problems.
Perform processes that require a range of well-developed skills where some discretion and judgement is required.
Interpret available information using discretion and judgement.
Take responsibility for own outputs in work and learning.
Take limited responsibility for the outputs of others.

APPENDIX 2: EASY REFERENCE TO THE NATIONAL REPORTING SYSTEM

Items in the following lists have been drawn from various sections of the National Reporting System. The statements are useful for developing or adding to standards documents, but are not intended to be an exhaustive list.

Statements are sorted by AQF level and can be used in standards aligned to the AQF at corresponding levels. However, it should be remembered that workplace roles may require some literacy skills at one level and others at a higher level. For example, a receptionist may require oral communication skills at AQF 3 but numeracy skills at AQF 1.

Select from the list as appropriate for your particular industry and workplace needs.
Items in Parts A can be used as Unit statements, Elements, Performance Criteria, or Evidence Guide. They are divided into reading, writing, oral communication and numeracy tasks.
Items in Parts B can be used in the Range of Variables section. Following the guidelines in the Standards Best Practice Manual (Section 2, 3.5), they have been divided into statements which contextualise the competency.

Items in Part C apply to all AQF levels and can be used in the Evidence Guide to guide assessment.

AQF LEVEL 1

Part A - For use in Unit statements, Elements, Performance Criteria, Evidence Guides

Reading

Reads short simple written materials to perform routine workplace duties, eg simple instructions, notes and messages, work signs, symbols such as safety signs, diagrammatic information, safety materials, work instructions, and simple graphs and dials.
Locates specific information in written materials, eg locates own name on a roster or pay slip, locates chemical usage instructions on a label.

Writing

Writes short notes, eg dangerous machine to be fixed, informal note to jog memory, short instructions for fellow workers.
Completes relevant documentation requiring personal or factual information, eg job sheet, phone message sheet, personnel form.

Oral Communication

Asks and replies to simple questions about familiar workplace matters or personal details, eg enquires about eligibility for entitlement, participates in job interview or appraisal, responds to unproblematic enquiries from customer.
Gives short spoken instructions of one or two steps, eg explains workplace safety procedure to fellow worker.
Participates in discussion to clarify issues, problem solve or consolidate working relations, eg participates in a team meeting or union meeting, gives opinion on new roster arrangements, assists with

solving a technical problem in the workplace, participates in informal conversation with fellow worker.

Listens strategically to short simple familiar spoken communication, eg follows short spoken instructions of one or two steps, listens for own name on announcement.

Numeracy

Locates relevant mathematical information in a routine work task.

Selects and uses straightforward mathematical actions, eg calculates with time, money, simple fractions, decimals, and percentages; measures length, mass, capacity, time, temperature, using simple instruments graduated in familiar units.

Uses prior experience and estimation skills to check reasonableness of calculations.

Uses maths language to communicate, eg spoken and written forms.

Part B - For use in Range of Variables statements

Materials

Types of written materials to be read include: instructions, symbols, signs, tables, simple graphs, personnel information, safety material, phone numbers, dockets with customer details.

Materials to be read or listened to should be short, phrased in simple sentences, and be familiar to the intended reader.

Types of materials to be written include: short reports, instructions, notes, job sheets, phone messages, workplace forms requiring autobiographical data, personal contact information details.

If writing a report or providing information, completing a simply laid out form by 'tick the box' etc, may be more appropriate than open ended questions such as describe, or explain.

Mathematical tasks draw on simple and familiar data.

Support

May need examples of standardised forms or reports to work from.

Asks questions, asks for repetition, repeats or rephrases for clarification.

Communication is made easier if all participants are sympathetic to language demands of the interaction.

Communication is assisted by use of body language, dictionaries, or supportive peer.

May need calculator or pen and paper for simple calculations.

Underpinning knowledge

When writing short notes the writer conveys overall meaning even if grammar and spelling are not 100% accurate.

Uses symbols and diagrams relevant to mathematical knowledge in written records.

Uses prior experience and estimation skills to check reasonableness of calculations.

AQF 2

Part A - For use in Unit statements, Elements, Performance Criteria, Evidence Guides

Reading

Reads written materials such as manuals and sets of complex instructions and uses information to successfully complete a defined task.

Compares and contrasts written materials with different viewpoints and assesses for relevance, accuracy, bias and completeness.

Reads complex graphics, charts or diagrams to solve a workplace problem.

Writing

Writes reports, formal letters, memos, notices and notes, eg clear detailed instructions organised sequentially to complete a defined workplace task, writes a report which summarises a number of interpretations, and states and justifies own conclusion, maintains workplace records as required.

Writes in keeping with the demands placed on the writing style by the audience and the purpose of the communication, eg prepares brief report for management meeting outlining pros and cons of specific proposal, takes sufficiently detailed notes at staff meeting for others to read and understand, writes to customers using enterprise style guidelines.

Oral Communication

Participates in discussion to clarify issues, problem solve or consolidate working relations, eg participates in a team meeting or union meeting, assists with solving a technical problem in the workplace, participates in informal conversation with fellow worker. Answers complex enquiry from customer/client.

Gives formal or informal presentation on new procedures to colleagues.

Listens for main ideas and supporting details, eg in formal training program, management meeting.

Numeracy

Selects and investigates appropriate mathematical information and relationships embedded in a task.

Selects from and applies an expanding range of maths strategies to solve problems, eg applies formulae and interprets results relevant to familiar workplace situation.

Examines and questions the appropriateness and implications of calculations.

Uses a range of maths language to communicate mathematically, eg spoken and written forms, presents information in table.

Part B - For use in Range of Variables statements

Materials

Types of written materials to be read include: technical information, manuals, reports.

Types of materials to be written include: reports, letters, instructions, notes, job sheets, open-ended workplace forms requiring explanations or descriptions, minutes of meetings.

Support

Asks for assistance and/or clarification if necessary.

Underpinning knowledge

Chooses appropriate style of writing for purpose and audience.

Writing is organised in a logically coherent way with supporting information used appropriately.

Uses technical and other vocabulary as appropriate.

When discussing issues and problem solving, uses negotiating strategies to clarify understanding, and makes constructive additions to what has been said.

When listening or reading, integrates pieces of related information to draw own conclusion about a familiar matter.

Selects appropriately from a number of strategies and sources to complete a task.

Uses straightforward mathematical actions, eg uses a calculator to calculate with fractions, decimals, and percentages, presents data in graphs and tables, uses formulae to describe relationships between variables, applies ratio and proportion in familiar situations, converts between metric units, uses angle properties, symmetry and similarity.

Uses prior experience and estimation skills to check reasonableness of calculations.

Uses maths language relevant to maths knowledge to communicate.

AQF 3

Part A - For use in Unit statements, Elements, Performance Criteria, Evidence Guides

Reading

After reading a number of different sources, evaluates content drawing on own knowledge and experience and synthesises into coherent response, eg develops new procedure for operating machinery.

Reads a complex article, identifying misleading information and underlying purpose, and evaluates critically.

Uses and adapts complex graphics, charts or diagrams to distil relevant information.

Writing

Writes reports, formal letters, memos, notices and notes where precise meaning and subtlety is required, eg an incident report or minutes of a complex meeting.

Writes in keeping with the demands placed on the writing style by the audience and the purpose of the communication, eg prepares report for management meeting giving reasons for recommending particular proposals over others, takes sufficiently detailed notes at staff meeting to inform others, writes using enterprise style guidelines.

Oral Communication

Participates in discussion to clarify issues, problem solve or consolidate working relations, eg negotiates with a work group and suggests different ways of performing tasks, participates in informal conversation with fellow worker.

Takes part in complex spoken exchange, eg formal job interview with interview panel, answers complex enquir or complaint.

Gives formal or informal presentation on new procedures to colleagues, answering questions and providing supporting material to emphasise points.

Listens to a long spoken presentation and evaluates critically, eg takes notes and provides feedback at a training session.

Numeracy

Interprets, selects and investigates appropriate mathematical

information and relationships embedded in a task.

Selects from and applies an expanding range of maths strategies to solve problems across a broad range of contexts, eg applies formulae and interprets results relevant to familiar workplace situation.

Analyses and evaluates the appropriateness and implications of all aspects of mathematical activity.

Uses a range of maths language to communicate mathematically, eg spoken and written forms.

Part B - For use in Range of Variables statements

Materials

Types of written materials to be read include: material which contains multiple or hidden meanings, complex technical information, reports.

Types of materials to be written include: reports, letters, instructions, notes, job sheets, open-ended workplace forms requiring explanations or descriptions, minutes of meetings.

Support

Defines and seeks out any support required.

Underpinning knowledge

Uses a variety of words and grammatical structures accurately to achieve precise meaning and subtlety.

Selects writing or speaking style from a range, as appropriate for audience and purpose.

Gathers, selects and organises information effectively by defining information requirements before and during research.

Selects and accesses information, and identifies misleading or irrelevant information for purpose, in order to complete an activity.

Uses language to plan and influence others.

Selects and uses straightforward mathematical actions, eg uses specialised calculator functions, eg trigonometry, presents data in graphs and tables, interprets analyses and describes statistical information, uses common conventions of algebra, applies ratio and proportion in familiar situations, converts between metric units, uses angle properties, symmetry and similarity.

Uses prior experience and estimation skills to check reasonableness of calculations.

Uses maths language relevant to maths knowledge to communicate.

Part C - For use in Evidence Guides at all AQF levels

Assessment tasks should mirror the requirements of workplace tasks being assessed.

A range of techniques should be considered for assessment. These may include direct observation of on-the-job performance, third party observation, third party reports, practical tasks, projects, written/oral questioning and simulation.

Assessment should not be on a one-off basis. Assessees must be given a number of opportunities to demonstrate competence.

Instructions for assessment tasks should be clear, explicit and ordered.

Assessees must know what is expected, and the criteria by which they will be judged.

Time allowed to complete a task should be reasonable and specified, and should reflect the normal time-frame of the workplace.

Appropriate reference materials should be available during assessment, eg personal word lists, dictionaries, calculators.

APPENDIX 3: STATES ACCREDITED CURRICULUM ALIGNED TO THE NRS

Name of Curriculum	Translation Statement available from:
2212AAC Certificate II in English for Vocational Education and Further Study (CEVEFS)	*Service Industries Curriculum Maintenance Manager* *Western Melbourne Institute of TAFE* *PO Box 197 FOOTSCRAY VIC 3011*
Certificates of General Education for Adults (CGEA) Reaccredited 1996 2100 LIG & 2100 LIH	*Language Australia—ARIS* *Level 9, 300 Flinders St.* *MELBOURNE VIC 3000*
Certificate in General Education Level 3	*Senior Project Officer* *Northern Territory Employment and Training Authority* *GPO Box 4821, DARWIN NT 0801*
Certificate of Vocational Access (CNL03)	*Acting Manager* *Access and Language Curriculum Consortium,* *Barrier Reef College of TAFE* *TOWNSVILLE QLD 4810*
Certificate in Adult Foundation Education (CAFE) Certificate in English for Speakers of Other Languages (CESOL) Certificate in English for Employment (CEFE)	*Foundation Studies Training Division* *NSW TAFE Commission* *P O Box 515* *BLACKTOWN NSW 2148*
Certificate I in Spoken and Written English (CSWE I) Certificate II in Spoken and Written English (CSWE II) Certificate III in Spoken and Written English (CSWE III) Certificate IV in Spoken and Written English (CSWE IV)	*Program Support and Development Services* *NSW AMES* *PO Box 1222* *DARLINGHURST NSW 2010*
Certificate in Adult General Education (CAGE)	*Faculty of Communication & Community Services* *Canberra Institute of Technology* *GPO Box 826, CANBERRA ACT 2601*
Certificate III in Advanced English Proficiency (CAEP) Certificate I in Preparatory Education (CPE) Certificate II in Introductory Vocational Education (IVEC)	*Program Manager Human Services Cluster* *Para Institute of TAFE* *Elizabeth Campus* *Woodford Road* *ELIZABETH SA 5112*
Certificate 1 in Initial Adult Literacy (CIAL)	*McGlynn Educational Media* *PO Box 623* *OCEAN GROVE VIC 3226*
Advanced Communications Skills Course (CNACS)	*Morgan Williams Training Consultants* *PO Box 71, SCARBOROUGH QLD 4020*
Certificate I in Literacy and Numeracy (CNLI) Certificate II in Literacy and Numeracy (CNLII) Certificate III in Literacy and Numeracy (CNLIII)	*Program Support and Development Services* *NSW AMES, PO Box 1222* *DARLINGHURST NSW 2010*

APPENDIX 4: LANGUAGE, LITERACY AND NUMERACY SUPPORT SERVICES

During 1996 these organisations conducted ANTA funded professional development for language, literacy and numeracy practitioners on the National Reporting System. Contact them for referral to language, literacy and numeracy practitioners and further information on a range of professional development activities.

New South Wales	Peter Holden, Adult Literacy Information Office, 02 9716 3666
Victoria	Lynne Fitzpatrick, Language Australia, 03 9614 0255
South Australia	Rosemary Purcell, Department of TAFE, VET Division, 08 8226 3023
ACT	Nancy Veal, Canberra Institute of Technology, 06 207 4060
Western Australia	Jim Thompson, Adult Literacy Services Bureau, 09 239 8090
Northern Territory	Lee Skertchly, Northern Territory University, 08 8946 6661
Tasmania	Jenny Foster, Institute of Adult Education, 03 6336 2578
Queensland	Annette Carrigan, ITAB Liaison Project Officer, Training Queensland, 07 3247 9122

Training and information about the National Reporting System is available from:
Language Australia, Victorian Office, Box 372F, MELBOURNE 3001, 03 9614 0255.

Language Australia is developing a national register of language, literacy and numeracy practitioners who have completed professional development in the National Reporting System and who are available to assist industry with the requirements of National Training Packages.

APPENDIX 5: PROFESSIONAL DEVELOPMENT RESOURCES

For information on the availability of the following resources, contact:
Language Australia—ARIS, Box 372F, MELBOURNE 3001, 03 9614
0255.

Adult Literacy and Basic Skills Action Coalition *Thinking, Working,
Learning: A Guide to Developing Effective Communication Practices in the
Food Processing Industry*. Leichhardt NSW, New South Wales Food
Industry Training Council: 1995.
This kit aims to provide a detailed guide to a range of language,
literacy, numeracy and other communicative practices occurring in the
food processing industry. The guide covers topics such as general
definitions of communicative practices and the relevance of major
industry and education and training reforms. Sections include: an
overview of the food processing industry; industry trends and basic
skills development; language and literacy projects in the industry; and
resources and contacts.

Adult Literacy Information Office (NSW) and National Language and
Literacy Institute of Australia (Victorian Office) *National Reporting
System: Professional Development Kit*. Australian National Training
Authority and Department of Employment Education and Training:
1996.
Materials include video, overhead transparencies and presenter notes,
newsletters, and *Applying the NRS*. This collection of professional
development materials is suitable for self-study or group presentations,
and contains information about the development, structure and uses of
the National Reporting System.

Australian Committee for Training Curriculum *National Framework of
Adult English Language, Literacy and Numeracy Competence:
Professional Development Kit*. Frankston Victoria, ACTRAC Products
Ltd: 1993.
The kit models competency based curriculum by defining four learning
outcomes including designing language, literacy and numeracy
curriculum from the National Framework. The kit contains models to
support the application of the National Framework to a number of
settings, including the workplace.

Courtenay, M. and Mawer, G. *Integrating English Language, Literacy
and Numeracy into Vocational Education and Training : A Framework*.
Blacktown NSW, Technical and Further Education Commission,
Foundation Studies Training Division: 1995.
A Framework designed to assist those involved in the planning,
development and delivery of vocational education and training
programs. It consists of three sections. Section 1 looks at the general
context of developing a skilled workforce. Section 2 discusses
integration of English language, literacy and numeracy. Section 3
consists of principles and strategies for implementing English language,
literacy and numeracy in vocational education and training.

DETAFE South Australia *Just Step Forward.* Commonwealth Department of Industrial Relations and DETAFE South Australia: 1993.
This video information package has been developed jointly by the Commonwealth Department of Industrial Relations and the SA Department of Employment and TAFE. It aims to help workplaces introduce workplace language, literacy and numeracy classes designed to meet specific company and worker requirements. It examines four stages of action necessary for a successful training program - preparation, design, implementation and evaluation. The kit contains a video, a booklet, audio cassette, information and case studies, and State contacts.

Gibb, J, Keenan, M. and Solomon, N. *Literacy at Work: Incorporating English Language and Literacy Competencies into Industry/Enterprise Standards.* Canberra, Australian Government Publishing Service: 1996.
This project was funded by the Australian Language and Literacy Council to identify models for incorporating English language and literacy in industry competency standards. The project investigated the warehousing industry and recommended that any incorporation into standards be explicit. The model suggested by this project is being piloted within four ITABs by ANTA.

Gilding, N, Le Duff, G, Persson, M. and Zimmerman, J. *Workforce Literacy Training Package.* Adelaide, South Australian Department of Employment and TAFE and the Australian Council for Adult Literacy: 1993.
This training package is intended to provide practical and theoretical advice to providers of workforce literacy and to practitioners, in the development, delivery and evaluation of workforce literacy. These guidelines are not intended to provide a definitive approach to workforce literacy but a reference point for good practice. Topics covered include literacy skills audits, curriculum planning and evaluation and performance indicators. A substantial bibliography and a glossary of terms are included.

Jackson, E. (ed.) *Building Partnerships: TAFE and Industry : integrating English language, literacy and numeracy into training.* Sydney, Western Sydney Institute of TAFE, Foundation Studies Training Division: 1996.
This is a special issue of *Literacy Broadsheet,* a publication of the Adult Literacy Information Office of TAFE NSW. It focuses on how TAFE and industry can work together in integrating English language, literacy and numeracy into training. It is a collection of short articles and lists of relevant information and contacts. Articles address a range of issues, including: changes in the VET sector; the importance of English language, literacy and numeracy in VET; the training needs of industry trainers, vocational teachers and curriculum writers; and examples of partnerships between TAFE and industry.

Hayton, G. and Loveder, P. *How to do a Skills Analysis and Skills Audit.* Leabrook South Australia, TAFE National Centre for Research and Development: 1992.

This book reviews skills audit and analysis techniques which have been developed to focus on skills, and gives a guide to their use. (Skills analysis identifies the skills (or competencies) required for each job; skills audit identifies the skills (or competencies) held by the individuals.) Sections include: 'Understanding the jargon'; 'Types of project' (and how they can fit with, for example award restructuring, job redesign); 'Planning the skills project'; 'Conducting the skills project'; and 'Implementing changes'.

Hislop, J. *Up and running: Implementing language and literacy courses in the workplace: Project report.* Carlton Victoria, Australian Textile Clothing and Footwear Industry Training Board: 1995.
The main objectives of this project were to: identify in detail, from a range of industries and worksites, the key processes involved in designing and implementing workplace language and literacy programs; and document these processes for industry managers and trainers to better inform them about the options available in incorporating language and literacy in workplace training. Seven teachers implementing workplace language and literacy programs in NSW were interviewed on their experiences in designing and implementing courses. This report documents the findings and includes: a model for implementing workplace programs (which includes discussion of needs analyses, program design, program delivery, assessment and evaluation); a detailed analysis of each of the stages in this model, including anecdotal evidence from teachers on the application of this model in their workplaces; a list of references for further information; and a four-page pamphlet summarising these findings.

McConnell, S. and Treloar, A. (eds.) *Voices of Experience: A Professional Development Package for Adult and Workplace Literacy: Book 3 - The Challenges of Workplace Education.* Canberra, Department of Employment, Education and Training: 1994.
Book 3 aims to raise many questions: political, ideological, professional, educational and personal, and includes both papers and a professional development section. Papers include: 'Negotiating workplace programs' (Wyse); 'A case study of provision' (Agars); and 'Preparing for the workplace experience' (Chudleigh).

O'Connor, P. *Crossing the Borders of Workers' Literacy.* Stanmore NSW, Adult Literacy and Basic Skills Action Coalition: 1994.
This paper is one in the focus series of occasional papers in adult basic education published by ALBSAC. It comments on the overwhelming tendency of workplace education to simplify, standardise, and render all manner of phenomena predictable, including the dynamics of the workplace itself. The paper argues for an approach which recognises the existence of both official and unofficial discourses within the workplace, and of the conflict and tension existing on the borders between the two.

O'Connor, P. *Making it Happen: Developing Effective Workplace Basic Skills Programs.* Leichhardt NSW, Adult Literacy and Basic Skills Action Coalition: 1992.

This booklet has been designed for management personnel, union officials, workplace or industry trainers, community or college-based teachers working with industry, consultants and others with an involvement in workplace basic skills training. It raises issues critical to the implementation and maintenance of an effective workplace basic education program. There are sections on workplace needs analysis, negotiating basic skills training, selecting workers for training, program development, and evaluation.

Pocknee, C, Barrow, L. and Dineen, C. *Peer Tutoring Kit for the Workplace*. Moorabbin Victoria, Moorabbin College of TAFE: 1993. This kit is designed to help companies set up and run literacy programs with peer tutors. The kit consists of five sections. Section 1 contains material to promote peer tutoring to management. Section 2 provides information on setting up a peer tutoring program. The third section contains information and guidelines to assist tutors to prepare and conduct a training session. A set of materials and tutor notes to be used in training sessions to help learners with their reading, writing, speaking and listening is contained in section 4. The last section is a set of materials and tutor notes to be used in training sessions to help learners with numeracy.

Pocknee, C, Barrow, L. and Dineen, C. *Peer Tutoring Kit for the Workplace: Video*. Moorabbin Victoria, Moorabbin College of TAFE: 1993.
This video accompanies the workbook of the same title.

Shmerling, L. *Communication in the Workplace*. South Melbourne Victoria, Macmillan Education Australia: 1996.
Based on the TAFE National Communication Skills Modules, this book adopts a competency-based approach, and focuses on written and oral communication and interpersonal skills. Each of the six chapters is written as a learning module and is divided into two or four learning outcomes. Each includes discussion of purpose, performance criteria, and assessment and competency attainment checklists. The six chapters are titled 'Workplace Communication', 'Writing Workplace Documents', 'Dealing with Conflict', 'Negotiation Skills', 'Team Building and Work Team Communication' and 'Job-Seeking Skills'. Some of the learning outcomes are: understanding negotiation skills; improving people skills; planning and preparing a presentation that represents the team and its view; and increasing self-knowledge.

Solomon, N. and Brown, K. *Plain English Training Manuals One and Two: What is Plain English? An Introductory Workshop*. Broadway NSW, NLLIA Centre for Workplace Communication and Culture, University of Technology Sydney: 1992.
A two volume training manual on plain English. The manuals are targeted at workplace writers and trainers. Manual One begins with activities and further awareness of the context in which plain English is emerging. This is followed by activities that develop knowledge about language, especially the relationship between language and the context in which it is used. Manual Two includes activities that develop and practise language skills that help writers control the

technical, personal and abstract levels of language. The writers steer away from a simplistic approach to plain English and attempt to provide writers with both knowledge of the range of language resources that we use and the skills to apply this knowledge to particular text types. However, people without an understanding of language may find the Manuals hard to follow.

Wallace, M. *Maths Work: Maths in the Textile, Clothing, Footwear and Allied Industries*. Carlton Victoria, Australian Light Manufacturing Industry Training Advisory Board: 1995.
This publication highlights the extent to which maths is used at work, and discusses situations and ways in which maths is necessary. It covers the problems for workers with poor maths skills and in particular, for workers of an NESB background. Clearly presented examples drawn from three TCF companies show how daily operations used maths - work summaries, packing slips, delivery dockets and requisition listings. The focus section further discusses two contexts in which maths is commonly used - quality control and stock management. The report concludes with notes and tips for trainers and a list of useful resources. This publication exists as documentation of mathematics usage in a particular industry; however, it is not a comprehensive analysis of numeracy needs in the workplace. It should be used in association with support and extension texts.

Watts, L. *A guide to mentoring : A guide to support the Work Based Learning in Action Scheme*. Melbourne Victoria, National Staff Development Committee: 1996.
This is a brief guide that provides an overview of the essential elements of a workplace mentoring program. The guide focuses on facilitated mentoring, emphasising the importance of developing strategic relationships between the mentoring program and the organisation's corporate training plan.

Workplace Adult Education Services Tasmania *Resources for Workplace Providers*. Tasmania, ALBE Resources Unit (Tas): 1993.
This Tasmanian resource is a working document designed to support the development and provision of workplace basic education. The purpose of *Resources for Workplace Providers* is to present the collective expertise of Tasmanian workplace basic education as a set of guidelines, readings, anecdotes, and documents which Adult Education practitioners in Tasmania have found useful and workable. Each of the nine chapters contains a brief introduction, models, readings, and references. The chapters are: promotion; submissions; setting up; tutor training & development; courses; assessment; reporting; evaluation; and copy masters.

RECOMMENDED READING

For information on the availability of the following resources, contact:
ARIS, Box 372F, MELBOURNE 3001, 03 9614 0255.

Australian National Training Authority *Guidelines for Training Package Developers.* Melbourne, ACTRAC Products Ltd: 1997.

Australian National Training Authority *Standards Best Practice Manual.* Melbourne, ACTRAC Products Ltd: 1997.

Coates S, et al *The National Reporting System.* Melbourne, Australian National Training Authority and Department of Employment, Education and Training: 1995.

Fitzpatrick L. and Coates S. *Applying the NRS.* Melbourne, Department of Immigration and Ethnic Affairs and Department of Employment, Education and Training: 1996.

Gibb, J, Keenan, M. and Solomon, N. *Literacy at Work: Incorporating English Language and Literacy Competencies into Industry/Enterprise Standards.* Canberra, Australian Government Publishing Service: 1996.

Tout, D, Renshaw, M. and Kindler, J. *An Annotated Bibliography of Workplace Basic Education Resources and Readings: 1994 and 1996 Update.* Melbourne Victoria, Adult, Community and Further Education Board: 1996.

GLOSSARY

Boards/Bodies/Policy Documents:

ALLC	Australian Language and Literacy Council. Specialist council advised National Board of Employment, Education and Training on language and literacy policy matters.
ANTA	Australian National Training Authority.
AQF	Australian Qualifications Framework.
DEETYA	Commonwealth Department of Employment, Education, Training and Youth Affairs.
endorsed components	In the National Training Packages, the core components, ie, industry standards, assessment guidelines, and national qualifications. (*Guidelines for Training Package Developers*, ANTA)
ITABs/ITBs	(Advisory) Bodies to advise on training needs of industry, organised on an industry basis, both National and State.
National Qualifications	For the purposes of National Training Packages, National Qualifications are defined in accordance with the Australian Qualifications Framework.
National Training Framework	The major features of the National Training Framework were endorsed by the Ministers of Vocational Education and Training in November 1996. The major features are: • nationally consistent recognition arrangements and quality assurance mechanisms; • National Training Packages for delivery and assessment; and • national assessment arrangements.
NTFC	National Training Framework Committee, the body responsible for endorsing National Training Packages.
National Training Package	That part of the National Training Framework relating to training delivery and assessment. Packages are to be developed from workplace standards defined by National ITABs and comprise endorsed components and non-endorsed components.
National Framework	The *National Framework of Adult English Language, Literacy and Numeracy Competence* (ACTRAC: 1993) is a curriculum framework with these main components: • six aspects of communication (procedural, technical, personal, cooperative, systems and public); • three stages of development of competence (assisted, independent, collaborative); and • four phases of achieving competence.
National Reporting System (NRS)	The *National Reporting System* (ANTA/DEET: 1995) built on the National Framework by maintaining the six Aspects of Communication,

and outlining five levels of competence in each type of communication (reading, writing, etc). It is a nationally recognised document describing the language, literacy and numeracy skills people need to communicate in Australian society.

| non-endorsed components | In National Training Packages, the components: Learning Strategy, Assessment Guidelines and Professional Development Materials. These are optional in the new National Training Packages. (*Guidelines for Training Package Developers*, ANTA) |

Language, literacy, numeracy and competency terminology

Aspects of Communication	Communication grouped according to purpose, eg technical, procedural, personal, cooperative, systems, public. (*National Framework* and *National Reporting System*)
assessment	The process of collecting evidence and making judgements on whether competency has been achieved. In the context of the National Training Framework, the purpose of assessment is to confirm that an individual can perform to the standards expected in the workplace as expressed in the relevant industry standards.
Assessment guidelines	Second of three endorsed components of National Training Packages. (*Guidelines for Training Package Developers*, ANTA)
competency	Comprises the specification of knowledge and skill and the application of that knowledge and skill to the standard of performance required in the workplace. (*Standards Best Practice Manual*, ANTA)
Competency Standards	An endorsed component of National Training Packages. (*Guidelines for Training Package Developers*, ANTA)
Conditions of Performance	Describe the parameters for performance of competency. This might include the level of support available, or the context for successful performance, eg familiar, broad. (*National Reporting System*)
Evidence Guide	From competency standards documents, information in each Unit descriptor which assists with interpretation and assessment. Details the evidence required to demonstrate satisfactory performance of competency. (*Standards Best Practice Manual*, ANTA)
Features and Performance Strategies	Sections of the *National Reporting System* which give detailed technical information about the text and performance strategies at Levels 1-5 of reading, writing, oral communication, learning strategies and numeracy. (*National Reporting System*)
Indicators of Competence	Broad descriptions of reading, writing, oral communication, learning strategies and numeracy skills. (*National Reporting System*)
language	Language in its broad sense is the primary means of human communication and is manifested through the communication skills of speaking, listening, reading and writing. (*Australian Language and Literacy Policy*: 1991) In terms of this guide, language is used to mean

spoken communication in English.

literacy	Literacy is the ability to read and use written information and to write appropriately in a range of contexts. It is also used to develop knowledge and understanding, to achieve personal growth, and to function effectively in our society. Literacy also includes the recognition of numbers and basic mathematical signs and symbols within text. It involves the integration of speaking, listening and critical thinking with reading and writing. (*Australian Language and Literacy Policy*: 1991)
modes of communication	Reading, writing, speaking, listening and signing.
numeracy	Numeracy is about using mathematics to make sense of real life situations, in the workplace, personal and community settings. Numeracy incorporates mathematical knowledge, problem solving, mathematical representation, and meaning-making strategies. (*National Reporting System*)
Range of Variables	Statements in competency standards documents which outline the range of contexts and conditions to which performance criteria apply. (*Standards Best Practice Manual*, ANTA)
Sample Activities	A section in the *National Reporting System* at each of five levels giving examples of reading, writing, oral communication, learning strategies and numeracy organised according to Aspects of Communication. Many of these are relevant to industry. (*National Reporting System*)
standards document	Suggested ANTA format for industry competency statements. (*Standards Best Practice Manual*, ANTA)
task	A discrete, identifiable and meaningful component of work that can be assessed. (*Guidelines for Training Package Developers*, ANTA)
text	Speech or writing which stands as a whole in a particular context. Some texts are more complex than others. A short simple text could be a traffic sign, or someone shouting 'STOP'. A longer text might be made up of a number of steps/processes or paragraphs.
Units of Competency	A discrete component within a competency standard. It refers to: a broad area of competency, the application of knowledge and skill. Units of Competency provide the basis for assessment, development of training, certification and credit transfer. (*Standards Best Practice Manual*, ANTA)
Workplace & Social Contexts	That section of the NRS which refers to the contexts in which adults operate, including the workplace. (*National Reporting System*)
workplace communication	All communication within the workforce. See Section 2.1, Step One for a suggested method of analysing a workplace to identify the range and complexity of workplace communication.

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Australian Committee for Training Curriculum *National Framework of Adult English Language, Literacy and Numeracy Competence.* Frankston Victoria, ACTRAC Products Ltd: 1993.

Australian National Training Authority *Guidelines for Training Package Developers.* Melbourne, ACTRAC Products Ltd: 1997.

Australian National Training Authority *Standards Best Practice Manual.* Melbourne, ACTRAC Products Ltd: 1997.

Coates S, et al *The National Reporting System.* Melbourne, Australian National Training Authority and Department of Employment, Education and Training: 1995.

Forest and Forest Products Employment Skills Company Ltd *National Industry Competency Standards for the Manufacturing and Merchandising Sector of the Forest Industries.* Nunawading Victoria: 1995.

Mullins S. *Options Paper For Incorporating Language, Literacy and Numeracy Skills in Competency Framework for Main Roads.* Queensland: 1996. (unpublished)

Pearson G. *More Than Money Can Say: the impact of ESL and literacy training in the Australian workplace.* Department of Employment, Education, Training and Youth Affairs: 1996.