A Guide to Workplace Literacy and Numeracy Needs Analysis
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A Guide to Workplace Literacy and Numeracy Needs Analysis (the Guide) has been developed as a resource for participants in professional development workshops on workplace literacy needs analysis. This second edition of the Guide has been updated to reflect changes to the workplace literacy and numeracy environment in New Zealand since it was first published in 2006. The Tertiary Education Strategy 2007-2012 and the New Zealand Skills Strategy Action Plan 2008 both have a priority outcome “increasing the literacy, numeracy and language levels of the New Zealand workforce”.

A detailed rationale for the focus on increasing the literacy and numeracy skills of the New Zealand workforce is included in the Tertiary Education Commission’s (TEC) Literacy, Language and Numeracy Action Plan 2008-2012. In May this year the New Zealand Government announced funding of $168 million for adult literacy for the period 2008-2012. A large part of this funding is focused on the New Zealand workforce. The criteria and requirements for TEC’s Workplace Literacy Fund (WLF) have also been updated.

At the same time the TEC has published the updated Learning Progressions for Adult Literacy and Numeracy (the Progressions) which are the key framework for adult literacy and numeracy in New Zealand. The Progressions can, among other things, be used to identify the literacy and numeracy related demands of tasks and texts and this process, called “mapping”, has been incorporated into this Guide.

The Guide starts with an Introduction which situates a needs analysis in relation to the overall process of establishing a workplace literacy programme.

The remaining five sections directly relate to the stages of a workplace literacy needs analysis.

Stage 1 - Planning and preparation
Stage 2 - Organisational analysis
Stage 3 - Task and skill analysis
Stage 4 - Literacy and numeracy skills assessment
Stage 5 - Analysis and reporting

Completing all stages ensures a balanced approach to a workplace literacy programme. Dispensing with the organisational overview and/or the task analysis means that providers focus only on the employees, and issues are seen as skill gaps for employees rather than considering the impact of organisational factors such as company systems and processes.

An overview of the needs analysis process is set out on the next page.
An overview of the needs analysis process:

<table>
<thead>
<tr>
<th>Stage 1 Planning and preparation</th>
<th>Stage 2 Organisational analysis</th>
<th>Stage 3 Literacy task and skill analysis</th>
<th>Stage 4 Literacy and numeracy skills assessment</th>
<th>Stage 5 Analysis and reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>• provider is funded for needs analysis</td>
<td>• site tour</td>
<td>• analyse job role</td>
<td>• select skills for assessment</td>
<td>• analyse results of:</td>
</tr>
<tr>
<td>• select needs analysis team</td>
<td>• interview: - client liaison person</td>
<td>• identify literacy tasks</td>
<td>• develop assessment tasks</td>
<td>- organisational analysis</td>
</tr>
<tr>
<td>• brief team</td>
<td>- key personnel</td>
<td>• map tasks and texts to the Progressions to identify required literacy and numeracy skills</td>
<td>• assess employees</td>
<td>- task and skill analysis</td>
</tr>
<tr>
<td>• publicise needs analysis</td>
<td>• observe and interview employees</td>
<td></td>
<td></td>
<td>- assessments</td>
</tr>
<tr>
<td></td>
<td>• collect workplace documentation</td>
<td></td>
<td></td>
<td>• write report</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• make presentation to client (including recommendations for programme)</td>
</tr>
</tbody>
</table>
The New Zealand workforce

Many employees in the New Zealand workforce do not have all the literacy skills necessary to cope with the everyday demands of work.

A survey carried out in 2006 by the New Zealand Ministry of Education, called the Adult Literacy and Lifeskills Survey (ALLS), showed that 43 per cent of the New Zealand workforce were below the minimum level of literacy competence for everyday life or work. This survey also showed that 51 per cent of the workforce did not have the minimum level of numeracy competence for everyday life and work.

What is workplace literacy and numeracy?

Workplace literacy and numeracy is the reading, writing, speaking and listening, and numeracy employees in New Zealand workplaces use at work. Employees need to read, write, speak and listen, calculate, measure and use numbers in a variety of ways that are constantly changing. The variety of ways depends on the job role, the task the employee is doing, the skills they are using and the other people involved.

Literacy and numeracy are social and cultural practices that are fully understood only in terms of context and purpose.

Therefore workplace literacy and numeracy needs to be examined in terms of settings (where), and purposes (why) and contextual demands (what is required).

Contextual demands can range from simple to complex. Levels of complexity of literacy and numeracy at work are linked to three main factors:

- **what has to be done**
  e.g. the complexity of the task (extent of task and knowledge and skills required) and the complexity of the accompanying text (technical and abstract language)

- **who is doing it**
  e.g. person’s familiarity, knowledge and experience with context, task and text

- **how much support or assistance is provided**
  e.g. amount of expert assistance needed to complete task.
Why provide workplace literacy and numeracy programmes?

Workplace literacy and numeracy programmes are a direct response to business needs and workplace change. These include:

• using standard operating procedures
• workplace communication e.g. giving and receiving instructions
• new ways of working e.g. team work
• technological changes e.g. introduction of computer numerically controlled (CNC) machinery
• legislative requirements e.g. health and safety legislation
• compliance requirements e.g. export certificates
• training e.g. competency based industry training
• globalisation.

Workplace literacy and numeracy programmes offer some advantages over programmes in other settings. When workplace programmes take place on site, during work time, this overcomes what are often barriers for other programmes, e.g. transport and childcare. In addition workplace programmes use authentic materials from the workplace which provide learners with opportunities for immediate practice, as well as making direct connections between the learning and the workplace and other contexts where learners may use these skills.

Unlike other education programmes the primary focus in workplace programmes is not on the learner. Instead workplace literacy programmes have a dual focus, aligning business performance with the development of the individual employee. This is necessary to provide benefits for the company (which pays some of the programme costs), as well as the individuals who participate.

Why do a needs analysis?

As part of the criteria for the WLF, the TEC requires workplace literacy providers to undertake an organisational needs analysis to inform any later workplace literacy and numeracy programme.

The key objectives of a needs analysis are to:

• identify the match between the literacy and numeracy skills required by company processes and the skills of employees
• decide whether or not a programme is necessary
• provide a framework for the development and evaluation of the programme.

The needs analysis process also:

• helps to publicise the programme and enrol line managers and potential learners
• identifies barriers, issues and opportunities for any programme
• identifies current and future literacy and numeracy tasks and skills
• identifies whether employees have these skills, and
• confirms likely benefits for the company, prospective learners and other stakeholders.
Stage 1

Planning and preparation
This Guide has as its starting point that the workplace literacy provider has been funded by TEC to carry out an organisational needs analysis. As part of the application for funding the provider will have gathered information about the company to compile a “profile” of the company and its issues. This profile is a reference document for the needs analysis and subsequent programme.

Selecting the needs analysis team
The needs analysis team usually consists of at least two people – one of whom has literacy and numeracy expertise. The other, whom we refer to here as the provider manager, oversees the process, participates in some of it and is the key contact for the client. The literacy and numeracy expert carries out the task and skill analysis, develops the assessment tasks and leads the assessment of employees.

Briefing the needs analysis team
This is the responsibility of the provider manager.

Points to cover include:
- identify key client personnel – managers, supervisors, union personnel and employees who will be involved
- confirm client liaison person for the needs analysis
- confirm site health and safety requirements
- discuss how client’s staff will be advised – word of mouth, notices, electronically
- confirm whether there is permission to take photographs on site
- possible interview questions
- prepare a short presentation or talk for employees about the purpose of the needs analysis, timings, activities and introducing the provider.

Publicise the needs analysis
Company employees need to be advised that a needs analysis is going to take place. Work with the company to establish the best way to do this for their workplace and employees. The purpose is to inform employees but not provide so much detail that employees might be concerned.

Carrying out a needs analysis can cause employees to feel anxious. This is not surprising considering the needs analysis involves observing employees working and then later ‘testing’ their literacy and numeracy skills. Employees are usually keen to share what they are doing and answer questions. However there will be some employees who will be nervous or hostile about aspects of the needs analysis and it is important to handle that sensitively and get the information through other means.

Products
At this stage of the process providers should have the following documents:
- company profile
- list of health and safety requirements
- needs analysis publicity material
- permission to take photographs on site
- presentation for employees
- list of people to be interviewed
- list of possible interview questions.
Stage 2

Organisational analysis
This involves looking at the ‘big picture’ and determining how the company works in terms of its organisation, work systems and processes, and corresponding communication systems and processes.

### Site tour

An important step in any needs analysis is to undertake a site tour. Sometimes you will do this as part of the initial negotiations with the client company (before any application to the WLF) and at other times you will do it as the first part of the needs analysis.

#### Here are some things to look for and gather information on:

- environmental print e.g. signs
- initial observation of employees at work (discussed in depth later in Stage 3)
- workflow and work arrangements including internal clients and suppliers
- documentation e.g. manuals, forms
- materials on noticeboards e.g. graphs, memos, minutes
- measuring instruments e.g. rulers, tape measures, callipers, scales, gauges
- work organisation e.g. teamwork or individual work
- communication - formal/informal, verbal/non-verbal
- technology – computers, interactive screens, CNC machines
- health and safety – documentation including signs, safety equipment, communication processes, designated personnel, hazards
- quality – types of checks, frequency, designated personnel, documentation
- environment – noisy, dirty, how it is organised in terms of workflow, level of housekeeping
- equipment/plant – fixed, mobile, old, new, CNC, guards, hazards, state of repair
- workplace documentation (see page 11).

#### Interviewing key personnel

Listed over the page are suggested groups you need to interview during this stage, the information you need from them and methods and tools you could use. This process will be perceived differently by different groups or individuals within groups. Some will be very willing to share information. Others may regard the process as threatening or risky. A flexible and sensitive approach is required for each interview.
### Interviewing key personnel

<table>
<thead>
<tr>
<th>Group</th>
<th>Information required</th>
<th>Method</th>
</tr>
</thead>
</table>
| Managers                           | • confirm company objectives  
  • confirmation of company profile including key issues, future plans and possible programme goals  
  • communicative processes and systems  
  • organisational culture                                                           | 1:1 interviews/interview questions                     |
| Client liaison person              | • site plan  
  • workplace documentation  
  • commentary on information from management                                              | 1:1 interviews/interview questions                     |
| Supervisory personnel              | • confirm information about the needs analysis already received  
  • processes in their work area  
  • machines/equipment used  
  • range of job roles in their area  
  • information about staff in their work area - shifts, ethnicities, age, qualifications, languages spoken in the workplace, training activities  
  • critical workplace issues  
  • confirmation about documents used in that work area  
  • personal information – role, length of service, qualifications, any issues                                                      | 1:1 or group interviews/interview questions                     |
| Union personnel                    | • confirm information already received  
  • information about training and skill-based pay systems (e.g. in collective employment agreement or ad hoc)  
  • perceptions about workplace literacy programmes  
  • information about Health and Safety Reps and Learning Reps  
  • critical workplace issues                                                                                                           | 1:1 interviews/interview questions                     |
| Key personnel (could be kaumatua or matai, team leaders, long-serving employees) | • confirm information already received  
  • critical workplace issues  
  • need for workplace programme  
  • support for workplace programme                                                | 1:1 or group interviews/interview questions                     |
| Groups of employees in shifts or teams (this happens occasionally) | • confirm information already received  
  • critical workplace issues  
  • need for workplace programme  
  • support for workplace programme                                               | group interviews/interview questions                     |
Workplace documentation

On the right is a checklist suggested as a guide to what documents you might request when collecting documents relevant to each specific workplace. Sometimes it is not possible to collect all material. In this situation focus on the ten most commonly used documents (forms, Standard Operating Procedures (SOPs) manuals, health and safety material) and supplement it with what you find during your site tour and observation of employees.

Oral texts

While written documentation is important, most workplaces also use a wide variety of oral texts (e.g. instructions) either instead of, or in conjunction with, written documentation. For example, an employee might have to report health and safety incidents orally to their supervisor who then fills in the relevant incident report. Alternatively an employee who is producing product in accordance with an SOP needs to talk to their team leader if the product is consistently out of specification. Obviously the company will not have “copies” of these oral texts but providers need to try and document them as you hear them during the site tour and later stages of the needs analysis. Alternatively providers could document what they think these oral texts could cover and then get feedback from key company personnel.

Induction & HR:

- Collective/individual employment agreements
- Job descriptions
- Shift timetables
- Pay slips
- Leave forms
- Staff newsletters
- Staff handbooks
- Organisational chart

Work area:

- Signs (work area, machines and equipment)
- Work instructions (including on screen)
- Forms
- Standard Operating Procedures (SOPs)
- Manuals
- Tables, charts, graphs (production related)
- Packaging and labels
- Production forms
- Data collection processes (including on screen)
- Evacuation procedures

Other:

- Team minutes
- Company briefings about progress against key performance indicators (KPIs)
- Project team minutes
- Material on noticeboards
- Other tables, charts and graphs (non-production matters)
- Training material
Analysis of documents and texts
After the documents have been collected you need to go through them with the client liaison person and rank them in relation to the categories below.

- criticality (how important it is to the company)
- frequency (how often is it used)

<table>
<thead>
<tr>
<th>Category</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criticality</td>
<td>Extremely</td>
<td>Very</td>
<td>Quite</td>
<td>Somewhat</td>
<td>A little</td>
</tr>
<tr>
<td>Frequency</td>
<td>Hourly</td>
<td>Daily</td>
<td>Weekly</td>
<td>Monthly</td>
<td>Less than monthly</td>
</tr>
</tbody>
</table>

Ranking the most critical and frequently used documents and texts is important when you come to decide on assessment tasks in a later stage of the needs analysis.

Later you will map the documents and oral texts in terms of complexity using the Progressions. For information about mapping texts see the Professional Development material aligned to the Learning Progressions at www.tec.govt.nz

Completing the organisational analysis
At the end of this stage providers should be able to draw the company’s workflow as well as describe the company’s processes and systems, particularly in relation to the areas or departments covered by the needs analysis. Providers should be starting to identify whether or not any of these systems and processes create barriers and/or prevent employees accessing company communications.

Products
At the end of this stage providers will have the following documents:
- organisational chart
- diagram showing layout of company’s premises
- workflow diagram
- at least ten of the most critical and frequently used workplace documents
- details of most critical and frequently used oral texts.
Stage 3

Task and skill analysis
Tasks and skills

Every job role involves a number of technical job tasks. A task is something measurable – something that has to be done. To carry out a task a person will use and apply a range of skills. These skills can be acquired throughout our lives.

Carrying out a technical task involves the contemporaneous completion of literacy and numeracy tasks. So when a person is carrying out a technical task they are also carrying out literacy and numeracy tasks. It follows that when they are using and applying technical skills they are also using and applying literacy and numeracy skills. Here is an example.

Job role – Logyard Operator

<table>
<thead>
<tr>
<th>Job (technical) tasks</th>
<th>Literacy and numeracy tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Drive logstacker</td>
<td>• Carry out pre-start and shut down checks on log stacker</td>
</tr>
<tr>
<td>• Receive (unload) logs from trucks and trains and place in appropriate bays in logyard</td>
<td>• Read logyard signs</td>
</tr>
<tr>
<td>• Load logs onto slash decks depending on processing requirements</td>
<td>• Read logyard plan</td>
</tr>
<tr>
<td>• Move logs from bay to bay depending on log stocks, processing requirements, condition of logs (e.g. green or seasoned)</td>
<td>• Read processing plan</td>
</tr>
<tr>
<td>• Participate in logyard and wood processing teams</td>
<td>• Speak and listen to truck drivers and slash deck operators using radio-telephone or hand signals</td>
</tr>
<tr>
<td></td>
<td>• Calculate whether load is oversize or not</td>
</tr>
<tr>
<td></td>
<td>• Measure logs using callipers or tape</td>
</tr>
<tr>
<td></td>
<td>• Read log markings</td>
</tr>
<tr>
<td></td>
<td>• Read company procedures</td>
</tr>
<tr>
<td></td>
<td>• Read and respond to faxes from managers or suppliers</td>
</tr>
<tr>
<td></td>
<td>• Read meeting agendas and minutes</td>
</tr>
<tr>
<td></td>
<td>• Complete any necessary forms e.g. reject form</td>
</tr>
<tr>
<td></td>
<td>• Complete shift log</td>
</tr>
<tr>
<td></td>
<td>• Contribute at team meetings</td>
</tr>
</tbody>
</table>

A more detailed breakdown of one of these job tasks showing the related literacy and numeracy tasks and skills is shown on page 15 of this Guide.
**Identifying literacy and numeracy tasks**

From the interviews with key personnel, providers will have gathered information about what happens in the parts of the workplace covered by the needs analysis.

Providers now need to observe employees carrying out those roles that are the focus of the needs analysis. The employees providers observe need to have some experience in the role in order for the needs analysis to capture the full scope of activities required. You may have done this observation as part of the site tour. Observation needs to be long enough to give a clear idea of the literacy and numeracy tasks the employees are undertaking.

Observe the employees. Make notes about what they are doing (record if they are using technology or measuring equipment) and what they are reading, writing, calculating or measuring, and who they are speaking and listening to. If it is appropriate, ask them to explain the process to you. At the end discuss with the employees or the person accompanying you on the site tour what the employees did, the key components, the documents they completed and people they referred to.

This discussion is important to confirm the completeness and accuracy of your observations. The discussion will also help you determine how frequently this task is carried out and how typical it is in relation to this job role and workplace.

From this information you are going to identify the literacy and numeracy tasks that are implicit within a particular job task.

*An example is provided below.*

---

**Stage 3 - Task and skill analysis**

**Job Task:** Receiving logs into the logyard

<table>
<thead>
<tr>
<th>Speaking/Listening tasks</th>
<th>Reading tasks</th>
<th>Writing tasks</th>
<th>Numeracy tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>• check with driver using radio-telephone</td>
<td>• delivery docket from suppliers (email, fax)</td>
<td>• confirm order received</td>
<td>• measure load for height requirements against stanchions (sight)</td>
</tr>
<tr>
<td>• advise driver of any non-compliance (face to face)</td>
<td>• SOPs re receipt of logs and reject loads for non-compliance</td>
<td>• complete non-compliance documentation e.g. reject form</td>
<td>• measure logs for oversize (tape and callipers)</td>
</tr>
<tr>
<td>• advise driver where to park for unloading or for checking load</td>
<td>• production details for day (log species, bays etc.)</td>
<td>• complete shift log</td>
<td></td>
</tr>
</tbody>
</table>
Identifying literacy and numeracy skills

Once you have identified the literacy and numeracy tasks that an employee carries out, you then need to analyse these tasks (using the Progressions) to identify the actual literacy and numeracy skills employees are using to complete these tasks. For example, depending on the context, purpose and text, a literacy task involving reading might include a range of skills including decoding words, knowledge of vocabulary, language and text features, a range of comprehension strategies and critical reading skills.

Remember to distinguish the different levels of reading required – literal, inferential and/or critical.

- At the literal level, the reader reads a text, and interprets the meaning from the words that they see. They take the message literally – the words tell them exactly what they must do.
- At the inferential level, readers must bring their own knowledge and background information to understand the text and what it requires them to do.
- At the critical level, readers analyse the text. They will ask questions such as 'Why is this information important?' They look for the wider context of the information, and they critically evaluate the information provided in order to determine how they should act in relation to that text.

Writing might involve a range of skills from understanding the purpose of the text and intended audience, selecting suitable vocabulary and language and text formats, planning and writing the text and then revising and editing it. Speaking and listening might involve being able to understand and use technical vocabulary, understand and use the language and text features of different oral texts, understand what is being said, reflect critically on the information and interact with others in various speaking and listening situations.

Numeracy might involve number skills such as knowledge of place value, number sequence and number facts as well as levels of additive, multiplicative and proportional reasoning strategies. Numeracy might involve using units of measurement and measurement tools as well as analysing data in tables and graphs.

This level of analysis is important when it comes to selecting tasks for the skills assessments.

Use the Progressions at this stage to map the demands of the relevant documents and texts. The mapping process clearly identifies the literacy and numeracy skills required which also informs programme design. Information from mapping is not shared with the company in any detailed format.

There is a worked example on the next page which shows a breakdown of the literacy and numeracy skills needed in relation to the literacy and numeracy tasks identified with receiving logs into the logyard on page 14.

Decisions about where each of the skills sets should be in relation to steps on the Progressions, are determined as part of mapping documents and texts.

Products

At the end of this stage providers will have the following documents:

- analysis of the literacy and numeracy tasks undertaken as part of critical workplace tasks
- examples of critical and frequently used documents and oral texts mapped against the Progressions.
<table>
<thead>
<tr>
<th>Speaking/Listening skills</th>
<th>Reading skills</th>
<th>Writing skills</th>
<th>Numeracy skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>- have a listening and speaking vocabulary of some general academic and specialised words</td>
<td>- fluently decode specialised words including words of many syllables</td>
<td>- understand the purpose and audience for the writing</td>
<td>- give and follow instructions for movement that involve distance and directions</td>
</tr>
<tr>
<td>- understand spoken conversations and other simple spoken language</td>
<td>- monitor reading for accuracy and sense</td>
<td>- have a writing vocabulary that is suitable for the task</td>
<td>- select and use appropriate standard units and instruments to measure length and girth</td>
</tr>
<tr>
<td>- listen for specific information</td>
<td>- have a reading vocabulary that includes some general academic and specialised words</td>
<td>- have a bank of words that can be written automatically and accurately</td>
<td>- use common benchmarks to select appropriate methods for estimating measurements</td>
</tr>
<tr>
<td>- have an awareness of what to do when listening comprehension breaks down</td>
<td>- recognise the features and structures of a range of text types</td>
<td>- be able to use basic grammar and punctuation to construct short, simple sentences and compound sentences</td>
<td>- use knowledge of place value, basic addition and subtraction facts and number sequence</td>
</tr>
<tr>
<td>- have some awareness of purposes for listening</td>
<td>- be aware of a range of visual text forms that can be combined with or included in written texts</td>
<td>- use punctuation effectively</td>
<td>- use partitioning strategies to solve complex addition or subtraction problems</td>
</tr>
<tr>
<td>- respond to and use appropriate language to manage simple interactions and negotiate meaning</td>
<td>- use comprehension strategies to assist in understanding information or ideas in longer or more complex texts</td>
<td>- know and use the basic features of some common text types</td>
<td>- use strategies to solve problems that involve proportions and ratios</td>
</tr>
<tr>
<td>- have an awareness of the conventions for taking part in interactions</td>
<td>- use strategies to locate important information in texts</td>
<td>- write a short comprehensible text using short sentences</td>
<td>- measure load for height requirements against stanchions (sight)</td>
</tr>
<tr>
<td>- take part in spoken conversation and use a few oral text types</td>
<td>- have some awareness of the different purposes of visual and written texts</td>
<td>- use knowledge of text structure to identify and organise a limited number of ideas around a familiar topic</td>
<td>- measure logs for oversize (tape and callipers)</td>
</tr>
<tr>
<td>- select and communicate information, ideas and thoughts using appropriate words and phrases</td>
<td></td>
<td>- review and then revise writing by making a few simple changes to the content based on re-reading and feedback</td>
<td></td>
</tr>
</tbody>
</table>
Stage 4

Literacy and numeracy skills assessment
The assessment is a snapshot of the literacy and numeracy skills of a selected group of employees. The results of the skills assessment enable providers to tell the client company what literacy and numeracy skill development (if any) their employees need. The results will inform the recommendations about the programme goals. It is important the assessment is based on the most critical and frequently used literacy and numeracy skills and does not try and assess too much. The needs analysis assessment is not formative assessment - initial or diagnostic assessment of the employees who become programme participants occurs during the early weeks of the programme.

Deciding what skills to assess
The skills to be assessed will come from the job and task analysis in Stage 3 (including mapping against the Progressions) as well as the organisational analysis undertaken in Stage 2. Focus on skills required as part of critical and frequently used tasks, documents and texts. Consider the issues or goals that the company identified at the outset of the programme and what skills specifically relate to those issues or goals.

Deciding which employees to assess
In the needs analysis proposal funded by the TEC, providers have already agreed with the client company the numbers of employees to be assessed and the area they will come from. The assessment tasks providers develop need to be appropriate for these employees, their job roles and tasks. Providers also need to discuss with the client liaison person how employees are going to be selected. Unless a whole work team is selected, a random selection is preferred. If employees are selected on the basis that they are known to have literacy issues, this will then skew the results. The results could show that all employees assessed need significant literacy skill development which is not necessarily representative of the other employees.

However a random selection is not always possible and in this situation providers need to make the client liaison person aware of how issues about selection may impact on the results. This also needs to be stressed during the presentation of the needs analysis report.

Developing assessment tasks
Once you have decided which skills will be assessed, and the employees to be assessed, develop the assessment tasks. Providers should focus on assessing skills and not background knowledge of company processes. For example do not ask what the evacuation procedures are for an area (knowledge) but ask employees to read the evacuation procedures and locate specific information (skills).

For each assessment task the rationale for including that question should link back to the task and skill analysis and decisions about what skills to assess.

<table>
<thead>
<tr>
<th>Question</th>
<th>Machine logs - locate key pieces of information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rationale</td>
<td>• receptive vocabulary (listening and reading)</td>
</tr>
<tr>
<td></td>
<td>• ability to follow instructions</td>
</tr>
<tr>
<td></td>
<td>• ability to locate specific information and provide explanations</td>
</tr>
<tr>
<td>Scoring</td>
<td>3 (located all items) to 1 (located no items)</td>
</tr>
</tbody>
</table>
Question design

For the reasons referred to above (assess skills not knowledge) most questions are likely to be at the 'literal' level. This ensures that employees who have only been working in that workplace for a short period of time are not prejudiced because they do not have 'inside' knowledge.

It is helpful if you design your questions so that answers are out of three or multiples of three. For example an assessment may have three parts or another task may have three or six questions. This is for ease of analysing results later.

Where there are distinctly different tasks in different departments or workplace areas (e.g. production and stores), or different roles are being assessed (e.g. operators and supervisors), consider writing different assessment questions for different areas and roles. The alternative is to develop assessment tasks in relation to skills common to all areas. However, these skills tend not to be the most frequently used or most critical skills. For example in one workplace each department may use different workplace forms and documents. The only common text they may share is the induction handbook and collective employee agreement which are not used frequently and are written in complex language. Using these documents would put the employees being assessed at a disadvantage and skew the results of the assessment by showing most employees had poor reading and comprehension skills.

To make the assessment task as accessible as possible use appropriate language, layout, tone and style. Once the assessment tasks have been developed they need to be validated by the client liaison person to check that there are no inaccuracies, such as incorrect vocabulary or inappropriate or incorrect tasks. At the same time get the client liaison person to check the answers developed for marking purposes.

Structure of assessments

How the assessments are undertaken will depend very much on how many employees are being assessed, when they can be released for assessment and how quickly the assessments have to be completed.

There are two main ways of structuring assessments:
- a combination of oral and written assessments which are done 1:1 (oral) and in small groups (written)
- an integrated assessment which is done 1:1.

Oral assessment – purpose and structure

This assesses employees' English language speaking and listening skills, including oral comprehension skills.

The basic structure of the oral assessment is:
- general introductory questions
  - where born
  - how long in New Zealand (if not New Zealand born)
  - languages spoken at work/home
  - years of schooling/qualifications
  - how many years working for the company
  - workplace role and any changes over the years.

These introductory questions are designed to put the employee at ease and develop some rapport. They are followed by specific oral questions which assess skills identified during the previous stages of the needs analysis as being critical and used frequently.
Specific questions could include asking employees:

- to name pictures of personal protective equipment (PPE) used in their role (checks productive vocabulary as well as oral comprehension)
- to read out specific information on a company form (checks decoding skills, productive vocabulary, reading comprehension and speaking and listening skills)
- to role play how they would respond in certain situations – e.g. health and safety, customer service, quality (checks productive vocabulary, language and listening and speaking interaction skills)
- to describe what is happening in a picture of a workplace process (checks specific productive oral vocabulary, skills in using different oral text types and speaking and listening interaction).

The oral assessment should not take more than 10 – 15 minutes and should be done on a 1:1 basis in a private area.

Written assessment – purpose and structure

This assesses employees’ reading, writing and numeracy skills. As mentioned previously assessment tasks should really be at a literal, or infrequently inferential level so as not to prejudice newer employees who may not have a lot of background knowledge to draw on.

If critical reading tasks are used the results can provide useful information about how comprehensive the company’s induction processes are. For example, employees could be given the company’s vision or mission statement to read (identified as a critical document).

Written assessment tasks are very contextualised and should always use authentic workplace texts and usually include:

- reading comprehension questions
- writing skills questions
- workplace numeracy questions (could include number and measurement).

It is often useful to include the diagnostic questions for the three knowledge progressions in the Make Sense of Numbers Strand of the Progressions. These questions can be done in a group situation and give useful information about employees’ knowledge of number sequence, place value and number facts. Obviously the questions need to be contextualised to the workplace and any that are not relevant e.g. exponents and factors, can be deleted.

The diagnostic questions for the three strategy progressions of the same Strand can be asked once learners are enrolled in the programme.

For a copy of the diagnostic questions for this Strand see: www.tec.govt.nz

Written assessment tasks can include:

- form filling exercise (checks reading comprehension and writing skills for a particular text type)
- comprehension exercise taken from a critical and/or frequently used document e.g. health and safety, quality, training or procedural material (checks receptive vocabulary, comprehension strategies, knowledge of text types and critical reading skills)
- measurement tasks e.g. linear measurement or weighing task (checks skills in measurement and selecting appropriate tools)
- reading tables and graphs taken from the workplace (checks vocabulary, comprehension strategies, knowledge of visual text types, data analysis skills).
When developing the written assessment tasks start with easier tasks and move on to more difficult tasks. Reading and writing can be mixed together but numeracy tasks are best kept together.

Written assessment tasks should not take more than 45 minutes to complete and are usually administered in small groups in a quiet area.

**Integrated assessment tasks**

This approach (oral and written assessment done all at once in a 1:1 interview) should be used if employees can only be released one at a time or providers have sufficient tutors to assess numbers of employees one at a time. The benefit of an integrated assessment is that it more accurately reflects what an employee has to do at work. For example you could assess an employee reading an SOP in relation to a product, measuring the product, completing the machine log in relation to any product defects (in accordance with the SOP), while at the same time assess their ability to answer questions about who they talk to when they have an issue with the product, what if they are not sure, how they decide when to refer to someone else and what they refer on. The whole assessment allows you to assess skills in following oral and written instructions, speaking and listening interaction and familiarity and comprehension of critical and frequently used workplace documents and texts.

An integrated assessment starts with the general introductory questions outlined under the oral tasks and then includes written assessment tasks.

**Carrying out assessments**

A plan for carrying out the assessments needs to be agreed so that the client liaison person can arrange the release of employees.

Providers need to arrange a venue which is big enough to cope with expected numbers as well as having a private area where oral assessments can be undertaken. Provide suitable food to encourage a relaxed environment.

Assessments should be carried out over as short a time frame as possible. Taking a long time to carry out assessments means employees are much more likely to discuss the content of the tasks with each other.

Ideally one person needs to be responsible for all the oral assessments to ensure consistency of decisions. Where this is not possible the personnel carrying out the oral assessments need to do a few assessments together to get agreement in relation to judgements.

Prior to the assessments you need to:

- confirm the venue
- check arrangements have been made to release employees
- arrange suitable refreshments
- copy enough assessments
- ensure you have relevant tools e.g. pens, pencils, staplers, measuring tools, calculators etc.
While carrying out the assessments make every effort to:

- make the atmosphere as non-threatening as possible e.g. providing food such as fruit or biscuits is often regarded positively by employees
- welcome each person and reassure them about the process
- give each person a brief explanation of the purpose and content of the assessments
- explain that the results are confidential to the provider and other needs analysis personnel only and information about individuals will not go to the client company
- answer any questions (but record any assistance given – see later comments)
- provide support (e.g. for those whose English language levels are very low, provide an interpreter who will explain the process only to the employees so at least they understand what is happening, even if they can’t participate in the assessment)
- encourage employees to leave tasks they are stuck on or can’t do (no one should take longer than an hour to complete the written assessment tasks)
- explain to employees the rest of the needs analysis process if they want to know (e.g. report to company, possible programme)
- where employees want to know the results of their assessments make arrangements to get this information back to them privately.

If any employee becomes distressed or aggressive during the assessment, explain to them that they don’t need to continue, reassure them about the confidential nature of the process and end the assessment process.

After each employee finishes the assessment tasks, record any assistance provided to them and all other relevant comments e.g. what they say.

Mark the assessments using the answers developed and validated earlier.

Products

At this stage of the process providers will have the following:

- list of skills to be assessed
- assessment tasks with a clear rationale for each task
- answers for the assessment tasks
- completed assessments which have been marked.
Stage 5

Analysis and reporting
Analyse results of the assessments
This can be done in a number of ways but tables and graphs are the most useful method of summarising a lot of information, even if you have only assessed a small number of people. Make sure the tables and graphs have clear keys and are easy to read.

Note critical results either before or following the relevant table or graph. For example:
- 50% of employees assessed could complete health and safety hazard form
- 60% of employees assessed could not identify relevant information in a table
- 70% of employees assessed had good basic maths knowledge
- 50% of employees assessed had low levels of English speaking and listening skills, compared with the skills required for their job role.

Consider doing analysis by job role, departments or shift (e.g. supervisor/team leader, production/warehouse/day shift etc). However, be aware of confidentiality issues and avoid identifying individuals.

Synthesise information from all sources
Identify the two or three most critical issues to form a context for this report and a background for any future programme. These issues should relate back to issues or goals identified by the company prior to the needs analysis but could also introduce the impact of organisational issues identified during the needs analysis e.g. during mapping of the company’s systems and processes.

Write a short description of what the needs analysis showed in relation to critical and/or organisational issues and how literacy and numeracy skill levels are impacting or will impact on these issues, as well as covering the results of the assessments.

Here is an example taken from a needs analysis report.
“Managers identified that the employee handbook and Standard Operating Procedures were critical workplace texts that employees interacted with every day. Managers expected employees to be able to read and follow the Standard Operating Procedures and report any difficulties with these documents. The employee assessments completed as part of the needs analysis found only two of the 18 employees were familiar with the employee handbook and another five said they recognised the Standard Operating Procedures. The other employees said they had never seen the documents before or that other people dealt with them. These results have implications in terms of quality customer service and ongoing customer relationships.

Reading ability was assessed using questions relating to the OSH Alert form, the Standard Operating Procedures and the employee handbook. Participants were also asked to discuss the customer order form. As a result of their answers, needs analysis participants’ reading skills were rated as low, medium or high.

Four of the 18 participants were rated as having a low reading ability. This means they have a limited understanding of critical workplace vocabulary, for example supplier and employee. They are not able to understand the setting out of a form using headings and, because of this, they cannot locate information in a document. Their understanding of all workplace documentation is extremely limited. One person did not attempt the reading assessment.
Seven of the participants’ reading skills were rated as medium. They have a basic knowledge of most critical workplace vocabulary, although gaps in their vocabulary knowledge are apparent. For example words such as evacuation and hazard were unknown by several of the participants. They are able to read many words, however comprehension and understanding the entire message is at times limited. They are also unable to read over a document quickly and search for key words to locate information required. Instead they have to read the whole document to gain the gist. Increasing understanding of job-related vocabulary, expanding familiarity with workplace texts and developing reading skills will increase understanding of workplace procedures and support ability to manage future changes.

Six of the participants were rated as high-level readers. They have an extensive knowledge of workplace vocabulary, can locate information efficiently in known and unknown documents and display an in-depth understanding of a range of workplace documents."

It is important to balance the report by recording what employees can do as well as what they can not do. Doing this avoids a punitive or blame culture emerging as a result of the needs analysis. After all, the purpose of the report is to identify skill gaps and not label employees as ‘failures’.

If you are including in the report information you have been given by employees, it is important to ensure confidentiality and anonymity by stating ‘an employee reported’ or ‘during discussions comments were made about’.

**Recommendations**

Make recommendations for a programme linked to the needs analysis results work group you assessed and the issues you have identified.

For example, if the skills in one work group, department, or shift are significantly lower than others, you might recommend that tuition starts with that group. Alternatively you might recommend starting the programme with supervisors or team leaders, as often their role in companies is pivotal.

Consider recommendations that can be easily implemented and that will provide some impact in a relatively short time. Develop strategies for approaching more difficult issues and build these into your recommendations.

**Your report**

The WLF criteria specify that the report from the organisational needs analysis should outline the literacy and numeracy needed in the workplace and inform any later programme. In particular the report needs to include information on target groups, the needs of the company and current levels of literacy and numeracy skills. The needs analysis report is needed when Part B of the WLF application is submitted. If your report to the company covers the information required by the WLF, you can attach it to the application rather than create a separate report.
Basic structure of needs analysis report

1. **Report summary**
   Summarises context, process, key findings and recommendations.

2. **Aim of report**
   This very short section describes what you were trying to achieve in the needs analysis.

3. **Process**
   Another short section describes the method used during the needs analysis – what happened, when and who was involved.

4. **Context**
   Two or three critical issues which are linked to the issues and/or goals identified by the client company prior to the needs analysis and verified during the process.

5. **Task analysis**
   The task analysis for a significant work role could be included in this section.

6. **Development of assessments**
   This section describes the assessment tasks and the rationale for the selection of the skills being assessed.

7. **Results of the assessments**
   These should be presented by department or role with a summary at the end.

8. **Recommendations**

9. **Appendices**
   - assessments tasks
   - graph/tables showing results (if not inserted in the actual report).

**Presenting your report**

You need to send copies of your report to the client and then personally present your findings of the needs analysis, answer any questions and confirm the next steps.

Develop a short presentation focussing on key results and recommendations. Be prepared to add in more detail and explanations during the presentation. Often company personnel are surprised by the skill levels revealed by the assessments.

Ensure you can describe how the identified skill development needs can be addressed by a workplace programme or other initiatives. Having specific information about how improved skills could impact on issues and/or goals identified by the company prior to the needs analysis shows the company that you are focussed on improved performance.

**Products**

*By the end of this stage of the process providers will have the following documents:*
- analysis of assessments (spreadsheet)
- needs analysis report
- presentation for company.