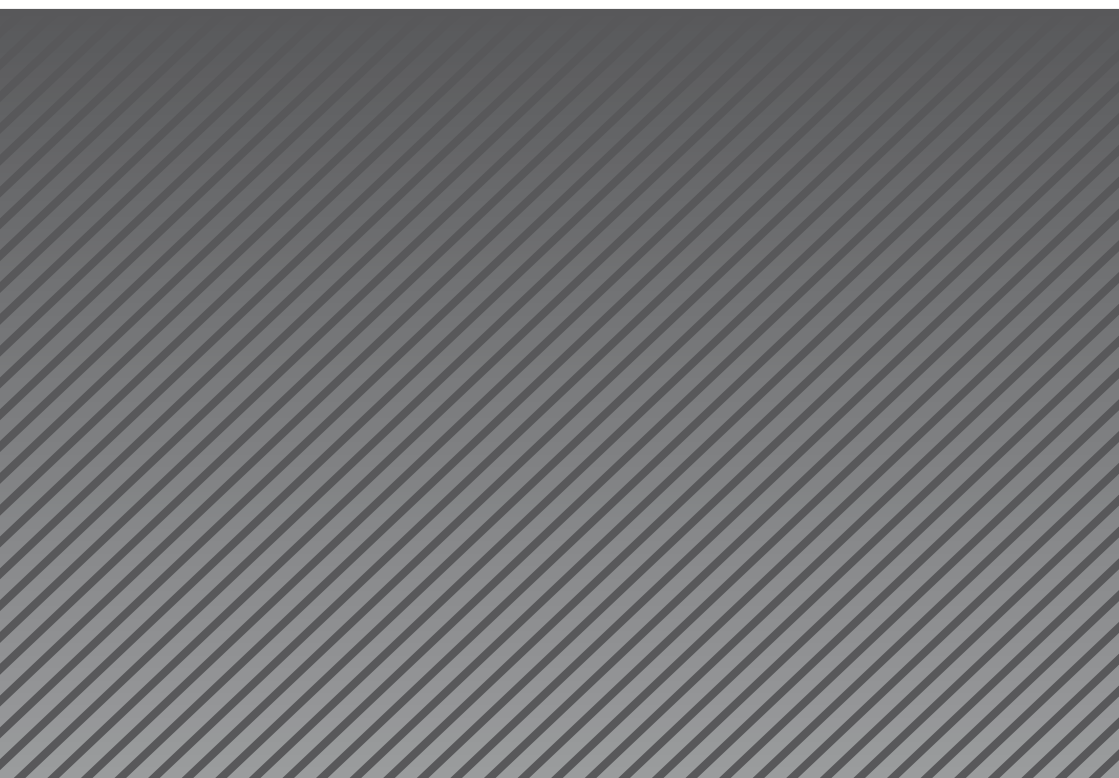


Embedded Literacy and Numeracy

Essentials for Training Resources



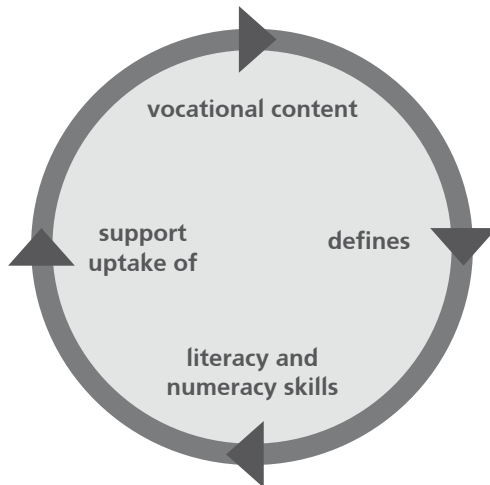
Introduction

Embedding is an approach that teaches literacy and numeracy skill development alongside other vocational or training content. Literacy means the reading, writing, speaking and listening skills an individual has to use to engage fully with daily life.

Numeracy refers to skills in number use and calculation, measurement and shape, data management and statistics that an individual has to use in daily life.

In an embedded approach learners acquire the content or skills they need to do their jobs and also the literacy and numeracy skills they need to engage fully in their workplace.

The vocational content defines the literacy and numeracy, and the literacy and numeracy teaching supports learners to access the vocational content.



Doing the job

A PROCESS WORKER	A HEALTH AND SAFETY REPRESENTATIVE
<p>needs to be able to:</p> <ul style="list-style-type: none">read standard operating proceduresfollow instructionsreport errors	<p>needs to be able to:</p> <ul style="list-style-type: none">contribute to H&S meetingsagree minutesliaise across departmentscomplete incident reports, hazard identification, etc



What literacy and numeracy skills are we talking about?

Employers need employees to do their jobs well. To do these jobs well they require certain literacy and numeracy skills. Each job requires a different set of skills. For example, a process worker needs to follow verbal instructions and complete written incident reports.

Each organisation has its own requirements. Identifying the literacy and numeracy demands of the company captures the literacy and numeracy skills any one employee may need.

Embedded literacy and numeracy in the workplace means that employees get their immediate work needs met. These new skills can then be transferred to other aspects of the employees' family and social life.

For example, an employee learns to complete workplace forms accurately and independently. This skill is then transferred into completing school permission forms, bank applications and community club membership forms.

Plugging the gaps

Why do our employees have literacy and numeracy needs?

No one has a full complement of literacy and numeracy skills. Think about entering a new job and the skills you are expected to learn – the photocopier, data management systems, reporting or accounting processes.

Nobody enters a workplace with all the skills needed for that particular workplace. While many of us have the underpinning literacy and numeracy skills to manage to the challenge of these new demands, others do not.

There are many reasons why some people have not acquired the literacy skills needed to enable them to adapt to new situations.

In some cases they have been promoted beyond their skill set, for example, the excellent process worker who is promoted to supervisor without realising the added written reporting requirements.

For some, school may have been an incomplete or unsatisfactory experience (low or no school qualifications are primary indicators of literacy and numeracy needs). For others, learning disabilities such as dyslexia may be a factor. For yet others, learning English as a new language may be the case.

How many need a helping hand?

According to an International Adult Literacy Survey (IALS), there are over a million New Zealanders who do not have the necessary literacy and numeracy skills to participate fully in daily work and social life. In the workplace these people are found in jobs that:

- require low or no formal qualifications
- are entry-level positions
- are temporary or part-time positions.

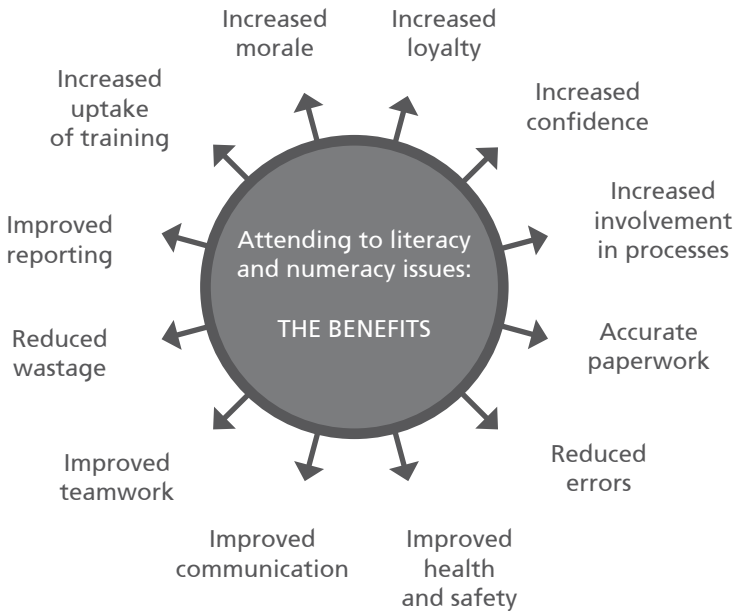
These positions are being challenged throughout our society. Increasingly workplaces require higher levels of accountability, flexibility and responsibility, more compliance and quality arrangements and greater employer involvement and teamwork.

As workplaces modernise, bring in new technologies, develop career and training pathways and expect a greater contribution from their workforce, literacy and numeracy needs become more visible.

What's the big deal?

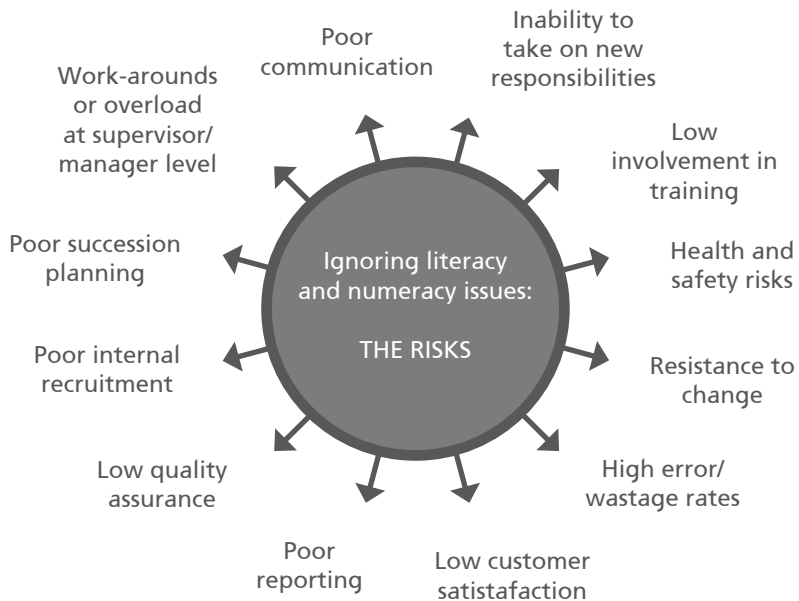
Why should businesses pay attention to literacy and numeracy?

There are rewards for businesses that support their employees to engage with literacy and numeracy learning.



What if they don't?

There are risks for businesses that don't pay attention to literacy and numeracy needs.



Embedding the way to go

What can be achieved with embedding into training resources?

Embedding literacy and numeracy skill development into training resources can:

- enable learners to engage more fully with the resource
- allow employees to complete training
- improve retention and application of new skills and knowledge
- develop transferable literacy and numeracy skills that employees can use in other situations.



What are the differences between traditional and embedded resources?

They may cover the same content. However, the assumptions underpinning each resource are different.

TRADITIONAL RESOURCES	EMBEDDED RESOURCES
<ul style="list-style-type: none">• It is assumed employee has adequate literacy and numeracy skills to engage with content.• Content is provided in the form of information.• Employee reads information.• Employee extracts key points.• Employee transfers new knowledge into work practices or assessment.	<ul style="list-style-type: none">• It is recognised that employees may not have sufficient literacy and numeracy skills to engage with content.• The resource is considered an opportunity for building literacy and numeracy skills as well as content knowledge.• Content is provided in the form of interactive activities.• Employee is supported to engage fully with the content through scaffolding, framing and directing, etc.• Employee engages with content using explicit literacy and numeracy strategies, eg, predicting, reflecting, estimating, questioning, etc.• Employee is supported to transfer new knowledge and skills into workplace practices and assessment.

At the drawing board

What are the elements of an embedded resource?

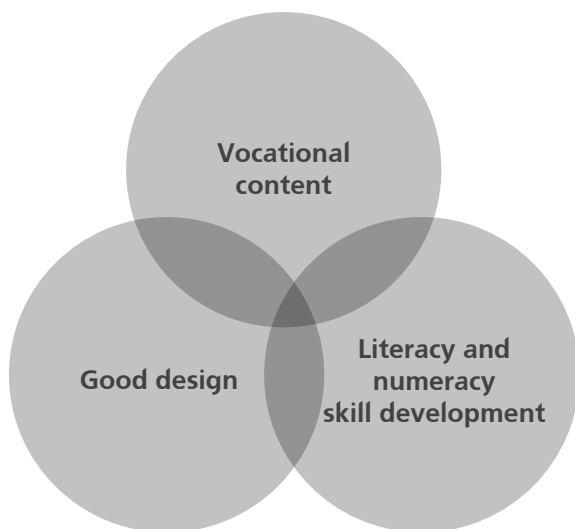
Embedded resource development requires three elements – vocational or industry content, literacy and numeracy skill development and good design features.

Vocational content needs to be relevant, accurate and current. It also needs to be linked with actual workplace tasks so newly learned skills can be easily transferred into real life situations.

The resource may draw on external information sources (eg, from individual workplaces) to supplement the content provided. This increases the links between the resource and the learner's workplace.

Literacy and numeracy skill development needs to reflect industry needs and be applied in daily working life. Repeated development and practice of these skills is essential for individual growth. A resource should repeatedly expose the learner to new skills, initially in a supportive way and moving towards independent usage.

The literacy and numeracy activities in a resource interact with the vocational content. This allows the learner to use literacy and numeracy skills to engage with the vocational content.



Good design facilitates access to material for all readers. Poor design adds to the level of literacy demand. Good design includes: use of white space, font style and size, use of colour, signposting and text markers (eg, icons), use of graphics, etc.

All learners have different skill sets. Therefore, the pathway through a resource may not be the same for everyone.

There may be opportunities for fast-tracking through a resource for more independent learners and providing additional support beyond the resource for those who require it.

For those who can...

What about employees who don't need an embedded approach?

Some employees will have the literacy and numeracy skills needed to engage and complete training material. These employees may fast-track through resources. Fast-tracking allows employees to gauge whether they need to interact with an activity or whether they know enough to move on to the next item.

These employees will also benefit from considering the literacy and numeracy activities and thinking about the skill sets they have and what others around them may need to access the material. These employees may support other employees who have a lower skill set.

Embedding literacy and numeracy into training materials makes the material more interactive and engaging. Having the skills does not mean that engaging with the activities will not be enjoyable. Nor does it mean the activities will be 'beneath' those who may not need the skill development directly.

...and for those who can't

What about employees who still can't engage with the resources?

Some employees, even using an embedded approach to training materials, will not have the literacy and numeracy skills to engage independently.

These employees have low literacy and numeracy skills and will need additional support to complete the material. Additional support could take the form of a learning mentor, coach, tutor or trainer.

Some embedded materials are designed for both independent study (whereby the learner works in a self-directed way) and for facilitated delivery (usually in a training space with a facilitator).

Ideally, using an embedded approach allows more employees to engage with the material with limited support, thereby freeing up time and resources to provide low-level employees with the support they require.

It's a team job

Who needs to be involved in embedded training resource development?

To ensure all embedded resource features are included in the development of materials a subject matter expert, literacy and numeracy specialist and an instructional designer should be involved.

Furthermore, an internal steering group, whose role is to oversee the development, ensures that the wider organisation remains involved and has ownership of the final project.

An essential part of the development involves an analysis of the literacy and numeracy skills that are either required by the industry sector as important or that are needed to complete a task or piece of learning.

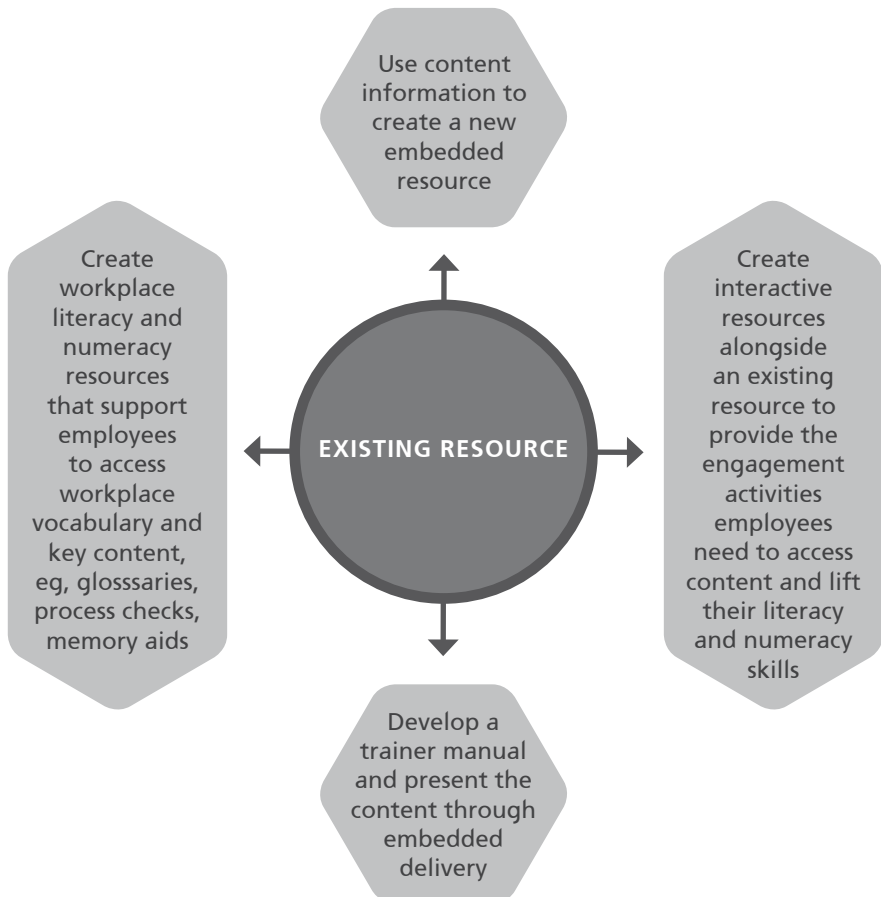
This analysis informs the scope of the literacy and numeracy skills to be developed within the resource.

Consultation and trial groups are also essential to provide feedback and support for further development.

Where to from here?

Can we embed into existing resources?

There are several approaches for embedding into existing resources. A trainer manual is one way. Creating interactive resources to be used alongside those already there is another way to make a start on embedding. Glossaries and process checks are also helpful.



More help

Where is there more information on the embedded approach?

The following websites are useful first ports of call:

Literacy and Numeracy for Adults Te Arapiki Ako
www.literacyandnumeracyforadults.com/

Industry Training Federation (ITF)
www.itf.org.nz/literacy-and-numeracy.html

Tertiary Education Commission (TEC)
www.tec.govt.nz/Learners-Organisations/Employers/Workplace-literacy/

Talk to us

If you'd like to talk to someone about embedding literacy or numeracy in your training resources, either phone us on **(04) 905 6715** or email **admin@symbiont.co.nz**

One of our Educational Designers will be more than happy to talk with you.

www.symbiont.co.nz

