Literacy, Language and Numeracy

Connecting research to practice in the tertiary sector

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Research Summary

contents

This publication is a summary of nine literacy, language and numeracy research reports published by the Ministry of Education between July 2009 and July 2010. The summary and two-page reference card are available via our website at: www.akoaotearoa.ac.nz/lln. Print copies can be requested by email to: info@akoaotearoa.ac.nz

Preface

A well functioning society is one where everyone has the basic building blocks to participate in and contribute to their communities. The ability to read and write is one of these basic building blocks, as is general numeracy. Around 40% of adults in Aotearoa, New Zealand have literacy and numeracy skills below a level needed to use and understand the increasingly difficult texts and tasks that characterise a knowledge society and information economy: hence increasing Literacy, Language and Numeracy (LLN) is a key strategic priority for the government, and the nation.

But, how do we raise LLN levels in New Zealand? This is no easy task, but it is clear that the tertiary education sector has a critical role to play in this goal. Recently, the Ministry of Education, the Tertiary Education Commission and the Department of Labour have invested in a variety of mechanisms to understand and raise LLN levels amongst learners, as have other organisations.

Part of the government investment has been in research. We believe that investments in research such as this are critical, but research for its own sake is of limited value: it is just the first step to sustainable improvements. Once research has been conducted, the challenge then becomes how we can best translate the findings into practice. There is an onus on researchers and funders to consider how their work can be best shared with, and presented to practitioners and organisations so key findings will be acted on. If we are looking for an evidence-led debate then that evidence must be accessible from a practice perspective.

We have commissioned this summary of nine LLN research reports published by the Ministry of Education between July 2009 and July 2010. The research was undertaken as part of the Literacy and Numeracy for Adults work programme, which aims to strengthen literacy and numeracy teaching and learning for adults. There is much to be learned from these projects and this document has been developed with the intention of summarising the key findings to highlight what we currently know from this literature, provide examples of good practice, and identify gaps in knowledge where future research may be commissioned.

We encourage educators to consider the findings and discuss with colleagues how their organisation might best apply them.

It is important to emphasise that this publication is not a good practice guide or a manual about the best way to teach LLN. Instead, it provides a set of suggested approaches that the research collectively identifies as important. Nor is this document by any means the last word in how we can enhance literacy and numeracy education for adults, and we aim to produce further summary documents in the future. The summary itself begins with key definitions and a brief overview of findings. The summary is then structured into sub-sections based on the following topics: Māori learners, e-learning, and embedding. Within each of these sections, effective LLN practices for learners, educators and organisations are considered.

We hope this summary provides a valuable starting point for growing discussion of how we can best support LLN practitioners and organisations in enhancing their day-to-day practice.

We would like to thank Jenny Whatman, Dr Helen Potter and Sarah Boyd from the New Zealand Council for Educational Research for developing this summary, and the reviewers who commented on earlier drafts.

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Research reports included in this summary

Below are the research reports and summary documents relating to the nine literacy, language and numeracy projects funded by the Ministry of Education.

Optimising Māori learner success

May, S. (2009). *Hangaia te mātāpuna o te mōhio. Learning foundations for Māori adults*.

http://www.educationcounts.govt.nz/publications/tertiary_education/55461/1

Mleck, S., Timutimu, N., Mika, C., Aranga, M., Taipeti, N., Rangiahu, T. R., Temara, T. M., Shepherd, Y., & McGarvey, H. (2009). *Te piko o te māhuri, tērā te tupu o te rākau. Language and literacy in marae-based programmes*.

http://www.educationcounts.govt.nz/publications/tertiary_education/55460/1

McMurchy-Pilkington, C. (2009). *Te pakeke hei ākonga. Māori adult learners*

http://www.educationcounts.govt.nz/publications/tertiary_education/55462/1

White, H., Oxenham, T., Tahana, M., Williams, K., & Matthews, K. (2009). *Mā te huruhuru, te manu. How can language, numeracy and literacy be optimised for Māori learner success?*

http://www.educationcounts.govt.nz/publications/tertiary_education/55459/1

E-learning for adult literacy, language and numeracy

Davis, N., & Fletcher, J. (2010). *E-learning for adult literacy, language and numeracy. A review of the literature*.

http://www.educationcounts.govt.nz/publications/tertiary_education/76971

Davis, N., & Fletcher, J. (2010). *E-learning for adult literacy, language and numeracy. A case study of a polytechnic*.

http://www.educationcounts.govt.nz/publications/tertiary_education/76970

Davis, N., & Fletcher, J. (2010). *E-learning for adult literacy, language and numeracy. A review of the literature. Summary of findings*.

http://www.educationcounts.govt.nz/publications/tertiary_education/76972

Lane, C. (2010). *Adult literacy and numeracy in New Zealand—Key factors. An analysis from the Adult Literacy and Life Skills Survey*.

http://www.educationcounts.govt.nz/publications/tertiary_education/78448

Thomas, G., & Ward, J. (2010). *Numeracy for adults: building skills with online learning links.*

http://www.educationcounts.govt.nz/publications/tertiary_education/76973

Embedding literacy, language and numeracy

Leach, L., Zepke, N., Haworth, P., & Isaacs, P. (2010). *'One size does not fit all'. How five tertiary organisations embed literacy, language and numeracy. Case study findings.*

http://www.educationcounts.govt.nz/publications/tertiary_education/76974

Leach, L., Zepke, N., Haworth, P., & Isaacs, P. (2010). *'One size does not fit all'. How five tertiary organisations embed literacy, language and numeracy. Summary report.*

http://www.educationcounts.govt.nz/publications/tertiary_education/76975

Thomas, G., & Ward, J. (2009). *Numeracy for adults. Latest findings from teaching and learning research*.

http://www.educationcounts.govt.nz/publications/tertiary_education/51931/4

Definitions used in the research

Literacy, language and numeracy

Literacy is the written and oral language we use in everyday life and work; it includes reading, writing, speaking and listening. Skills in this area are essential for good communication, critical thinking, and problem-solving in the workforce. It includes building the skills to communicate (at work) for speakers of other languages. Numeracy is a person's knowledge and understanding of mathematical ideas and their ability to use their mathematical knowledge successfully in their personal, study and work lives. Many New Zealand documents imply that literacy is language; for example, "the written and oral language people use in their everyday life and work; it includes reading, writing, speaking and listening" (The *Literacy, Language and Numeracy Action Plan 2008–2012* [Tertiary Education Commission, 2008, p. 6]).

It is *literacy*, not English *language* ability, that the research reports refer to, except when they talk about people who do not have English as a first language.

Some people label this definition as "functional" literacy that prepares people to function successfully at work, at home and in the community.

Other people prefer wider definitions of literacy and refer to a holistic view or multiple literacies: cultural and critical literacy as well as functional literacy. Some programmes include and connect the three—cultural literacy, critical literacy and functional literacy. Other forms of literacy that people talk about are academic literacy, employment literacy and computer or ICT literacy.

E-learning

E-learning is learning that makes use of digital technologies (ICTs). This includes computers and internet access, as well as hand-held devices such as mobile phones.

Embedding

Embedding LLN means building it into the teaching and learning of vocational and other skills, rather than teaching it on its own. ✄

Overall findings

When LLN skills are improved, learners gain greater confidence in study and at work, as well as at home and in other parts of their lives.

There is no one "magic" way to improve someone's LLN skills—most people benefit from multiple approaches. Literacy that enables them to function in everyday life needs to be woven in with critical and cultural literacies for learners to achieve as successful learners, workers and citizens.

Embedding LLN is an efficient and effective way to improve LLN skills while someone is working or studying. There are many approaches to embedding.

Everyone needs to know how to use digital technologies these days. E-learning makes LLN learning more flexible and, if it is carefully designed to meet their needs, is particularly useful in opening up opportunities for Māori, second-language learners, Pacific Peoples, and people with disabilities.

Adults in e-learning courses will do best if someone at home helps them. E-learning is more effective for learners if it is combined with face-to-face training.

Māori learners respond positively to marae-based learning and to kaupapa Māori ways of teaching and learning LLN. Māori learners place particular importance on their relationship with the educator.

For many second-chance learners, LLN programmes offer them their first experience of educational achievement and give them confidence to continue with study.

People with English as a first language have a considerable advantage in literacy and also in numeracy tested in English. People whose first language is not English are at less of a disadvantage if their main home language is English. Computer use is strongly associated with higher literacy and numeracy, especially the combination of work and home computer use. That means that many LLN learners won't have experience with computers and are likely to need a lot of support to use ICT for learning. ➤←

Optimising adult learning

How adult learners learn effectively

This section draws on all of the research reports to describe adults as learners.

Adults are more likely to succeed when their values and cultural backgrounds are acknowledged and respected. Their everyday roles as parents or in the community provide learning opportunities, and they draw motivation and support from whānau (family) and communities.

Motivation is key. Learners are motivated when they can see the value of learning for their own goals. They need to be involved in setting their own learning goals and monitoring their progress.

Adult learners develop expertise by building on their existing knowledge, skills and experiences. The learning needs to be relevant and connected to them. Then as their expertise develops, they can apply it in other contexts.

Learners benefit from understanding the underlying principles behind the content, so they can use what they've learnt in work or other everyday situations. As their expertise develops, they become increasingly aware of the key concepts that help to structure their knowledge and develop strategies that allow them to monitor their own learning.

How educators and organisations can optimise learning

This section draws on all the research reports to describe effective educators.

There are many aspects of quality teaching that apply to all learners. Quality teaching starts where the learner is at and creates learning activities that allow individuals to build on what they know and to apply new learning in new situations, which is known as transfer. The educator supports the learner through new learning until the learner has the motivation and confidence to initiate their own learning experiences.

Quality LLN teaching is not straightforward. However, there are some things all educators can do to help learners:

- Take account of the learner in designing teaching material that includes explicitly recognising and respecting each learner's strengths and challenges.
- Have high expectations of students and show you believe in them by being caring, patient, approachable, passionate, firm, humorous, and committed.
- Provide a supportive and collaborative learning environment.
- Put in place clear processes, assessments and expectations. Give timely feedback to learners—have a good balance between challenge and support.
- Use a mixture of teaching approaches, including experiential (learning by doing) and group learning processes, e-learning opportunities, and support.

- Build on learners' existing knowledge, experiences, and understandings, and support individuals to actively construct meaning for themselves.
- Many adults have mathematics anxiety. Teaching approaches that focus exclusively on correct answers and give little support to thinking don't help. It is important to model positive attitudes towards mathematics and use relevant content in meaningful contexts.
- Educators and adult learners need to work together towards a range of strategies to help each learner's numeracy learning. This helps adults grasp the increasing place and importance of numeracy and ICT-related numeracy skills in the 21st century.
- Numeracy learning needs to be related to everyday work and life experiences. Learners need to make connections between these experiences and mathematical concepts. Concrete examples are a good way of doing this.

The literature reviews and case studies emphasise the benefit for educators of ongoing professional development, and this works best if it is systematic. Effective professional development programmes focus on the link between learning and educator practice. They support educators to identify and examine their current understandings and approaches, and to take responsibility for their own learning. For continued development, staff need access to emerging resources and support from professional organisations.

Providers of training need to ensure their staff are involved in professional development that focuses on their content area and, if they decide to use e-learning, on ICT use and on how both e-learning and LLN can be embedded in the learning process. ✤

Optimising Māori learner success

The learners

The following information comes from the four reports on Māori adult learners.

Reasons for Māori adult learners to enrol in LLN learning include being a role model for others, getting involved in the learning of their tamariki/mokopuna (children/grandchildren), and participating in whānau and community activities. The research indicates that many Māori adult learners want Māori knowledge, including te reo and tikanga Māori.

Many Māori adult learners have had negative experiences of school. As a result, many have negative attitudes to formal learning, do not see themselves as capable learners, and may have minimal learning goals. The development of self-belief and confidence as a learner through adult LLN learning generates learning success and further educational aspirations.

Māori values and protocols such as those listed below are also highly valued by students and educators and seen as central to the success of programmes:

a.   Te noho ā marae—marae kinship.

b.   Te hononga ā-iwi—shared iwi links.

c.   Te noho hei whānau—deliberate act of teamwork.

d.   Te noho rūmaki—protocols and customs.

e.   Kanohi ki te kanohi—face to face (implies frankness).

f.   Te manaakitanga—fostering relationships.

g.   Te tuwheratanga—openness.

h.   Te whakapono—trust.

The Māori research reports also raised the issue of social and economic barriers to adult learning that can affect learner participation, retention, and completion rates. Barriers include travel, financial difficulties, fees, childcare, and lack of whānau support. Cost was a particular barrier to higher level tertiary study for Māori adult learners.

Preferred Māori learning approaches are based on Māori values and practices such as ako (teaching and learning as simultaneous activities for educators and learners), manaakitanga (looking after and supporting people), aroha (love), awhi (help), tautoko (support and help), and tuakana/teina (relationship where an older or more experienced learner guides a younger one).

Māori learning success is enhanced by whānau support.

Māori learners placed particular importance on the relationship with their educators. One-on-one attention initiated by the educator is key to building this connection. Successful relationships were trusting, respectful and helpful.

Māori adult learners bring complex and diverse experiences to learning – they are not a homogeneous group.

CASE STUDY: Māori learners

Māori learners are not all the same—they have very different lives and experiences of learning. However, many Māori learners value a whānau environment created by passionate, caring and patient educators. They like small classes that are collaborative and success orientated, and where being Māori is valued and where Māori values are strongly evident. Educator–learner relationships thrive on trust, honesty, confidence, dialogue, informality and openness, and empathy. Māori learners enjoy being taught as individuals with specific strengths and needs rather than an approach that sticks rigidly to a set curriculum. They like interactive hands-on examples and activities that are relevant to their lives. They acknowledge that they are learning more than literacy and numeracy and that they are successful learners of social skills, effective studying, cultural skills and knowledge, work employment skills, self-confidence, and respect for themselves and others.

Adapted from May, S. (2009). *Hangaia te mātāpuna o te mōhio. Learning foundations for Māori adults*. http://www.educationcounts.govt.nz/publications/tertiary_education/55461/1

Educators

The research into optimising Māori learners' success and the embedding research pick up aspects of quality teaching that are highly valued—particularly by Māori learners.

Successful learning depends on strong leadership from teaching staff and on their teaching excellence and knowledge base, particularly if it is to facilitate whānau and community gains. Quality teaching has many elements and is best achieved when learner-educator ratios are low, and when educators are well resourced and supported.

The relationship between educators, learners and learners' whānau is critical in creating successful, comfortable and safe learning environments where Māori adult learners feel respected and valued as Māori. Outcomes for learning are seen as benefiting not just the learner but those around them as well.

Educators with cultural knowledge work to strengthen Māori learners' identity through structuring teaching, learning and assessment around kaupapa such as whakapapa (genealogy), manaakitanga, aroha, awhi, and whānaungatanga (relationships). Learners gain a sense of security from belonging to a whānau-centred learning environment. Being valued as Māori is critical to their sense of well-being as learners.

A relevant curriculum, group and individual learning, opportunities for hands-on learning and a success-oriented, collective approach to learning help motivate Māori adult learners.

CASE STUDY: A holistic approach to the learner

In one programme, staff identified the existing skills and abilities of each learner and then designed the programme to engage the learner in successful learning. Educators approached teaching and assessment by understanding where learners came from—both in terms of their previous experiences of formal learning, and what was culturally appropriate. This included not singling learners out, and acknowledging that many initially felt whakamā (embarrassed and/or shy) and "dumb."

The programme recognised that some Māori learners did not have whānau support for their learning. Finding the skills each learner had and working from them, helped build their learning.

Establishing trust was a key component in building the relationship between the educator and Māori learners, and with their whānau and the community. Each educator provided a safe environment and an open-door policy. Other factors that were important were having quality conversations, having insight into the situations that learners face every day and using hands-on teaching approaches. Tikanga and te reo Māori were important elements of that environment.

Adapted from White, H., Oxenham, T., Tahana, M., Williams, K., and Matthews, K. (2009). *Mā te huruhuru, te manu. How can language, numeracy and literacy be optimised for Māori learner success?* http://www.educationcounts.govt.nz/publications/tertiary_education/55459/1

Organisations

In organisations that optimise LLN success for Māori learners, the vital contribution of literacy and numeracy is recognised and given a high profile. They use a holistic model of literacy education that includes cultural, critical and functional literacies.

A holistic approach to supporting literacy development is developed in a strategic way across the organisation—including academic and pastoral support services.

A key finding of the Māori research reports is the importance of whānau support to Māori learners. The challenge for organisations is to embed this concept throughout their operations in ways that are meaningful to Māori learners.

Organisations/providers and iwi benefit from working together to develop services and shared goals that support literacy learning for Māori adult students and their whānau. Relationships with government agencies, schools and other tertiary education organisations are also important to facilitate the development of these services and goals.

Small class size helps Māori adult success. While none of the Māori research reports specified what constitutes a small class, the important factor was for learners to be able to access one-to-one learning with a tutor.

Marae-based learning offers the opportunity for Māori adult learners to learn locally. It also gives whānau, marae and hapū the ability to participate in developing and directing what is taught, and how.

Case study: Programmes that work for Māori learners

Programmes that engage Māori learners and enable them to succeed give importance to the voice of learners. The programmes use a kaupapa Māori approach that acknowledges the importance of Māori language and culture and legitimises being Māori and Māori knowledge. Processes include whakawhanaunagatanga (an emphasis on quality relationships), wairuatanga (spirituality), and manaakitanga (respecting Māori customs and being collaborative).

The programmes also acknowledge that each learner is an individual who brings their own complex and different experiences to learning. What the learners do usually have in common is negative prior educational experiences; programmes based on Māori tikanga and pedagogies are most likely to overcome learners' wariness of further education.

Adapted from a summary of findings across a range of programmes in: McMurchy-Pilkington, C. (2009). *Te pakeke hei ākonga. Māori adult learners.* http://www.educationcounts.govt.nz/publications/tertiary_education/55462/1

Gaps in the research on Māori learners

A key challenge for tertiary education organisations is to identify how to embed the concept of whānau into their operations. The research highlights the importance of creating a whānau atmosphere of belonging, and of educators developing a relationship with learners based on trust, mutual respect, and real caring.

While the link between literacy and whānau support is noted in the research, there has been no research to date that examines the whānau context of Māori literacy and numeracy learning. Nor has there been any that specifically focuses on the labour market participation impacts of Māori adult literacy learning.

There is little research in the field of Māori adult literacy and numeracy that is framed by or examines a Māori definition of literacy. Research to date has focused on the impacts of kaupapa Māori pedagogy and curriculum developments but none on kaupapa Māori assessment practices. →←

E-learning

The information in this section is taken from five research reports where learners were to some extent engaged in e-learning. Many of the points come from the literature review and the case study.

Encouraging adults into LLN courses that include e-learning

Some adults are reluctant to participate in LLN courses, especially if they think they might be singled out for special remedial treatment. Advertising needs to be honest about the focus and intention of each course. Successful strategies include:

- Advertising courses in a range of positive ways, including the Web and word of mouth from past students.
- Marketing courses in ways that attract students from diverse backgrounds and with different reasons for wanting to undertake study.
- Marketing courses as updating ICT skills. This can be a relevant context for learning as well as a cover to reduce embarrassment that is often associated with LLN needs.
- Increasing the flexibility of course delivery with e-learning.
- Providing online learning activities or activities that draw on and link the learners into their communities.
- Embedding LLN into programmes that will help them meet their family- or work-related goals.

Learners and educators

Many adult LLN learners lack confidence with e-learning activities. Educators can make sure that their first experiences of e-learning in LLN fit with their individual needs, employment options and lifestyles and take place in an emotionally safe environment. Having e-learning that is a good fit with the learner's lifestyle is a key to success.

E-learning usually works best in combination with other approaches, such as face-to-face educating. People who have had little to do with computers tend to fear e-learning until they develop some ICT skills and confidence, but some adult learners will need continued intensive support.

Effective LLN teaching requires a range of strategies, including e-learning and support. Learners benefit from having a chance to debate the benefits of different types of texts, including digital texts.

Educators can use ICT to modify and create engaging learning resources. They can build resources that involve other family members who may be helping the adult LLN learner become more confident.

Computer games can be a non-threatening and fun way of hooking younger adults into LLN. Learners need to be clear about the LLN requirements from the game and have the chance to reflect on what they need to do. These games can also be an informal means of assessing learning needs.

Mobile phones offer new ways to blend work and learning and increase access to LLN. Embedding has to be done carefully to make sure the activities fit well within the workplace and educational organisations.

Adults are more likely to succeed in e-learning when they have:

- Ongoing access to a computer without technical problems.
- Some literacy and numeracy skills.
- Clear goals to motivate them.
- Access to whānau and/or employers when needed.
- A good induction to e-learning resources.

Learners in a study of e-learning in a polytechnic said their study benefited from having:

- Clear and colourful material online.
- The ability to spend as much time as they needed on a task.
- Opportunities to practise different ways to solve numeracy problems and being able to go back over things.
- Lots of practice material with different levels of difficulty and with instant feedback.

CASE STUDY: Jade

Jade is a 20-year-old apprentice currently studying for a National Certificate in Concrete. Jade took part in online learning in numeracy —learning links—to help him meet learning objectives that were set for him in an initial assessment. The educator selected 16 easy-to-use online learning activities that would address the gaps in his knowledge, require active learning of demanding tasks, and provide immediate feedback. For his work Jade needed to know about hundreds in whole numbers and tenths and hundredths in decimal numbers, conversion between units of measure, telling the time, and calculating fractional amounts.

Jade owned a computer but was given broadband internet access to enable him to participate at home. Every Monday he was emailed four tasks and he was asked to spend half an hour on them, three times a week. In fact he spent longer than that with the help of his girlfriend. Jade made progress in three of the four focus areas of learning and moved to a new step of the learning progressions for measurement and place value. (For information about the Learning Progressions see http://literacyandnumeracyforadults.com/Learning-progressions)

Jade now uses his new skills at home and at work. He can now use a tape measure successfully and is more accurate in measuring. At home he can measure the ingredients to make muffins, read the Sky TV timetable and tell the time on an analogue clock. Jade and his employer both thought that the learning links approach had the potential to effectively support and develop the numeracy skills of apprentices.

Adapted from Thomas, G., & Ward, J. (2010). *Numeracy for adults: building skills with online learning links*. http://www.educationcounts. govt.nz/publications/tertiary_education/76973

Organisations

A systematic professional development approach is necessary to develop the ICT skills of all educators and their understanding of how both e-learning and LLN can be embedded in the learning process. Professional learning can be through qualifications or through less formal networking.

Communities of practice can provide another means of professional development for educators engaged in e-learning and can lead to the development of relevant resource banks.

Organisations that take up e-learning need to have the processes and technical and learning support in place for staff—they need to be able to respond to changing technologies and new understandings of e-learning.

Educators will often need time and support to engage successfully in e-learning. Learning mentors can be very helpful. While the researchers consider that we need a lot more research into adult e-learning they recommend that educators get to know the research base for e-learning, as this knowledge is likely to be make them more enthusiastic users.

> ## CASE STUDY: A large polytechnic that uses e-learning in some of its programmes
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> Five factors contributed to the polytechnic being able to sustain innovative practices involving embedding and e-learning:
>
> - The importance of leading from the top.
> - Learning Services support.
> - Professional and curriculum development for educators.
> - The organisation had good processes and policies in place for e-learning development initiatives for Māori monitored by a dean.
> - The team in charge of e-learning support recognises that they must take a long-term approach, so they have careful review and adaptation processes in place.
>
> Learners value e-learning because:
>
> - It is self-paced and can be fitted around family tasks.
> - They are not embarrassed by the mistakes they make.
> - Problems are presented in multiple ways that allow for practice.
> - They can self-mark and get immediate feedback.
> - Well-organised supportive staff provide assistance.
> - There are opportunities for peer coaching.
> - There is an element of competition (against oneself or peers).
>
> Adapted from Davis, N., & Fletcher, J. (2010). *E-learning for adult literacy, language and numeracy. A case study of a polytechnic*. http://www.educationcounts.govt.nz/publications/tertiary_education/76970

Gaps in the research on e-learning in LLN

We need more information about e-learning and its effects on adult literacy and numeracy skills and second-language acquisition. We do not know about e-learning in partnership with rural and remote communities, or about its use in connecting immigrants to their home countries for learning purposes.

The e-learning researchers suggested we need more research that is complex enough and of good enough quality to help generate and guide ongoing developments in teaching and learning practices. In particular, they would like more research on how to use digital technologies to advance learning and how to support e-learning professional development of educators and organisations. ✂

Embedding

This section draws on findings from three research reports on embedding LLN.

Embedding LLN works best where LLN is promoted as good teaching and as deliberate acts of teaching. This means educators need to design specific learning activities aimed at improving LLN skills. LLN needs to be built into the programme, not bolted onto it as an extra activity with no connection to the programme's main purpose.

Educators who are embedding LLN are more effective if they work in a team where people have different skills and knowledge. Successful team approaches may involve educators in joint planning, observation and team teaching. LLN and vocational educators need opportunities to learn from each other.

Effective teaching teams in adult education are learner focused and share responsibility for learner progress.

Links between LLN learning and vocational learning should be clearly and explicitly identified. LLN instruction is provided as it is required for the vocational task at hand and is adjusted for learners' varying needs. It is most effective where it is regarded as an integral part of vocational training.

Each organisation that embeds LLN will do so very differently but a few key things need to be in place. Organisations need to:

- Provide an opportunity for an "LLN champion," either an individual or a group. The champion provides the vision and the drive.
- Develop a coherent philosophy for embedding literacy. This is likely to incorporate LLN skills for work and the economy as well as LLN for social practice.
- Get the whole organisation committed to embedding literacy. Ensure the value of LLN is understood and viewed as an integral part of vocational training.
- Comprehensively document policies for embedding LLN.

Case study: A Māori organisation's commitment to embedding LLN

One Māori organisation, committed to embedding LLN into its programmes, follows its own vision and at the same time honours government policy. The organisation recognises the importance of literacy and numeracy to Māori success, and LLN has a high profile in the organisation. The model of LLN is holistic and includes functional, critical and cultural literacies. The organisation has worked towards a consensus that LLN should be embedded into foundation programmes. Conversations and strategic thinking about embedding LLN are ongoing and a strategy is implemented by a high-level steering committee. There is ongoing professional development for staff and engagement in a "bottom-up" approach.

Adapted from Leach, L., Zepke, N., Haworth, P., & Isaacs, P. (2010). *'One size does not fit all.' How five tertiary organisations embed literacy, language and numeracy. Case study findings.* http://www.educationcounts.govt.nz/publications/tertiary_education/76974

- Put learners at the centre of the organisation. Personalise learning programmes and provide authentic contexts for learning. Specify learning goals, systematically monitor the progress of all learners towards these goals and then revise teaching programmes on the basis of this information.
- Develop whole-of-organisation support for contextual learning by preparing learners for the vocational and social context in which they will work and live.
- Make sure there is a strong emphasis on educator training and professional development through individual support such as mentoring and achieving literacy qualifications.

The numeracy research found that learners were more likely to get vocational qualifications where educators worked as a team. The research also identified the importance of assessment against the learning progressions to give direction to and improve teaching programmes and to monitor learner progress.

The research findings about numeracy identify that organisations are more likely to embed numeracy more effectively when LLN is valued and understood and when numeracy is seen as integral to vocational training.

Case study: Embedding in a Private Training Establishment

This organisation has put in place all the key points for successful embedding. LLN specialists are friendly and work well with vocational educators. While some staff focus on functional literacy, there is recognition that literacy is also about social and economic well-being.

Key factors of success are:
- An organisational culture focused on successful outcomes for learners in both LLN skills and vocational qualifications.
- A specific person who acts as a champion for literacy within the organisation.
- A learning centre focused on initial assessment and on support for both learners and vocational educators, as well as on monitoring and evaluating progress. Qualifications and courses are mapped onto the Adult Learning Progressions to identify the LLN requirements. A matrix has been developed that identifies the LLN needs of each learner for the programme they are currently undertaking.
- Close collaboration between vocational and literacy specialists, with time to plan and evaluate their work collaboratively. Literacy provision is embedded, one-to-one, and contextualised workshops are held.
- All educators are required to gain an adult literacy educator qualification, which has increased their confidence. There is regular, ongoing professional development, mentoring and support.

Adapted from Leach, L., Zepke, N., Haworth, P., and Isaacs, P. (2010). *'One size does not fit all.' How five tertiary organisations embed literacy, language and numeracy. Case study findings.* http://www.educationcounts.govt.nz/publications/tertiary_education/76974

Websites to visit for resources

Places to start

Ako Aotearoa, the National Centre for Tertiary Teaching Excellence
http://akoaotearoa.ac.nz/

Literacy and numeracy for adults http://literacyandnumeracyforadults.com/

Workbase http://www.workbase.org.nz

New Zealand Qualifications Authority – National Certificate in Adult Literacy
and Numeracy Education http://www.nzqa.govt.nz/nzqf/search/results.do?q=Nat
ional+Certificate+in+Literacy+Education&area=&searchSubject=All&type=&lvl=&cr
edit=&status=Current

Resources for teachers and research projects http://www.literacy.org.nz/research-
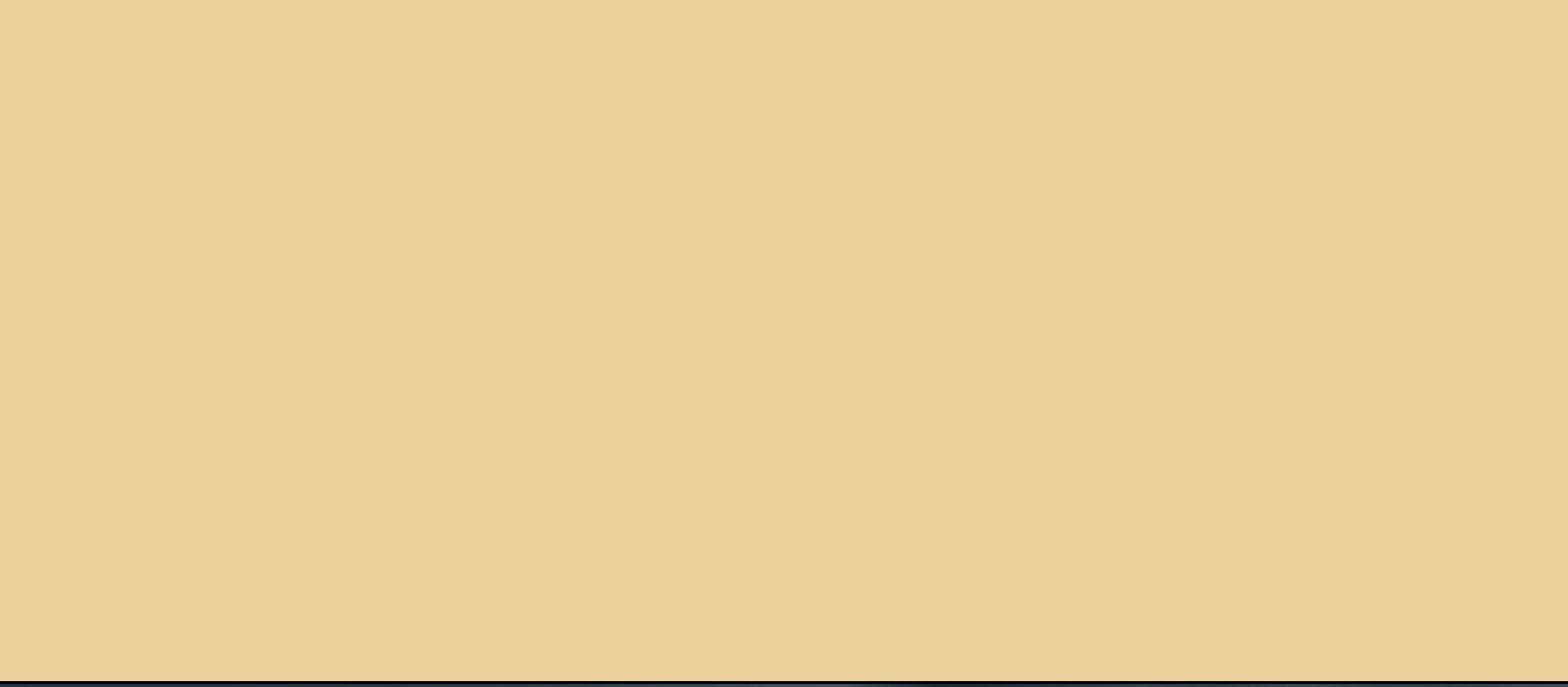publications.php?PHPSESSID=6d479ac1d7530d0ed98c907040241acb

Literacy Aotearoa http://www.literacy.org.nz/

New Zealand Literacy Portal http://www.nzliteracyportal.org.nz/

The University of Waikato – National Centre of Literacy and Numeracy for Adults
http://literacyandnumeracyforadults.com/National-Centre