



Tertiary Education Commission
Te Amorangi Mātauranga Matua

Literacy and Numeracy Professional Development

Research Findings

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Context

Summary	3
Policy context.....	4
Purpose of the Research	5
Background.....	6
Methodology	6
Embedding literacy and numeracy.....	9
Challenges.....	13
Professional development.....	15
Future professional development needs.....	21
Effective modes of delivery	22
Discussion	24
Appendix One: Literacy and Numeracy Infrastructure	27
Appendix Two: TEO Performance Data	29
Appendix Three: Research Question Areas.....	31
Appendix Four: Embedded Literacy and Numeracy (ELN) Practices	32
Appendix Five: Wānanga Embedding Approach.....	33

Summary

The purpose of this research was to find out the extent to which tertiary education organisations (TEOs) are embedding literacy and numeracy into their practices; how the professional development delivered by the National Centre of Literacy and Numeracy for Adults (the National Centre) is supporting TEOs to do this; and the future needs of TEOs. The findings in this report come from interviews with staff in 20 TEOs.

The TEOs showed different levels of maturity which, based on these findings, have been described as emergent, partial and mature practices. The institutes of technology and polytechnics (ITPs) and the wānanga overall showed more mature practice than private training establishments (PTEs). This means that ITPs and the wānanga have, for the most part, the capability to continue their literacy and numeracy work and will require limited and targeted support to get literacy and numeracy operating effectively at an organisational level.

PTEs will require further support at the learner and classroom level so that they can fully embed literacy and numeracy into their programmes. They will need continual and targeted support to do this, before they move on to embedding literacy and numeracy at the organisational level.

All TEOs require support from the National Centre to up-skill vocational tutors. Both professional development and resources on the National Centre website need to be practical, contextualised and targeted so that tutors see it of value and connecting to their vocational context.

All TEOs need support to get the full benefits from the Assessment Tool. For ITPs and wānanga, who are already using the results to inform learner and programme development, this means support from the National Centre to work with the information at an organisational level. For PTEs it means, to start with, support to use the results to inform teaching and learning programmes.

Distance learning is also an area that will require support from the National Centre. This means supporting tutors from a distance through online resources, including online professional development, webinars and resources. Tutors also need support to develop resources that are specifically focussed on distance learning.

Policy context

Literacy relates to the written and oral language people use in their everyday life and work; it includes reading, writing, speaking and listening - skills 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 (Literacy, Language and Numeracy Action Plan 2008-2012)

Numeracy bridges mathematics and real life. It comprises the knowledge and skills to apply mathematics to everyday family and financial matters, work and community tasks.

Successive governments have recognised that a significant proportion of New Zealand adults have literacy and numeracy skills below what is necessary to participate fully in a modern, high-skill economy.

The current stream of work began with the publication of the New Zealand Adult Literacy Strategy¹ and has continued through to literacy and numeracy priorities in the Tertiary Education Strategy 2010-15, particularly raising the skills of learners at Levels 1-3 in the New Zealand Qualifications Framework (NZQF)².

In recent years, the Tertiary Education Commission (TEC) has received significant government funding for literacy and numeracy education – both to develop a national infrastructure to support educators and for direct delivery of education to learners. These initiatives are now well-established, and include³.

- the Learning Progressions – a competency framework
- the Literacy and Numeracy for Adults Assessment Tool (the Assessment Tool) – a diagnostic assessment showing how each individual’s literacy and numeracy competencies align with the Learning Progressions
- qualifications and professional development opportunities for educators
- teaching and learning resources.

Between 1 July 2008 and 30 June 2011 all ITPs and wānanga were given funding (\$12.5 million in total) to develop and implement plans to embed literacy and numeracy in the education they provide at NZQF Levels 1-3. The relevant changes included:

- redeveloping courses and qualifications
- identifying students who need more literacy and numeracy education

1 The New Zealand Adult Literacy Strategy Kei tua atu i te kupu: Te mahere rautaki whiringa ako o Aotearoa The Ministry of Education May 2001 www.minedu.govt.nz/~media/MinEdu/.../AdultLiteracyStrategy.pdf

2The TES sets out the government’s vision for the tertiary education system Further information can be found on ref to p.10 of the TES 2010-15 <http://www.tec.govt.nz/Funding/investment-plans/plan-guidance-for-2012/the-governments-vision/>

3 Some of these components are described in Appendix One.

- developing course materials
- professional development and qualifications for educators.

From 2013 it will be a condition of funding that TEOs 'embed' literacy and numeracy into all Level 1-3 qualifications. 'Embedded literacy and numeracy' is teaching that combines the enhancement of learners' literacy and numeracy with developing their vocational and other skills. This enables learners to improve literacy and numeracy in a contextualised and meaningful way.

Purpose of the Research

The purposes of this Research are to:

- gain an understanding of the extent to which TEOs are embedding literacy and numeracy in their practices
- find out how professional development delivered by the National Centre of Literacy and Numeracy for Adults is supporting these TEOs to improve their literacy and numeracy practice.

Accordingly, the Research has the following objectives:

- to better understand how TEOs have embedded numeracy and literacy
- to gauge how well professional development delivered by the National Centre of Literacy and Numeracy for Adults has been responsive to meeting needs of TEOs
- to find out TEOs' future professional development needs in the literacy and numeracy area
- to identify effective models of professional development delivery to best meet those needs.

The Research builds on the information gathered through a recent consultation process on TEC's Literacy and Numeracy Strategy, where the sector provided generic feedback on the current professional development provided by the National Centre⁴.

The Research findings will be used to inform the future work of the National Centre.

⁴ Sector feedback on current professional development provided by The Centre included:

- More professional development capability to support specific focus on Māori & Pasifika and other modes of delivery (i.e. home based learning)
- More professional development with a focus on employers
- More online professional development resources to improve accessibility while minimising costs
- More drawing on existing expertise when developing professional development (e.g. ESOL)

Background

The TEC funded the establishment of The National Centre of Literacy and Numeracy for Adults in 2009 as part of building new infrastructure for literacy and numeracy in the tertiary education sector. It was set up as the national 'centre of excellence' in adult literacy and numeracy, the preferred point of reference for educators, and the focal point of professional development for those who teach adult literacy and numeracy. Hosted by the University of Waikato, the Centre leads a nationwide programme of professional development to improve the effectiveness of TEOs in raising literacy and numeracy skills among adult learners.

The Literacy and Numeracy for Adults website⁵ run by the Centre provides information and resources to strengthen literacy and numeracy teaching and learning for adults. It provides professional support for educators on the Learning Progressions and the Assessment Tool; professional development opportunities; resources to support teaching, learning and assessment; and research.

Methodology

A mixed methods approach was used to gather data for the Research. Quantitative data were gathered from information collected and held by TEC, including information on ethnicity and on qualification and completion rates in Level 1-3 programmes. Qualitative data were collected from interviews with staff members with responsibility for leading literacy and numeracy work in 20 TEOs.

TEO interviews

Structured telephone interviews (and one face-to-face interview) were conducted with key literacy and numeracy staff from each institution. Other academic and/or administrative staff involved with literacy and numeracy were also invited to provide a broader organisational focus. An introductory email outlining the key question areas was sent to participants prior to the interviews. Each interview took up to an hour.

The interviews took place from September to November 2012.

Rationale for methodology

Telephone interviews were selected as a cost-effective method of gathering a variety of users' perspectives from across the country. The interview format allowed the researchers to probe and/or adjust the questions as they deemed appropriate and allowed for the 'unpacking' of users' perceptions on their experiences of professional development and their future needs. The use of structured interviews allowed the

⁵ <http://www.literacyandnumeracyforadults.com/>

researchers to gather equivalent information from all participating TEOs and thus provided useful data for analysis purposes.

A limitation of telephone interviews was that, as opposed to site visits, the researchers spoke to only one or two people who were giving their perspectives on literacy and numeracy within each organisation. This may not necessarily give the full picture of what is going on across each organisation. To balance this, performance data were used to provide wider context (see Appendix Two).

Sample

A purposive sampling approach was used. TEOs were selected based on information provided to the TEC about their use of the Learning Progressions and the Assessment Tool, and the extent to which they embed literacy and numeracy into their programmes and qualifications. Our sample of 20 TEOs included:

- nine ITPs
- nine PTEs
- one wānanga
- one subsidiary within the same wānanga

Within this sample there was a mix of:

- large and small institutions
- institutions in urban, provincial and rural areas
- institutions that focus on priority learners
- institutions that specialise in foundation learning
- institutions that specialise in vocational learning
- institutions that specialise in workplace learning

A range of people across the TEOs were interviewed including:

- literacy and numeracy staff and management
- tutors, including some heads of department
- management
- administrative and support staff

Key question areas

The key questions related to embedding, professional development and future needs. These were sent to TEOs in advance of the interviews and are attached as Appendix Three.

Ethics

As part of the ethical consent process, participants were informed that participation was voluntary and were provided with an explanation of the purpose of the work and what it would be used for. They were also told that every attempt would be made to ensure individual TEOs would not be identifiable in reports or publications.

It has proven difficult in practice to present the wānanga contribution within this general expectation of confidentiality. Only one wānanga (and a subsidiary of it) participated in the research, and many readers would be able to deduce its identity from the material presented. It is also important to retain the cultural perspective of the wānanga input without obscuring its origin. Thus, with the agreement of the individuals involved, Te Wānanga o Aotearoa is associated in this report with the contributions of its staff.

Two participants who requested the transcripts of their interviews were provided with them for checking.

Data analysis

Analysis was by an inductive approach that allowed the findings to emerge from the frequent, dominant or significant themes in the raw data. This involved multiple, independent readings of the data by two researchers to discover important patterns, themes and interrelationships.

The first level of analysis focused on the individual organisation and a cross-organisational analysis followed. TEC then held a video conference workshop with the National Centre of Literacy and Numeracy for Adults to discuss the high-level findings. This approach enabled the researchers to sound out the key findings and allowed the expertise of the National Centre to contribute to the interpretation and conclusions of the Research.

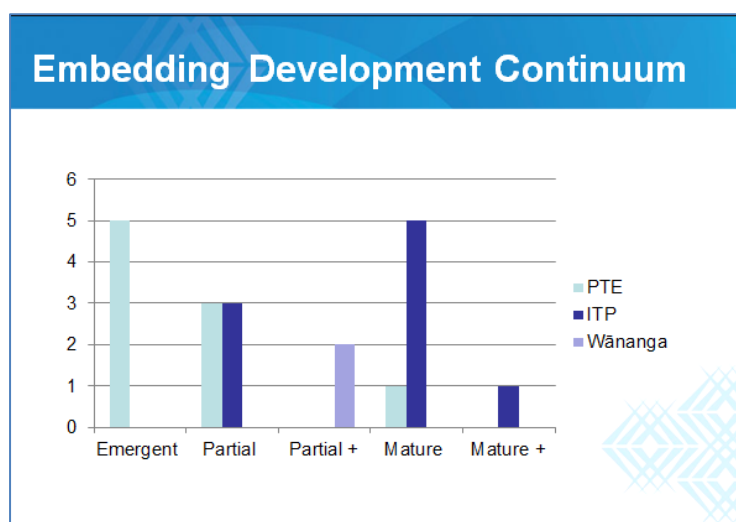
Embedding literacy and numeracy

The first objective of this Research is to understand how TEOs have embedded literacy and numeracy into their organisations, programmes and practices. This section of the report discusses the extent to which those interviewed have done this and provides examples of the sorts of practices that show embedding in action.

Continuum of literacy and numeracy development

The information gathered in the interviews shows that TEOs are on a continuum of development in relation to the extent to which literacy and numeracy are embedded at the organisational, qualification, programme and learner level. The evidence shows that TEOs have a continuum of practices that can be described as emergent, partial and mature.

Overall ITPs and the wānanga showed more mature practices than PTEs.⁶



Emergent practice

Emergent embedded practice includes:

- using the Learning Progressions to inform the teaching of individual learners
- using the Assessment Tool with individual learners both pre- and post-programme, then using that information to inform teaching and learning programmes or individual learning plans
- starting to embed literacy and numeracy into vocational courses through a review and rewrite of course material

⁶ No specific data were collected about why this occurred, but it can be surmised that this is the result of the continuous work that has been underway with ITPs since the early 2000s, firstly through the Ministry of Education and subsequently through TEC.

- some staff either having or working towards literacy and numeracy qualifications
- some staff having attended relevant professional development training or education
- no strategic approach to literacy and numeracy at the organisational level.

This emergent practice focuses at the classroom and learner level. It was seen in five of the nine PTEs. These PTEs have more experience in teaching intensive literacy and numeracy to foundation learners or English to speakers of languages other than English, rather than vocational programmes.

Example of an emergent practice PTE

This PTE has identified that it needs to improve its strategic approach to literacy and numeracy at the organisational level. It is aware there is not a full literacy and numeracy strategy in place across the organisation, nor at any of the management, qualification, course or learner levels. A needs analysis is being undertaken across the organisation and all programmes, starting at the course and qualification level, are being assessed. Embedding does occur but mainly 'incidentally, and this TEO is generally not using the Learning Progressions to inform the teaching of individuals. It uses the Assessment Tool at the start and end of programmes, and the data is primarily being used to identify gaps in learners' skills rather than to inform teaching programmes. Further work is required to understand how to use this information more fully. This PTE hopes to have a focused and planned literacy and numeracy approach to all courses beginning in 2013, and is considering employing a literacy and numeracy adviser who would work alongside vocational tutors in a team-teaching approach.

Partial practice

Partial embedded practice includes:

- using the Learning Progressions and starting to map courses and qualifications against these
- using the Assessment Tool with learners both pre- and post-programme, then using that information to inform teaching and learning programmes or individual learning plans
- starting to embed literacy and numeracy into vocational courses through a review and rewrite of course material and provision of some professional development for tutors
- some staff having attended relevant professional development and either having or working towards literacy and numeracy qualifications
- starting to look at organisational policies related to the Assessment Tool, but not yet using Assessment Tool results at the organisational level
- organisational awareness of literacy and numeracy.

'Partial practice' is moving towards embedding literacy and numeracy at qualification and course level. 'Partial practice' was seen in three of the nine ITPs and three of the nine PTEs. Partial+ practice was seen in the two wānanga. While these TEOs have made a start on embedding, they still require some work to get organisational policies and practices fully in place.

Example of a partial practice ITP

This ITP uses the Assessment Tool pre- and post-programme, but acknowledges a need to invest in up-skilling tutors on how to fully use the Learning Progressions and the Assessment Tool. There is provision of some relevant professional development for staff, and the literacy and numeracy educators promote literacy and numeracy to tutors via an intranet site. They also run internal workshops throughout the year. A 'champion' in each school acts as peer support in literacy and numeracy and provides forums for tutors to demonstrate effective, deliberate acts of teaching. However, it is seen as an on-going challenge to engage tutors in this professional development. This ITP has few policies that prioritise literacy and numeracy for tutors, apart from a relevant prompt in peer appraisal.

Until recently the Assessment Tool was driven primarily by the literacy and numeracy specialists, which they saw as overly time-consuming and as taking time away from implementing embedding. Responsibility for administering the Assessment Tool has recently shifted to the respective different schools. The literacy and numeracy staff see this as a positive move, as it spreads responsibility across schools and will grow organisational awareness of literacy and numeracy.

Mature practice

Mature embedded practice includes:

- literacy and numeracy education being embedded in over 60% of NZQF Level 1-2 qualifications
- using the Assessment Tool with individual learners pre- and post-programme, then using that information to inform teaching and learning programmes or individual learning plans, and starting to use or using it at the organisational level
- embedding literacy and numeracy into vocational courses through course material
- vocational staff having or working towards literacy and numeracy qualifications (sometimes as an organisational requirement)
- sourcing a variety of external professional development and running internal professional development
- a literacy and numeracy strategy or organisational policies that have literacy and numeracy across aspects of the business
- formal management or steering groups in place to support literacy and numeracy
- beginning to think about literacy and numeracy as business as usual
- contributing to the embedded literacy and numeracy knowledge base at regional or national level.

This practice has embedded literacy and numeracy operating at the organisational level. There is a continuum of practice within this 'mature' level, with some organisations having a stronger organisational focus than others. All of these TEOs are working deliberately and strategically towards a fully integrated model of embedding. The 'mature' level of practice was seen in six of 11 ITPs and one of the PTEs.

Example of a mature practice ITP

A whole-of-organisation approach is taken to embedding literacy and numeracy in a systemic way. For example, the enrolment process incorporates simplified written material supported by visual and oral methods with the option for the learner to have a person to support them through the process. Extensive internal systems and materials for literacy and numeracy are continually being developed and improved. It is an institutional priority to strengthen a regional focus for literacy and numeracy, and this ITP has recently instigated a regional literacy and numeracy strategy group among a wide range of providers. This ITP is currently working to improve the accessibility of literacy and numeracy information on its intranet with the ultimate aim of opening up new online portals to the region.

See Appendix Four for a summary matrix of literacy and numeracy development.

Assessment Tool

The Assessment Tool is being used in a more explicit and strategic way by those TEOs whose practices are described as 'mature'. These TEOs describe using the Assessment Tool with learners and tutors starting to use it across the organisation. These practices included:

- discussing the Tool's value with learners and tutors using the profiles with learners when discussing their results⁷

"We have never had any problem with the response rate for pre/post Assessment Tool and have developed a record procedure to help both the tutor and learner to see the importance of the tool and facilitate that conversation between them."
[ITP]

- follow-up interviews with all learners who are at Step 3 and below on the Learning Progressions
- using the Assessment Tool to inform programme placement, for example learners on Step 1 or 2 are not put into programmes at Level 3 or above
- using the Assessment Tool in all NZQF Levels 1-5 programmes and sharing the results with tutors so that these tutors are more informed about the literacy and numeracy levels of their learners and can provide additional support if required
- Using the post-programme assessment some weeks before the end of programmes to ensure that it is completed by more students

⁷ The profiles are plain English descriptors of what learners can do at each Step of the Learning Progressions. They help learners to understand what they can do and are likely to need to do in order to improve their skills.

<http://www.literacyandnumeracyforadults.com/resources/355607>

- starting to think about how the information can be used at the organisational level (e.g., with senior management).

In spite of these practices, some of those interviewed noted that it was still challenging to engage all learners, particularly in post-programme assessment.

Institutions generally find the logistics of using the Assessment Tool challenging regardless of their place on the continuum. Some institutions use administration staff, some the foundational literacy and numeracy staff, and some have all tutors administering the Tool. Access to computers is difficult in places and not all learners are computer literate, but where the paper-based tool is used there is the additional cost of printing assessments and the subsequent data entry. TEOs that have distance-learning programmes find it more challenging than those in the face-to-face environment. This is in spite of them having systematic processes in place.

Assessment Tool: example of mature practice by an ITP

One ITP has developed a systemic approach to increasing distance learners' participation in the Assessment Tool by addressing the challenges it believes are unique to distance learning. The ITP sends out a preliminary email to students to 'warm them up' and let them know the Assessment Tool is coming and to complete the assessment.

After two weeks, an email reminder is sent to those who have not completed the assessment.

If there is still no response in two weeks the institution mails out a paper copy with pre-paid envelopes.

If there is still no response, the Programme Support Advisor talks with tutor and gets in touch with students who have not completed the assessment.

'It is a complex and time-consuming process. We have increased the response rate with this process, but are still struggling to get response required [by] TEC'.

Challenges

Embedding literacy and numeracy at the learner, programme and organisational level still presents a range of challenges for TEOs. Some of these are common across the institutions, while some are institution-specific.

Assessment Tool

Eight TEOs commented on challenges they find in using the Assessment Tool. These include:

- getting students to complete and take the post-programme assessment seriously
- getting distance learners to use the Assessment Tool

- using Assessment Tool data to inform teaching programmes
- administration and management
- the lack of professional development on the Assessment Tool.

One of the TEOs ranked as mature commented on the challenge of using all the information from the Assessment Tool and being able to link this to completion and retention data.

Of the eight TEOs who commented on the Assessment Tool in relation to challenges, five of them were in the mature category. No TEOs in the emergent category made comments related to the Assessment Tool being a challenge for them.

Time

Seven TEOs commented on the difficulty of finding time to undertake the embedding process. This includes the time it takes to:

- up-skill and support vocational tutors
- develop and deliver vocationally specific embedded programmes
- develop a kaupapa Māori approach and resources
- get changes to programmes agreed by academic boards
- get faculties, deans, programme leaders and Heads of Schools on board.

The first two challenges are generally among those with emergent practice, and the latter in those with mature practice (who also say that they are starting to overcome these issues).

Buy-in from vocational tutors

Three TEOs commented that getting buy-in from vocational tutors is challenging. This is because vocational tutors see themselves as experts in their field, and it is difficult to get them to identify as educationalists or to identify vocational content that relates to literacy and numeracy.

This issue was identified by TEOs in all three categories, but an institution with 'mature' practice commented that it is 'over the major hurdle around this and new staff are coming on board and naturally accept the educationalist role'.

Context-specific challenges

A number of challenges relate to the specific context of each organisation. These include:

- directives from management to embed literacy and numeracy for funding and compliance purposes
- developing distance-learning programmes that are suitable for learners with lower literacy and numeracy levels
- the logistics of running internal professional development

- turnover of staff after investing in their professional development in literacy and numeracy
- developing a whole-of-organisation approach
- competing priorities
- using the Assessment Tool to measure literacy and numeracy is not enough to show the overall impact or outcomes that have occurred for learners.

“There needs somehow more recognition of the impact of literacy and numeracy on soft skills like confidence and self-esteem. How do you measure that? Value that? More emphasis could be given to this.”

[PTE]

The challenges vary in complexity from those with emergent practice who are still finding it difficult to find the time to embed literacy and numeracy into programmes, through to those with mature practice who are grappling with how to embed more fully at the organisational level.

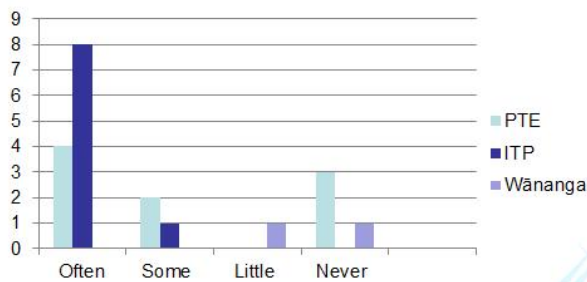
Professional development

The second objective of this Research is to gauge how effective and responsive the National Centre of Literacy and Numeracy for Adults has been in meeting the professional development needs of TEO staff. This section looks at how much the National Centre has been used, how valuable TEOs perceive the professional development has been, and TEOs’ perceptions of its impact on literacy and numeracy practice.

Use of the National Centre varies

Use of the National Centre varies across TEOs. On the whole, those with more mature practices are also higher users of the National Centre. Across all three levels (mature, partial and emergent) there are a small number that have used the National Centre for professional development only minimally or not at all.

Use of The Centre



The types of professional development the institutions accessed from the National Centre included:

- Workshops at the National Centre (e.g. leadership, dyslexia, reading, vocabulary assessment)
- symposiums, regional hui, champion forums, cluster groups
- website resources such as webinars, professional readings and research
- onsite workshops and tailored training
- direct communication with the National Centre via email, phone and newsletters
- specific projects such as the Action Research Project.

A range of staff across TEOs with emergent, partial and mature practices had accessed The Centre Professional Development.

- TEOs with emergent practices were more likely to send tutors, literacy and numeracy specialist staff and management to the National Centre's workshops. Generally only specialist staff went to symposiums and conferences (with cost and time as barriers).
- TEOs with partial and mature practices, in addition to sending staff to workshops, were also more likely to run National Centre workshops and tailored training on their own sites. These TEOs were also more likely to send staff to professional development such as symposiums and external forums run by the National Centre.

Across all TEOs, web-based resources such as the National Centre's website and webinars were primarily accessed by the literacy and numeracy specialist staff. TEOs with emergent and partial practices commented on their tutors' lack of engagement with the current web-based resources.

A small group of PTE staff in the survey had never heard of the National Centre. One PTE that specialises in teaching English as a second language (ESOL) looked at the National Centre's website for the first time as a result of participating in this Research and its staff

were amazed they had not heard of The National Centre before this, especially as they are high users of the New Zealand Literacy Portal and Pathways Awarua. They thought if there had been links from either of these websites to the National Centre they would have discovered it sooner.

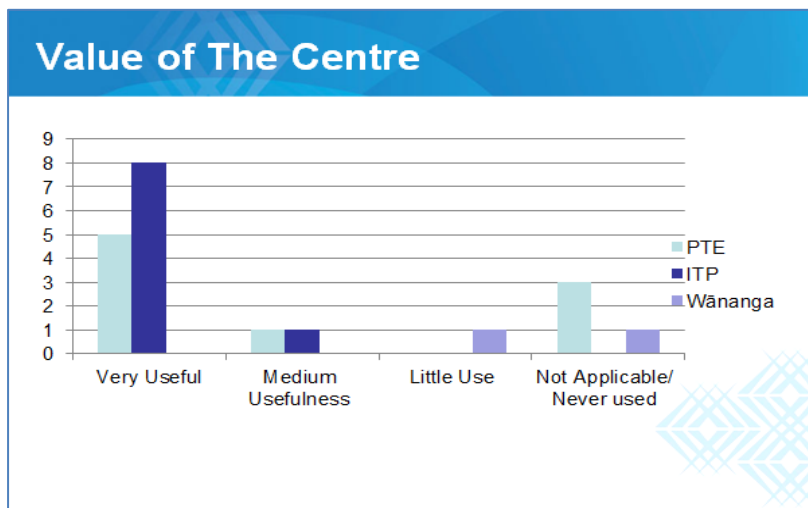
“What does The Centre offer? Would they come out to us and help us work out what we need? Facebook, LinkedIn: are they on those?”

[PTE]

Value of the National Centre linked to use

The perceived value of the National Centre’s professional development programme strongly correlates with the extent to which it has been used. High users placed considerable value on the National Centre’s:

- quality of teaching
- responsiveness, practicality and relevance
- opportunities to network
- combination of theory and practical advice
- website and its up-to-date information.



ITP example

The National Centre has been “fantastic” and is perceived to be very responsive to this ITP’s needs over time. Currently the National Centre is supporting the ITP in a regional literacy and numeracy strategy group that the ITP has instigated. The ITP sees this type of strategic support as having significant impact across the region.

Feedback from the TEOs that do not use or value the National Centre as much included concerns that it is too theoretical, academic and sometimes dictatorial. There was also a perception that the National Centre is unwilling to listen and learn from others.

One wānanga that had minimal previous contact with the National Centre said involvement in this Research is potentially the first of “many conversations” with the National Centre where they could get to know each other and look at ways to work more closely together.

Wānanga Example

To date this institution had not seen the value in engaging with the National Centre. They had made the call to ‘row our own waka’ and as an organisation they approach embedding from their own world view. They did not want, as has happened historically, for Māori to be “an add on”. The government approach to embedding English, not Māori, is fundamentally challenging to it as an organisation, so its approach is to be critically challenging and culturally responsive. Embedding English is a “hard sell” to their learners and tutors. They need to see the value in it and won’t tolerate half-hearted attempts at professional development, as this would quickly lose credibility. [Appendix Five contains further information about this wānanga’s embedding approach].

Impact of professional development on literacy and numeracy practice

It is challenging to gather in one interview evidence of the extent to which the National Centre’s professional development has changed literacy and numeracy practice, but some TEOs commented on their perceptions. Positive impacts included:

- improvements in practice, perspectives and views, and breaking down vocational tutors’ resistance to literacy and numeracy practice
- sharing across the organisation an increasing number of success stories about the impact of improved literacy and numeracy on learner outcomes
- increased job satisfaction for tutors, because students are more engaged and tutors feel like they are making better progress
- improved student evaluations of tutors, indicating that tutors have improved their teaching.

“Embedding is a breath of fresh air across the organisation” [PTE]

TEOs with more mature practice are developing internal professional development to support embedded literacy and numeracy practice and sharing of information. These internal practices include:

- data management systems and literacy and numeracy intranet sites to share information with vocational tutors
- internal workshops, cluster groups, training days, and conferences on quality teaching
- TEOs’ self-developed literacy and numeracy resources

- peer support models (e.g. use of 'champions', tutor observation by literacy and numeracy staff, and peer observation)

"The model of peer observation' is highly successful for both observer and observed – puts them both into a learning environment. Sharing and conversations occur across departments."

[ITP]

ITP 'literacy and numeracy champion' example

This TEO has encouraged the role of literacy and numeracy champions – a participant in the initial training for Learning for Living Literacy in 2008 who play an on-going role in sharing good practice and supporting fellow tutors.

This has led to significant progress among tutors, particularly in the trades' area. The institution believes that because a number of these vocational tutors had become the 'champions' they have been able to build up an organisation-wide perspective (as opposed to being in the silo of their trades).

- internal evaluation and continuous improvement processes - e.g. Most Significant Change Method⁸ [see example over the page].

⁸ Davies, R. & Dart, J. (2005). *The 'most significant change' (MSC) technique: A guide to its use.* <http://www.mande.co.uk/docs/MSCGuide.pdf>

Wānanga 'Significant Change Story'

This wānanga uses the Most Significant Change Story to evaluate their embedding initiatives and professional development. Below is a Most Significant Change Story that was selected by the wānanga as an example of the bridging that needs to occur between TEC Literacy and Numeracy Strategy and their own multiple literacies strategy.

Excerpt from a Most Significant Change Story

"I can now deliver the embedding framework that is appropriate to the level of audience that I am delivering to. Even more than that, I have the confidence to deliver the embedding framework using any range of resources, materials, visuals, music or movies in order for people to understand all about embedding literacy and numeracy."

"Here is an example... In the last month or so I had finished delivering to the Kaiako. At that level, embedding is new and foreign and often difficult to get your head around. One of the areas that Kaiako found difficult to recall were the four literacy and three numeracy strands. I could see they were struggling to get them in their head. They could not remember them at all. Suddenly it came to me to try and explain it by way of a whakapapa. I asked them: 'if this were a whakapapa, which literacy would be the oldest – mataamua?' They did not know. I said 'listen – whakarongo – because we start while we are in the womb'. Immediately they got the strand. Then I asked: 'what is the mate of listen – and they all said speaking'. They had the second strand. Then, 'what do we learn next'? They said 'read', hence the third strand. Finally, they knew the mate of 'read' is 'write'. They had four strands in under one minute when given like that."

A small number of TEOs with emergent and partial embedding practice discussed their internal professional development practice, but on the whole this is ad hoc compared to those TEOs with mature practice.

The National Certificate in Adult Literacy and Numeracy Education

Most TEOs believe the National Certificate in Adult Literacy and Numeracy Education (NCALNE) is an important part of tutors' professional development. However a number of TEOs with mature practice thought that NCALNE is just the start of what is required by vocational tutors.

The majority of TEOs use an external provider to deliver NCALNE. However, two of the TEOs with mature practice decided that the external provision of NCALNE did not meet their needs and now deliver it in-house.

"The National Certificate [run in house] is fantastic for sharing best practice across the organisation. It has hairdressing, engineering and welders all learning together and developing resources across the areas. When tutors get mixed up it broadens their understanding."

[ITP]

Two TEOs were also considering embedding literacy and numeracy into more generic teaching qualifications. One TEO had concerns about embedding literacy and numeracy in any wider teaching qualification because of the potential for it to be 'watered down'.

Several TEOs commented that NCALNE was the best professional development they had. One of the TEOs queried why the National Centre, as the sector leader, is not responsible for delivering this qualification.

Future professional development needs

The third objective of this Research is to assess the TEOs' future professional development needs for delivering literacy and numeracy education. Themes from the interviews include:

- support to up-skill vocational tutors (mentioned by nine institutions)
- improving understanding and use of the Assessment Tool (five)
- increasing management support for literacy and numeracy education (two)
- developing the capability of tutors so that they can better teach youth and work towards meeting the Government's priority target for increasing the number of 18 year olds achieving NCEA Level 2 (two).

Of the nine TEOs that requested further professional development for vocational tutors, six were ITPs. On the whole they wanted practical material and resources that engage vocational tutors, including both face-to-face workshops and online materials. One TEO suggested that the Centre's website be better tailored to vocational tutors and another that there could be an online community for these tutors.

Five TEOs identified a need for professional development on using the Assessment Tool. This encompassed helping vocational tutors to use the Tool, through to training on administrative tasks such as bulk uploads and reporting.

TEOs are also looking for opportunities to share best practice.

"Success stories and what works needs to be 'knitted all together' so we are all singing the same song."

[Wānanga]

A number of future needs were mentioned by only a single TEO but may apply more widely given that they include TES priorities. These include topics:

- related to teaching the following groups:
 - Pasifika
 - youth
 - high-needs learners
 - males with low literacy and numeracy; particularly with changes to foundation learning eligibility
- that enable tutors to be better teachers of numeracy, digital literacy and distance learning
- that support tutors to develop as literacy and numeracy leaders
- that provide development for tutors who have NCALNE.

There was also a comment that there was a need to ensure that professional development is culturally responsive for Māori and incorporates a better understanding of what works (and what does not) for Māori.

“Any professional development needs to be ‘culturally responsive’ and show the value of embedding for Māori and how it won’t change our identity, only strengthen it...”

It is about literacy and numeracy in my own culture [and] from my own world view. Doesn’t matter if it is about carving, tree felling or cable laying when it is tailored right you get the engagement.”

[Wānanga]

Two overriding themes came on the content of professional development:

- that it be practical, rather than primarily theoretical and academic
- that it be delivered face-to-face as much as possible, with distance delivery also accepted as a practical necessity.

Effective modes of delivery

The fourth and final objective of this Research is to identify effective modes of delivery for professional development in the teaching of adult literacy and numeracy.

Vocational tutors

Improving professional development for vocational tutors by better ‘knowing the tutor’ was discussed by TEOs with emergent, partial and mature practices. TEOs see it as important that any professional development delivered understands the world view of the tutor and starts at a place tutors can understand – similar to the key principles underpinning ‘knowing the learner’. One TEO advises that professional development needs to be sensitive to the fact that many tutors may need support to work through their own literacy and numeracy challenges.

“I’ve seen grown men reduced to tears [facing their own issues with literacy and numeracy]”
[ITP]

PTE Example

This PTE believes it is critical to work to the strengths of each tutor – and make allowances for their weaknesses. This institution has seen some “fantastic tutors” that may never be strong in “*literacy and numeracy*. *We can’t make some be good at it, but we can make them more aware that they have the skills within them*” For example, a tutor who has run his own business for 25 years may be weak at teaching literacy and numeracy, but must have these skills at a practical level in order to have run the business for so long. Many tutors struggle with professional development that is pitched with ‘educationalist speak’. For example, the Learning Progressions need to be simplified and taught in a way that the above tutor could understand and easily apply in his work.

Two TEOs criticised the time, timing and locations of some of the National Centre workshops – especially those scheduled for midweek when it is hard for tutors to leave their campuses.

Another concern is that any reduction in literacy and numeracy funding might force a shift to more online professional development at the cost of face-to-face delivery. Current web-based resources (such as the National Centre’s website and webinars) have been perceived as not being very effective in reaching vocational tutors as they have not been context specific.

“Webinars are a good concept, but next to nil tutors are using them.”

[ITP]

Recommendations from TEOs included:

- using tutors themselves more in delivery of professional development, not just ‘experts’ or academics
- develop closer links with industry training organisations (ITOs) who have done considerable work on industry specific embedding
- improve vocational tutors’ digital literacy so they can better access on-line professional development
- running professional development at more suitable times and locations for tutors
- providing helpdesks or similar, where tutors can ask questions
- offering blended delivery that includes both face- to-face and online learning
- improving the National Centre’s website to enable tutors to navigate more easily and find information relevant to their specific context (e.g., carpentry tutors can find examples specific to carpentry)

- the National Centre staff attending TEO management meetings to have targeted conversations to gain management buy-in
- producing two-minute video clips that show the value of embedding, framed according to 'what works for whom'
- training tutors in peer-observation methods
- developing 'integrated' professional development across more than one priority - e.g. training that targets both youth and literacy and numeracy skills

One TEO at the 'emergent practice' level suggested that the National Centre create a template for needs analysis, as "a lot of tutors don't know what they don't know."

The National Centre's marketing

Seven TEOs surveyed (both PTEs and ITPs) had only limited knowledge of the National Centre, including some who had never heard of it. A common theme was that the National Centre could better market itself to the sector.

Discussion

Differences in Development: Differences in Need

This Research has showed there is a continuum of practice. Embedding literacy and numeracy into organisations and their programmes and practices is a work in progress for the TEOs interviewed. This has clear implications for professional development and who needs what:

- On the whole ITPs and wānanga are progressing well and working towards fully integrated models of embedding literacy and numeracy. Despite achieving 'mature practice,' these TEOs generally struggle to fully embed literacy and numeracy education into all their NZQA Level 1-3 programmes, especially where vocational tutors are involved. Even so, these ITPs and wānanga '*know what they don't know*' and will make progress with the right support to build on the work they have started.
- On the whole PTEs' literacy and numeracy focus is based at the classroom and learner level. Many of these organisations require further capability building to be able to effectively lead literacy and numeracy within their own institutions.

Assessment Tool: on-going work required for all

The evidence also suggests that across all TEOs there is still considerable work required in relation to the use of the Assessment Tool to inform teaching and learning programmes and organisational requirements.

While the TEOs are all using the Tool, in some this meant using it for compliance purposes and doing little with the data. Of concern is that it was those with mature practices that

articulated needs in relation to the Tool, rather than those with emergent practices which suggests that those in that category still 'don't know what they don't know'.

What is the National Centre's role in translating government priorities?

Overall the majority of TEOs did not discuss in any depth the government priorities around foundation learners and there also seemed to be a lack of awareness about the TES priorities related to Māori, Pasifika and youth. While they were not asked specifically about knowledge of government policy most (17 out of 20 TEOs) did not indicate that they needed support to improve outcomes for these learners.

The implication for the National Centre's work is what role do they have in translating government policy to support TEOs to meet government and TES priorities?

For example, as a result of the recent contestable round of funding for Level 1 and 2, a number of PTEs identified they wanted to improve their literacy and numeracy practice to become more eligible for the next round of contestable funding.

More effective ways to reach vocational tutors

A clear need across the TEOs is for more effective ways to up skill vocational tutors. Evidence indicates that the professional development approach to date has been more effective at reaching literacy and numeracy specialist staff than vocational tutors: Centre workshops, symposiums, web resources etc. seem to be delivery models that work for literacy and numeracy specialist staff. Further work is required to better understand what models of delivery would work better for vocational tutors. A clear message across TEOs was the importance of more practical responses through: the language used; the provision of materials and resources; and the provision of more targeted and contextualised professional development.

Further work could also be undertaken to better understand and evaluate the effectiveness of distance and flexible learning for vocational tutors; what works and what doesn't? For example the webinars - can these be improved / targeted to better engage vocational tutors?

NCALNE effective model: How can it be built on?

Studying for NCALNE was cited as being the most effective form of professional development that those interviewed had undertaken.

For the future the National Centre needs to consider its role in relation to NCALNE as there were comments that if the National Centre is the sector leader why is it not doing anything in relation to this qualification?

Distance / Flexible Learning: what are the effective delivery models?

There is a growing interest in distance /flexible learning models of delivery as they offer an alternative to the traditional class-campus-based learning modes. From this Research an area of focus could be to better understand the unique characteristics of embedding literacy and numeracy into distance delivery.

Are we there yet?

In short, the evidence collected for this Research would suggest that embedding is still a work in progress.

To date the National Centre's work has been valued and appreciated by the end users, particularly the ITPs. However the evidence gathered from PTEs suggests that there is still considerable work to be done in that sector. There will be a growing need for this given the contestable funds for Level 1 and 2 programmes and the increase in the number of PTEs now delivering these programmes.

In summary, the National Centre has established a strong platform and is the 'go to' place for those that know about it and use it. The challenge is, as the evidence collected suggests, that there is a two-tiered sector: the ITPs who have, on the whole mature practices and the PTEs who have, on the whole emergent practices. This means that the National Centre will need to consider developing targeted approaches that meet the needs of both of these sectors.

Appendix One: Literacy and Numeracy Infrastructure

The Learning Progressions

The Learning Progressions⁹ are a competency framework that shows what adult learners know and can do at successive points as they develop their expertise in reading, writing, listening, speaking, number, measurement and statistical reasoning.

The Learning Progressions are set out in six levels of increasing competency – Steps 1-6. These steps describe what is learned in the order that it is usually learned. They can be used to:

- gain a basic picture of an adult learner's current skills, strategies and knowledge in oral and written English, and strategies and knowledge in numeracy
- identify the English language and numeracy-related demands of specific workplace, community, or personal tasks and texts, and
- provide a sequence for teaching and learning programmes.

The highest step in each Progression describes the knowledge and skills that underpin the literacy and numeracy competencies demonstrated by learners with Level 3 NZQF qualifications.

The Assessment Tool

The Assessment Tool¹⁰ is a predominantly online diagnostic assessment which helps learners and their tutors/educators know how an individual's literacy and numeracy competencies align with the Learning Progressions.

All courses or programmes that receive funding for literacy and numeracy (as outlined under the section Funding Mechanisms) must include initial and progress assessment of learners.

The Assessment Tool helps providers gauge the literacy and numeracy levels of their learners, improve their teaching programmes using Tool information, and measure any progress the learners might make. At an organisational level the learner data will be useful for tertiary organisations as they plan appropriate learning programmes and monitor their effectiveness.

The Tool contains a number of different types of literacy and numeracy assessments as summarised in the following table:

- Providers and educators are encouraged to use the full online *Adaptive assessments* for reading and numeracy because the results are more robust and reliable.
- The *Snapshot* is a shorter version of the adaptive assessment that is particularly suitable for progress assessments. This is now available online and in paper form.

⁹ For further information go to <http://www.literacyandnumeracyforadults.com/resources/354426>

¹⁰ <http://www.literacyandnumeracyforadults.com/resources/356174>

- The *Vocabulary assessment* is most appropriate for students with very low reading skills i.e. working at Starting Points or at the lower steps of the Learning Progressions. It provides one way to assess learners who are not yet able to complete a reading assessment using the Assessment Tool.

Example of teaching resources: Pathways Awarua

Pathways Awarua¹¹ is an online learning system with many interactive learning modules linked to the Learning Progressions. It can be used by educators or individual learners to help strengthen the reading and numeracy skills of learners.

The modules are based on the competencies set out by the Learning Progressions and increase in difficulty as learners take them at their own pace. Results from the Assessment Tool can be used to select a learner's starting point.

¹¹ <http://www.literacyandnumeracyforadults.com/resources/356175>

Appendix Two: TEO Performance Data

TEO	Type	Notes	Participation at L1-3 SAC (as % of all L1-3)				2011 Successful course completion rate (SAC) Levels 1-3				2011 Qualification completion rate (SAC) Levels 1-3			
			Māori	Pasifika	Other (non Maori/non Pasifika)	Under 25s	Māori	Pasifika	Other(non Maori/non Pasifika)	Under 25s	Māori	Pasifika	Other (non Māori /non Pasifika)	Under 25s
1	ITP		34%	6%	62%	66%	50%	60%	69%	63%	42%	52%	65%	58%
2	ITP		15%	4%	81%	47%	59%	44%	67%	58%	48%	29%	54%	47%
3	ITP	Low Pasifika Base	26%	3%	72%	53%	68%	78%	69%	62%	59%	75%	58%	53%
4	ITP		13%	7%	80%	50%	80%	80%	84%	82%	72%	84%	69%	68%
5	ITP	Low Pasifika Base	15%	4%	81%	44%	70%	64%	80%	75%	61%	62%	70%	67%
6	ITP	Low Pasifika Base	13%	4%	83%	64%	50%	54%	73%	69%	41%	39%	62%	59%
7	ITP		65%	8%	30%	66%	67%	69%	76%	70%	45%	53%	57%	49%
8	ITP		17%	27%	58%	28%	54%	73%	68%	64%	42%	61%	56%	49%
9	ITP		50%	4%	48%	37%	72%	72%	79%	72%	59%	54%	72%	53%
10	Wānanga	Subsidiary of 11												
11	Wānanga		45%	10%	47%	15%	74%	78%	85%	70%	67%	72%	79%	58%

EI	Type	Notes	FFTO (Foundation Focused Training Opportunities)					Youth Training				
			% Māori	% Pasifika	2011 Course completion rate	2011 Progression into further education	2011 Average credit achievement	% Māori	% Pasifika	2011 Course completion rate	2011 Progression into further education	2011 Average credit achievement
12	PTE	FFTO/YT only	48%	44%	75%	14%	26.91	45%	44%	76%	40%	24.47
13	PTE	Low Base (36 EFTS)	13%	3%	68%	15%	52.70	25%	1%	51%	26%	12.86
14	PTE	FFTO/YT only	65%	0%	45%	28%	10.30	19%	0%	60%	50%	21.52
15	PTE	Low Base (13 EFTS)						47%	0%	84%	33%	68.50
16	PTE	FFTO only	7%	24%	60%	32%	25.84					
17	PTE	not funded										
18	PTE	WPL only										
19	PTE	FFTO/YT only	56%	15%	54%	33%	25.86	81%	5%	38%	32%	15.86
20	PTE	FFTO/YT only	54%	0%	77%	18%	67.74	71%	0%	57%	36%	46.44

Appendix Three: Research Question Areas

Embedding

- What is your understanding of 'embedding'?
- How does your organisation embed literacy and numeracy?
- What do you think are the challenges around embedding literacy, and numeracy?

Professional Development Activities

- What, if any, professional development activities have your organisation undertaken with The Centre?

Impact of Professional Development on practice

- What has been the most useful Professional Development to your organisation?
- What has been the least useful Professional Development to your organisation?

Future Professional Development

- What do you think will be your future literacy and numeracy needs?
- How could future professional development from the National Centre be improved to meet your needs?

Appendix Four: Embedded Literacy and Numeracy (ELN) Practices¹²

Whole organisation components	ELN practice components	Emergent embedded practice includes:	Partial embedded practice includes:	Mature embedded practice includes:
Teaching, learning and assessment	Use of Learning Progressions	Using the Learning Progressions to inform teaching and learning practice.	Using the Learning Progressions to map programmes and courses and to inform teaching and learning programmes.	Literacy & numeracy demands of all NZQF Level 1 – 3 programmes and courses are well documented and written in terms of the Learning Progressions.
	Use of Assessment Tool	Using the Assessment Tool pre- and post- programme at the learner level to inform teaching and learning programmes or individual learning plans.	Using the Assessment Tool pre- and post- programme at the learner level to inform teaching and learning programmes and individual learning plans; engage learners with results; monitor learner progress; report to other relevant staff.	Using the Assessment Tool pre- and post- programme at the learner level to inform teaching and learning programmes and individual learning plans; engage learners with results; monitor learner progress; report to other relevant staff. Using the Assessment Tool information at the organisational level to improve ELN practice and learner success.
	ELN in vocational programmes and courses	Starting to embed literacy & numeracy into vocational programmes through a review and rewrite of course materials.	Progressing of embedding literacy & numeracy into vocational programmes through a review and rewrite of most course materials and provision of some professional development to staff.	Embedding literacy & numeracy into vocational programmes is evident in course materials, teaching and learning practice, and self-evaluation processes for ELN quality.
Human resources and professional learning	Professional Development and extent of literacy & numeracy qualifications	Some vocational teaching staff either have or are working towards literacy & numeracy qualifications. Some staff have attended professional development.	At least half of all vocational teaching staff either have or are working towards literacy & numeracy qualifications. Most staff attend continuing professional development for ELN. Recruitment and staff training policies require qualified literacy & numeracy staff.	Majority of vocational staff have or are working towards literacy & numeracy qualifications. (Within some TEOs this is an organisational requirement.) ELN is adequately resourced to support learning, teaching, resource development and on-going ELN development. The continuing professional learning programme ensures all staff understand the ELN strategy and have the necessary knowledge and skills to perform their roles. Continuing professional learning includes a variety of internal and external needs-based professional development.
Vision, aims and outcomes	Organisational approach to literacy & numeracy	No strategic approach to ELN at the organisational level.	Having ELN policies at the programme level. Using Assessment Tool results at programme level. Developing organisational awareness of ELN. Having quality ELN as 'business as usual' within programmes.	A written strategy describes the whole organisation's approach to ELN. An operational plan(s) with clear roles and responsibilities ensures implementation of ELN. A valid, consistent and transparent system in place to measure learners' literacy & numeracy progress includes using the Assessment Tool. Quality ELN is becoming 'business as usual' within the whole organisation. Staff contributing to the ELN knowledge base at regional/national level.

¹² TEC in consultation with The Centre has finalised the table which can be found

<http://www.literacyandnumeracyforadults.com/files/13173280/20-03-13+Embedded+practices+table+-+FINALv2.pdf>.

Appendix Five: Wānanga Embedding Approach

Excerpt from Te Wānanga o Aotearoa Embedding Literacy and Numeracy Capability Development Proposal 4 November 2009 page 3

Whakataki

**Acknowledging
Multiple Literacies**

Te Wānanga o Aotearoa is recognised as a Wānanga characterised by teaching, learning and research underpinned by tikanga¹ and āhuatanga² Māori. Inscribed within this identity are the Te Wānanga o Aotearoa pillars of focus as regards navigating the world. These pillars acknowledge cultural, critical and literacies as a part of multiple literacies that we seek to maintain, enhance and advance as a way of raising consciousness.

Te Wānanga o Aotearoa acknowledges these literacies as being inextricably linked and of equally high importance. Te Wānanga o Aotearoa strategy has involved (k)new thinking for many of us and new thinking for many others. Our approach has been to recognise that literacy on its own (separated from considerations of cultural and critical literacies) does not support the advancement of the Mātauranga Māori³ continuum to which Te Wānanga o Aotearoa is committed. Te Wānanga o Aotearoa has developed a strategy He Whakapahuhu Kahukura⁴ which incorporates the capability proposal for embedding literacy and numeracy within our wholistic approach.

The Tertiary Education Commission (TEC) has defined literacy as the written or oral language people use in their everyday lives and work; it includes reading, writing, speaking and listening. (The TEC considers) 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 the bridge between mathematics and real life. It includes the knowledge and skills needed to apply mathematics to everyday family and financial matters, work and community tasks. (The Literacy, Language and Numeracy Action Plan 2008-2012). In this Action Plan, the Tertiary Education Commission uses the term 'literacy and numeracy' to refer to all of the literacy, language and numeracy skills described above.

To progress the development of a strategy for literacies within Te Wānanga o Aotearoa, it was agreed in this document to use the term reading, writing, listening and speaking (in English) and numeracy to describe the Tertiary Education Commission definition of literacy. This allows the clear differentiation between cultural and critical literacies but recognises that Te Wānanga o Aotearoa, in accordance with Mātauranga Māori, sees these as inextricably linked.

Consequently, our strategy highlights the relatedness of these elements and examines our approach to the embedded literacy that Te Wānanga o Aotearoa wishes to explore across this field. Further and important work in the areas of cultural and critical literacy needs to be considered in relationship with and to literacy thinking to ensure connectedness and seamlessness is present throughout as part of acknowledging wānangatanga, inscribed in Wānanga teaching, learning and research, as protected within statute.

¹ custom

² likeness, characteristic

³ Knowledge, understanding

⁴ In constructing this strategic direction, Te Wānanga o Aotearoa engaged in deep thinking about the place of literacy within our own strategic directions of cultural and critical literacy as pillars of focus. The title comes from the whakataukī 'Ko te tui whakapahuhu a Kahukura' – the string united by Kahukura. This is a reference to the ancestral icon Kahukura who stole the secret of net making from the turehu people, a fairy folk. The turehu were tricked by Kahukura and became careless in the care of their prized net and from here the saying was created. Te Wānanga o Aotearoa has been careful not to act carelessly in the development of our strategy. We have considered the place of literacy and seek not to repeat the mistakes of the turehu. In that regard, our approach is a considered one, and one that we have all learnt much from.