Designing the bridges:

Highlights from Ako Aotearoa supported foundation, bridging and LLN research projects

A report prepared for Ako Aotearoa
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Introduction

These projects have all worked to address the issue of how to design education to ensure the successful participation of those groups described below in New Zealand society and its workplaces.

New Zealand society is diverse, complex and stratified. It has a sophisticated first world education system with comprehensive coverage from early childhood through to the most exacting research-based doctoral study. While this system provides for the great majority of New Zealanders, there remain groups whose participation in tertiary education requires significant and extraordinary effort to ensure equity of opportunity and successful inclusion. This is an important issue given the established links between tertiary education and employment, income and engagement with social and economic support systems.

The groups that are marginal to the established systems include those whose prior educational experience has left them under-prepared for tertiary study, rural and migrant workers whose locations and prior learnings make access to learning very difficult, those with ongoing learning and social engagement disorders, bi/tri-lingual groups where English is as yet not functional for study purposes, and social and cultural groups often located away from urban centres who wish to engage or re-engage with learning within their communities and their cultural frames.

The purpose of this report is to present a group of research projects funded by Ako Aotearoa and to synthesise their findings. These projects have all worked to address the issue of how to design education to ensure the successful participation of those groups described above in New Zealand society and its workplaces. The educational designs and strategies offer ways to enhance life chances to the benefit of the individual, family and community. New Zealand gains from the productive clash of differences these groups bring to our knowledge and understanding and hence our creativity, innovation and our future solutions.

The funded projects described in this report are exceptionally diverse both in regards to the people who have been participants and the people who have run the projects. The methods are various with a focus on qualitative designs, and the outcomes range in quality and strength. Each contributes to building a picture of what organisations must do, programme designers must consider and teachers must deliver to achieve effective bridging. This picture includes how to engage the students, to foster relevant and valuable learning and to support students to the next step in their progress towards their goals.

The reader is invited to consider the themes described, look to the highlights of projects where work has been done and then go to the Ako Aotearoa website to read the full reports of those projects that match your interests.

The next section considers the context of bridging education and it describes previous research and analysis that had as its aim identifying the critical elements of successful bridging. These findings are then aligned to the individual projects.

Context and themes

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New Zealand has played a role in developing successful bridging programmes, contributing research and analysis through publications and through the New Zealand Bridging Educators' conferences (since 2001).

Bridging education has had a relatively short history but the critical elements of successful bridging have been researched, debated and proposed. This section notes key aspects of that history and draws on three key examples of research and commentary in the tertiary environment to synthesise the Ako Aotearoa funded projects and to provide a base for discussion.

Bridging Education is variously known around the world as Foundation Studies, Developmental Studies, and Access Education; and a subset of bridging includes Language Studies, English as a Second Language (ESL), English for Speakers of Other Languages (ESOL), and Non-English Speaking Background (NESB). In this report, the term Bridging is used most often but the other terms are used as appropriate. Whatever the naming convention, they have in common the shared intent to provide effective educational support for people who have not yet found their way inside the communities and workplaces they aspire to be part of.

New Zealand has played a role in developing successful bridging programmes, contributing research and analysis through publications and through the New Zealand Bridging Educators' conferences (since 2001).

Bridging programmes had been delivered in New Zealand in both universities and polytechnics for some time before 2001 and also, latterly, in Private Training Establishments. Some were centralised programmes preparing students for many different study pathways, others were specialised, located in a particular faculty or school, and offering very particular preparation. Language courses and schools operated largely in parallel initially, but were then much more likely to work in collaboration with bridging and foundation providers to ensure a comprehensive preparation.

In early 2000, providers of bridging programmes met to share their experiences and to discuss ways to ensure their work was supported by government policy and practices. This was the genesis of the New Zealand Association of Bridging Educators (NZABE) and its current successor the Foundation and Bridging Educators New Zealand (FABENZ). What followed was a national conference attended by then Minister of Education Steve Maharey; and the beginnings of policy settings to manage and later fund bridging activity that was contributing to social and economic development including improving the quality of the labour market. This focus continues; the latest Tertiary Education Strategy has four of its six priorities targeted at bridging, language and foundation programmes (delivering skills for industry, getting at-risk young people into a career, boosting achievement for Māori and Pasifika, and improving adult literacy and numeracy) (NZQA, 2014; TEC, 2014).

The importance of low level tertiary programmes, either as language, general education or specific vocational preparation programmes, is illustrated in the numbers involved. In 2015 there were 8,620 people enrolled in ESOL classes (Education Counts, 2015); there were 16,200 graduates from all level 4 programmes, with 51% of these going into further study and 34% into work; and in all level 1-3 programmes there were 24,700 students who graduated, 46% went into further study and 34% into employment. Some of these programmes were overtly designated as bridging programmes, while many others were functioning as bridging programmes while espousing a particular set of vocational skills. The requirement to include literacy and numeracy in all level 1 and 2 programmes, and the expectation that this will also be the case at level 3, supports the view that low level tertiary programmes have a role in bridging.

These numbers have been convincing in terms of showing the need for foundation learning in the tertiary space and for this to be very accessible; hence, the government removed fees from level 1 and 2 programmes and some level 3 offerings in 2012, and introduced a contestable funding process for all providers who wanted to deliver these programmes, so that there was a move to efficiency and excellence of outcomes.

In 2008 the National Qualifications Service commenced the Targeted Review of Qualifications (TRoQ), which aimed to ensure that New Zealand qualifications are relevant and useful to all stakeholders including current and future learners and employers. In 2014 all Foundation and Bridging Qualifications were reviewed. There were 161 qualifications and programmes included in the review and these were reviewed with the specific purpose of identifying the skill sets and qualifications required in foundation and bridging education. The outcome was that the 161 qualifications were replaced by four new qualifications at levels 1 to 4, where the essential competencies for foundation and bridging learning were required and learning providers could contextualise these competencies to any discipline that could function as a pathway to further study and/or work. The four qualifications are:

- New Zealand Certificate in Foundation Skills (Level 1)
- New Zealand Certificate in Foundation Skills (Level 2)
- New Zealand Certificate in Study and Career Preparation (Level 3)
- New Zealand Certificate in Study and Career Preparation (Level 4)

The level 1 and 2 programmes are for those learners who require foundation qualifications and the levels 3 and 4 qualifications are primarily for learners who are preparing to study diplomas or degrees, although some will progress to other training or employment.

With so many students participating in bridging programmes generally, with either a language focus or a vocational focus, identifying the essential elements of effective bridging has been a vital intent of research and practice development. In a review of 'What works' in bridging education (Anderson, 2007), it was noted that; "With the hopes and aspirations of individuals, our communities and the society raised by the provision of enabling education, ensuring that it 'works' must occupy a significant place in the design and management of programs".

The seminal paper in this field is Boylan et al. (1997). In the USA, in the context of 'developmental' education, Boylan and colleagues reviewed the research thus far and then carried out a substantial study of 6000 students to link programme factors with student success using causal comparative methods. Their findings are included in Table 1 on page 14.

Ako Aotearoa has provided two important publications that contribute to the search for critical elements to guide the development of effective bridging. *Lifting our Game* (EAWG, 2012) drew on a range of expertise and evidence, including visiting international experts, a national series of discussion forums, and the results of consultation on commissioned discussion papers, to consider what organisational practices contribute best to effective bridging. The findings from this work are included in Table 1. This publication was followed in 2014 by *A Foundation for Progression*. The focus here was on the learner attributes to be developed so that those participating in bridging programmes would transition successfully to further study and/or the workplace. The findings are also included in Table 1.

Table 1 provides a collation of the elements of successful bridging proposed by the three publications noted above. Additionally, the Ako Aotearoa funded projects (the Ako Projects) have generated three further elements that add usefully to this developing picture, these are the nature and style of learning resources and digital literacy in the 'Learning' section, and collaboration across organisations in the 'Organisation' section.

Table 2 on page 16 provides a chart referencing each of the Ako Aotearoa funded projects to the themes/factors presented in Table 1.

Identifying the essential elements of effective bridging has been a vital intent of research and practice development.

Students whose bridging programmes neglect digital literacy are seriously disadvantaged in their communities, the work place and in their engagement with society.

The critical components:

Learning

Across the discussion about effective bridging there is a divide between studies that look for ways to ensure student success in their daily learning and work and studies that investigate organisational factors that may ensure student success. This split seems productive and is used in this report. The focus on daily learning is strongly about literacy, language and numeracy with digital literacy mentioned but not highlighted. The Ako Projects and *A Foundation for Progression* both emphasise the importance of cultural and community engagement so that students both understand their learning through familiar contexts and build confidence in their identities. The Ako Projects include some excellent examples of developing resources with the 'Learning' factors driving choices.

The 'Learning' factors are described below:

Literacy, numeracy and language

How to improve literacy, numeracy and language capabilities within the learning environment has been a focus of much research. It is generally proposed that these capabilities are essential to functioning effectively in the work environment and as core to inclusion in society as a critical aspect of a democracy. Whatman et al. (2011), provide a very accessible summary of key research outcomes (see page 23).

Self-Direction

Self-direction is one of a collection of attributes that have been written about extensively under the umbrella of 21st Century capabilities and is a long-standing factor in the literature on adult education. The ability to consider a range of perspectives and information on an issue/problem, make informed decisions, act on those decisions, to do so with some autonomy and to tolerate realistic uncertainties has been discussed extensively but received only modest attention in our research literature. The compulsory education sector and early childhood education has much to contribute here. See: *The New Zealand Curriculum* (MoE, 2017) and *Te Whāriki* (MoE, 2017).

Work skills

The need to turn up to work on time, to be prepared to follow directions, to be able to complete tasks, and to build some initiative, are frequently mentioned as issues of employability that may be addressed in programmes of study. The 'habits' of working is one aspect of this element, the term 'soft skills' is the other. Of course, the soft skills are actually the hard ones to achieve and the notion embedded in the new post TRoQ bridging programmes is to identify and then contextualise the development of these skills. There is significant overlap between soft work skills, 21st Century learning skills (see Self-Direction above) and other ways of considering this set of dispositions, such as the ideas around 'resilience' and 'grit'. None can be neglected. The Graduate Profile outcome statements in the post TroQ bridging programmes offer some sense of how this might look.

New Zealand Certificate in Foundation Skills (Level 1)

Graduates of this qualification will be able to:

- Understand self-management strategies to organise personal life, maintain well-being and continue learning.
- Interact positively with people from their own and other cultures, both individually and in group environments including work and community.
- Reflect on progress towards achieving personal and career goals.
- Organise, interpret, and communicate information using basic literacy and numeracy skills in relevant contexts.

New Zealand Certificate in Foundation Skills (Level 2)

Graduates of this qualification will be able to:

- Search, comprehend, use and communicate information from a variety of texts and digital media relevant to the context.
- Apply basic knowledge, including literacy and numeracy skills, to solve problems relevant to the context.
- Reflect on experiences with a range of people, cultures and communities.
- Work collaboratively and effectively in a team to achieve a task or outcome.
- Develop and reflect on relevant learning and career goals.

(NZQA, 2016)

Community and cultural identity and engagement

Many of the Ako Projects recognise the importance of acknowledging and privileging the communities and cultures that students are connected to and to design programmes that function authentically. Also the Ako Projects show that student learning is enhanced where these connections are deepened and defined for students during their learning.

Digital literacy

While digital literacy has had very little attention in the Ako Projects, its importance has been underscored from many directions: the ubiquity of digital solutions in the workplace and in tertiary education, the rapid transformation of government and social agencies into digital environments and the engagement of ECE and the education compulsory sector in ensuring students are prepared for and immersed in digital technologies, devices and systems.

Students whose bridging programmes neglect digital literacy are seriously disadvantaged in their communities, the work place and in their engagement with society. A sense of direction for this learning may come from the recently introduced elements of the OECD's *Survey of Adult Skills* (OECD, 2013) and *Problem Solving in Technology-Rich Environments* (OECD, 2012). Also see the Australian Council for Educational Research's (ACER, 2016) paper, *A global measure of digital and ICT literacy skills*, for further discussion. The focus here has been on assessing the ability to solve problems for personal and work-related purposes through using concrete, practical tasks; a good starting point for programme designers and teachers.

Contextualised learning resources

While there is a general and well-established move in New Zealand away from expensive and aging text books, and a commitment to more immediately relevant, increasingly digital and context appropriate resources, the Ako Projects have some impressive and imaginatively acute examples of developing and using resources that connect students, communities/cultures and subject matter with very positive results.

How a student finds their way into and through a tertiary organisation on their way to effective bridging to meet their goals is a vital part of their success.

Organisation

The literature and the components in Table 1 on page 14 have acknowledged the importance of organisational factors in supporting effective bridging. How a student finds their way into and through a tertiary organisation on their way to effective bridging to meet their goals is a vital part of their success. This is especially so where bridging students are not confident with or experienced in navigating organisations.

From first communications through to clarity and accuracy of student placements, clear learning pathways and progressions and on to easy access to support and advice, the organisation plays a significant part in student success. Ensuring that the organisational structures and services are effective comes from excellent and comprehensive collection of relevant data, robust evaluation processes and enough centralisation to ensure strategic, evidence-informed decision making occurs (rather than localised, anecdotal developments).

Teacher education and ongoing professional learning are well evidenced to support excellent student learning in all sectors of the education system and are increasingly a requirement in New Zealand tertiary organisations.

The Ako Projects added collaboration among organisations as making a significant contribution to viability, creativity and effectiveness of bridging for students. It is noted that the Ako funded projects mostly sit in the 'Learning' area, suggesting there is a need to put more emphasis on 'Organisational' factors in further research.

The 'Organisational' Factors are described below:

Centralised structures

There has been debate, particularly within larger tertiary education organisations, as to whether it is more effective to set up a central school for foundation and/or language studies or whether it is better to attach such programmes to the school or faculty that is the student's eventual destination. Boylan et al. (1997) found that a central organising structure was associated with greater success and they proposed that this was a way to ensure a coordinated approach with an accumulation of teaching expertise, while ensuring students do not have to make final decisions about their career path too early. However, this approach may work against education providers ability to contextualise learning of foundation and language skills to a specific discipline.

Progression/pathways

It is a recent development, and more strongly so since the advent of the TRoQ redevelopments, that programmes do not sit in isolation but operate as study pathways so that no student's potential is blocked by lack of a 'next step'. Many organisations gather data on the viability and effectiveness of pathways for management decision-making and there is much room for research studies to consider the student journey within tertiary study.

Personalisation of learning

It may be administratively messy, but there is good support for the idea that matching learning activity to individual student's current learning needs at a fairly granular level is a much more effective way of progressing individual learning than engaging with a prescriptive programme. The use of individual learning plans is a useful strategy here, as is the creation of flexible schedules and expert academic advice.

Organisation's communication with students

For many students, a large tertiary education organisation (TEO) is very difficult to access both physically and cognitively. Within their experiential frame of reference, they may see a TEO as a place that they have no connection with and no way of communicating with. The onus, therefore, is on the organisation to establish ways of connecting that build confidence, provide usable experiences and then deliver the essential information that will help the student to overcome multiple barriers and have the courage to walk in the door and join a programme, preferably the best programme to meet their learning needs and their goals.

Student advice and support

Identifiable, accessible and useful advice and support for students is a well-established essential for student success, especially for those who do not have a track record of success in study.

Diagnostics, developmental placements

Boylan et al. (1997) in their study evidenced the importance of accurate placement of students at the level where they will begin to achieve immediately. This does not mean excluding students, but ensuring there is provision for placements that are developmental and accurate in key skills such as mathematics and language.

Data collection and evaluation

In New Zealand, with the advent of External Evaluation and Review (EER) for all polytechnics and private training establishments, gathering data to analyse and form plans for improvement is now institutionalised. A thorough collection of destination data for all bridging students provides a compelling measure of the effectiveness of bridging provisions.

Tutor training, professional learning

The Early Childhood Education sector and the compulsory sector both have stringent, legislated requirements for the education of their teachers. This is not so in tertiary education where it is dependent on individual TEO policy and practice. The Ako Projects demonstrate repeatedly that professional learning is essential to the continuous improvement of teaching.

Collaboration across organisations

There are excellent examples in the Ako Projects of the effectiveness of collaboration across organisations. These show that when organisations work together there is greater creativity, access to resources and project impetus.

TABLE 1:

Critical components of effective bridging

			A foundation for progression (Ako Aotearoa, 2014)	Lifting our game (EAWG, 2012)	Boylan et al. (1997)	Ako projects additionally
LEARNING	1	Literacy, numeracy and language	●			
	2	Self-directed capabilities	●			
	3	Work skills	●			
	4	Community and cultural identity and engagement	●			
	5	Digital literacy				●
	6	Contextualised learning resources				●
ORGANISATION	7	Centralised structures			●	
	8	Progression/pathways		●		
	9	Personalisation of learning		●		
	10	Organisation's communication to students		●		
	11	Student advice and support		●	●	
	12	Diagnostics developmental placement		●	●	
	13	Data collection		●		
	14	Evaluation		●	●	
	15	Tutor training / professional learning			●	
	16	Collaboration across organisations				●

TABLE 2:

Thematic analysis

		LEARNING					
		Literacy numeracy and language	Self-directed capabilities	Work skills	Community and cultural identity and engagement	Digital literacy	Contextualised learning resources
	Holland, C. (2009)	✔	✔	✔			
	Harrison, G., Marshall, G. & Beckham, A. (2009)						
	Greenhalgh, A., Tipa-Rogers, K. & Walker, S. (2008)						
	Mete, H. (2013)	✔			✔		
	Hazledine, C. & Silvester, M. (2012)						✔
	Elgort, I. & Boers, F. (2014)	✔					✔
	Minnaar, A. & Cook, J. (2015)	✔			✔		✔
	Farrell, M., Petersen, L. & Styles, M. (2016)	✔					
	Greenhalgh, A., Fussell, E. & Petersen, L. (2016)						✔
	Hay, M. & Campbell, C. (2012)				✔		
	Chinlund, E. & Shaw, A. (2011)						
	Carson, C. (2008)						
	Weir, V. (2008)	✔					
	Hanrahan, F. (2009)				✔		
	Pearce, C. & Fusco, A. (2009)	✔					
	Johnstone, J. & Govers, E. (2009)	✔					
	Pene, S. & Marvynne, A. (2009)				✔		
	Dickey, E. (2009)				✔		
	Howland, P. (2010)				✔		
	Hutchings, J., et al. (2013)	✔			✔		
	Denny, H. & Basturkmen, H. (2009)						✔
	Bitchener, J. & East, M. (2010)	✔					
	Howse, J., et al. (2009)						✔
	Tuagalu, C. (2010)	✔					
	Shaw, N., Minogue, G. & Hartles, J. (2012)	✔				✔	
	Benseman, J. (2012)	✔					✔
	Trewartha, R. (2016)						
	Hearns, M. (2014)	✔			✔		
	Nock, S. & Johnson, D. (2016)						✔
	Fiso, T. & Huthnance, L. (2012)				✔		
	Whatman, J., Potter, H. & Boyd, S. (2011)	✔					
	Duignan, G., et al (2011).						✔
	Doffs, K. & Hobbs, M. (2011)	✔					
	Heather, C. & Thwaite, D. (2011)						
	Heather, C. & Thwaite, D. (2011a)						✔
	Montgomery, B. & Blythe, J. (2012)					✔	✔
	Luafutu-Simpson, P., et al. (2015)						

Note: While many projects contribute across the Learning and Organisation categories and their sub categories, this chart focuses on the areas of greatest impact of each project. The projects have been grouped under four areas: Literacy, numeracy and language (Blue ●), Individual learning (Yellow ●), Organisation (Purple ●), and Projects breaking new research ground in bridging education (Green ●).

ORGANISATION									
Centralised structures	Progression/ pathways	Personal-isation of learning	Organisation's communi-cation to students	Student advice and support	Diagnostics developmen-tal placement	Data collection	Evaluation	Tutor training/ professional learning	Collabora-tion across organisations
			✔						
						✔	✔		✔
								✔	
								✔	
								✔	✔
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						✔			
					✔				
			✔						
						✔	✔		

Project highlights

This section provides brief summaries of 36 foundation, bridging and LLN research projects with a focus on highlighting the project purpose and findings. They are grouped under four themed subsections.

4

THEME

Literacy, numeracy and language

These projects make up the largest group of Ako Aotearoa projects and make a comprehensive contribution to the literature.

Interconnections between formal and informal learning that develop and support foundation learning.

Sanders, V. & Holland, C. (2009).

This research project was commissioned by the Joinery Industry Training Organisation (JITO) to understand learning on and off the job, the connections between them, and where learning support (specifically with literacy, language and numeracy) can be provided.

Ten participants contributed their experiences through qualitative techniques. The findings were described for the overall system, on the job, distance learning and in the courses. The recurrent themes in the findings were the importance of the connections between education provider, the apprentice and the on the job supervisors, and the need for core skills including self-management and literacy and numeracy.

Tumanako – a Māori perspective methodology of embedding literacy and numeracy within adult learning and teaching.

Mete, H. (2013).

This project report provides practical, theoretical and philosophical discussion regarding the Tumanako methodology of learning and teaching as developed by the author and discussed in interviews with 20 adult educators. The report offers narrative, visuals and experiences to show the lived experience of Tumanako in terms of:

- **Whakapapa** – true potential is housed within the practice of self-identity and self-discovery;
- **Manamotuhake** – knowing the gifts and talents that are born within each of us;
- **Kaitiakitanga** – guardianship, where talents can be grown and protected; and
- **Tinorangatirtanga** – decision-making and leadership for abundance, freedom and sharing.

Visible words: Using writing in second language vocabulary learning.

Elgort, I. & Boers, F. (2014).

The project aims to use English proficiency programmes effectively in preparing students from non-alphabetic language backgrounds for successful tertiary study in New Zealand. The focus is on the quality of L2 (second language) lexical knowledge and orthographic lexical representations. Since one of the main academic activities of tertiary students is reading, fluency of lexical processing in written English is a key predictor of student ability to 'pick up' new concepts from the text and successfully participate in academic discourses. The research evaluates the validity of a theoretically and empirically motivated prediction that writing practice improves the quality of L2 lexical representations.

The participants in the first study were 47 L1 Chinese speakers who were studying in a preparatory or first-year university programme. The students were instructed in two conditions for learning unfamiliar words; recognition within context and writing the words into lists. The second condition was statistically more effective in producing development of vocabulary.

Project based learning focused on numeracy and literacy skills with Māori second chance learners.

Minnaar, A. & Cook, J. (2015).

This publication will interest organisations working with Māori youth who have high numeracy and literacy needs. It describes two student project-based learning experiences with accompanying teaching and learning resources.

The student projects are The Waka Project (exploring iwi approaches to waka designs, history and uses) and The Stream Project (exploring the ecology of rivers). Nineteen students participated and demonstrated modestly improved rates of literacy and numeracy on the general LNAT (Literacy and Numeracy Assessment Tool). More importantly, the researchers identified significant improvements in understanding, vocabulary and mathematical skills in the specific topics of the context they were working on.

The researchers reported a very helpful list of factors they observed to be making a difference with their students.

"From undertaking the projects, it was evident that there were six principal factors that supported the students' success:

1. Making the learning relevant to the learner
2. Focusing on your goals when designing the project content
3. Including practical activities and group work to engage students
4. Celebrating student success
5. Including Māori perspectives and tikanga, e.g. the role of the atua in ecology
6. Including Māori pedagogy such as tuākana-tēina and ako"

Building trainees' capabilities around critical literacy and numeracy skills for successful completion of higher level tertiary qualifications in the New Zealand ITO context.

Farrell, M., Petersen, L. & Styles, M. (2016).

This project identified the literacy, language and numeracy (LLN) needs of trainees in relation to completing their qualifications. The focus was the Level 5 National Agribusiness Management Diploma. The researchers interviewed tutors (10), advisors (5), employers (3) and students (15) to better understand and resource the learning process. The key outcomes were an enhanced understanding that students at Level 5 may indeed have significant literacy and numeracy support needs, and a framework for identifying needs and meeting them is provided. The framework includes:

(i) The LLN requirements of each course in the Diploma;

(ii) LLN support strategies for trainees;

(iii) Teaching practices which support trainees in managing the LLN requirements of the programme;

(iv) LLN professional development needs and opportunities for tutors.

Working with young people with dyslexia, dyspraxia and other learning disorders.

Weir, V. (2008).

Valerie Weir describes *Y's Words*, which is a programme shown to enhance literacy and numeracy among students with learning disorders such as dyslexia, dyspraxia and dyscalculia. *Y's Words* is an intensive literacy and numeracy course for students aged 16–24. The report describes the delivery of the programme and provides two case studies to illustrate the effectiveness of the programme.

Making a difference in prison with Storybook Dads.

Pearce, C. & Fusco, A. (2009).

In this publication the authors describe *Storybook Dads*; a programme to enhance literacy amongst prisoners. The project is based on a successful programme from the UK used in 40 plus prisons. The programme was introduced to the Otago Corrections Facility in 2007 and about 100 prisoners have been through the programme. The participants create a DVD telling a favourite story, recorded for their children. Outcomes were measured using the Literacy Progressions, and high rates of positive progress were recorded.

The effectiveness of providing second language (L2) writers with on-line written corrective feedback.

Bitchener, J. & East, M. (2010).

The project aimed to investigate the effectiveness of providing advanced second language learners with written corrective feedback. This study was carried out with 20 learners of advanced English. While the common view is that providing written corrective feedback is unhelpful, this study gave some support to its value in a small number of specific grammatical corrections.this study gave some support to its value in a small number of specific grammatical corrections.

Engaging Pacific migrant workers in literacy, numeracy & financial literacy training: Reflections on the research process.

Tuagalu, C. (2010).

The purpose of this project is to help literacy and numeracy providers understand how to better engage learners from various Pacific Island countries in literacy, numeracy and financial literacy training.

The report describes a 10-week programme delivered to 146 seasonal workers in the Bay of Plenty from five Pacific islands.

The researchers gathered data from a literature review, focus group interviews with the 21 Vakameasina (pilot training programme) students, written feedback from the 4 tutors delivering the programme, interviews with 6 employers of the migrant workers, an anonymous survey completed by 77 students, and classroom sessions which were videoed with the students' consent.

The outcome was a set of guiding principles for effective engagement of Pasifika seasonal workers in education.

"The report concludes that programme goals are most readily met when students are:

- self-managing
- participating fully in the workplace in New Zealand
- confidently participating in their local community in New Zealand
- economically secure and contributing to wealth creation in their homeland
- feel nurtured"

Literacy game in a virtual world.

Hearns, M. (2014).

The Mythical World of Hīnātore is a new literacy game which has been developed and tested. It is on a virtual world Open Sim platform called Kitely. The game assists students to fill in gaps in literacy and numeracy, is motivating and engaging, and focuses students' attention on important aspects of sentence construction.

Forty students studying at Level 3 participated in the game. The Adult Literacy and Numeracy Assessment Tool (ALNAT) was used to pre- and post-test students' literacy and numeracy.

Students and lecturers completed a survey about playing the game. The results of the survey showed students and tutors enjoyed the game and found it motivating. Digital literacy was enhanced but there was no relationship between ALNAT scores and game participation.

Access to the game is available from the Ako Aotearoa site: akoaotearoa.ac.nz/ako-hub/ako-aotearoa-northern-hub/resources/pages/instructions-using-game

Literacy, language and numeracy: Connecting research to practice in the tertiary sector.

Whatman, J., Potter, H. & Boyd, S. (2011).

This publication is a summary of 9 literacy, language and numeracy research reports published by the Ministry of Education between July 2009 and July 2010.

The reports are grouped under four headings: Optimising adult learning; Optimising Māori learner success; E-learning (for adult literacy, language and numeracy); and Embedding (literacy language and numeracy).

The writers have summarised their key findings in the chart below.

Maximising student use of independent learning centres.

Doffs, K. & Hobbs, M. (2011).

This report presents a range of practices currently being utilised to support learners in Independent Learning Centres (ILCs) across New Zealand. It focuses largely on centres that support ESOL learners.

A snapshot is presented of current activity across 14 tertiary institutes to describe effective practice frameworks and services. The report provides a range of good practice examples that new or existing centres can implement.

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.

Numeracy learning needs to be related to everyday work and life experiences.

Whatman et al., 2011

THEME

Individual learning

This group includes all the rest of the projects categorized under "Learning" in Table 2. This group ranges across several very important aspects of student learning that are vital to successful bridging (Self-directed capabilities, work skills, community and cultural identity and engagement and not including those Ako Aotearoa projects identified in the fourth group).

Te pauwaitanga o te kakano: ACE – nurturing the seeds of learning within rural Māori women.

Hanrahan, F. (2009).

The publication describes how the early childhood Māori management/learning model of 'Atawhaingia Te Pa Harakeke' has been incorporated into ACE practices to better meet the learning needs of Māori women. This report describes the implementation of a participative management model in a rural area with high numbers of Māori women. The report describes how delivery was shaped by the participants within programmes of learning and provides data to show how this approach has accompanied increases in enrolments, retention and progression to further learning over three years.

Enhancing learning and confidence for Māori through community participation.

Pene, S. & Marvynne, A. (2009).

This publication describes how embedding community activities into the curriculum has resulted in enhanced learning and employability of learners. Gracelands Insight (a private training establishment) have redeveloped their OPTIONZ+ programme to include community activities to increase student engagement, success and employment. Activities included contributing to community art works, assisting with a range of community classes e.g. cooking, exercise, and involvement in a community gardening project. The delivery of this programme was tracked across 4 years for retention, success, credit accumulation, employment and further study. The data collected showed a very positive improvement on these measures.

He moana pukepuke e kengia e te waka: A choppy sea can be navigated.

Dickey, E. (2009).

This publication describes a programme where non-traditional and second chance learners are exposed to contextualised academic up-skilling using critical reflection.

The project conducted student focus groups to build qualitative understanding of the students' challenges and perceptions; and Stephen Brookfield's notions of critical reflection were seen as helpfully applicable. The programme developers and deliverers used this knowledge base to inform their work and assert that this has contributed to the success of the students on the programme (Bachelor of Applied Social Work).

Team-based, creative learning processes, assignments and evaluations in a tertiary bridging education environment.

Howland, P. (2010).

This publication describes how introducing team-based, creative learning exercises and assessments into a social science elective improved student retention, course pass rates, and improved socio-educational outcomes for both students and teachers.

Students in this level 4 paper, part of the University preparation programme, participated in a revised pedagogy based on consideration of the available literature.

Student satisfaction, pass rates and retention rates were tracked over two years. While there were some variations, this data provided positive support to the assertion that the new pedagogy was instrumental in creating an effective learning environment. Students were engaged in group assignments utilising notions of team creativity from the work of Professor L. Dee Fink.

Developing the skills of Māori farm workers in Te Tai Tokerau.

Shaw, N., Minogue, G. & Hartles, J. (2012).

This report presents the findings of a research project focused on the assessment of the workplace literacy (WPL) skills of Māori farm employees from five rurally isolated pastoral farms in Northland with the purpose of proposing practical ways to deliver training to meet their literacy needs.

Seventeen employees participated in the study. Four purpose built tests were administered in literacy, numeracy, financial literacy and digital literacy. The findings suggested that all participants would benefit from targeted training in each of those four areas. While the importance of this learning was noted, it was also clear that the delivery of learning was problematic in isolated rural districts. The potential for computer-based learning was promoted, especially if preceded by the provision of basic digital literacy development and the provision of necessary equipment.

Bridging to tertiary study: A support resource for Māori students.

Nock, S. & Johnson, D. (2016).

This project aims to provide support for Māori students, particularly those involved in study at first degree level, who need to develop skills in writing assignments in English in a range of academic subjects.

This resource was developed to provide structured learning for Māori students who are preparing for higher level study and need to be proficient in academic writing skills.

The resource was developed, trialled and improved and has a focus on:

- Understanding about writing
- Writing Explanation texts
- Writing Argument texts
- Summarising, reviewing, quoting, referring and referencing

Tertiary bridging tracks: Holistic teaching and learning practices of Pacific PTE's.

Fiso, T. & Huthnance, L. (2012).

The project identified a range of holistic Pacific practices that have been shown to benefit learners, as well as summarising success factors for Pacific PTE learners, PTEs, and tutors.

A search of the relevant literature was conducted to provide context to discussions with student participants. Fifty-six students from three successful Pacific PTEs participated in focus groups to explore those elements of the educative experience that best supported their progress. A Research Advisory Group supported and contributed to the research and findings were summarised into a report for use by providers.

The following best presents the outcome in the words of the writers:

"The key organisational features demonstrated by the organisations are best characterised as being *le so'otaga* (a bridge) between their learners and the educational system. The PTEs shared and encouraged *'ofa, fakalofa, alofa* and *aroa* or compassion for their students. Pacific staff demonstrated advanced understanding and knowledge of identified cultural values – *va, fa'asinomaga, feagaiaga, tuā'oi, lotu, tapuakiaga, taui, tautua, vosa* and *vagahau* – and they competently integrated these in their own respective practices. Pacific PTEs provided a culturally appropriate context and atmosphere for their learners by promoting cultural appreciation and expression, to create an atmosphere of welcome and *fa'asinomaga* or belonging that encouraged confidence, self-worth and pride. Most of all, these Pacific PTEs' expectations that all learners can achieve provides a spur to ensuring that Pacific students do achieve."

Creating a template for a multimedia approach that supports and encourages reading independence among adult literacy learners.

Montgomery, B. & Blythe, J. (2012).

The high-quality resource and the digital short stories developed in this project to assist adult literacy learners will be of value for the adult literacy community.

The resources produced by the project team include:

- Five short stories presented in DSL format. Each story consists of a series of text slides with accompanying narration. Built into the slide shows are visual prompts/aids that support independent reading and aim to improve reading skills, especially fluency. Different versions of each story with varying levels of support allow the reader to build and practice these skills.
- Three templates, using different software options, for creating an audio-supported slide show.
- A guide to using the template with each software package.
- A Tutor's Manual providing detailed guidelines on the use of the resource in relation to the stories and an outline of the research on which it is based.

The template and guidance can be found on the Ako website.

THEME

Organisation

This group includes projects that address the significant issues of how organisations can support bridging but not including those Ako Aotearoa projects in the fourth group.

The Identification of key tutor practices that are positively correlated with successful completion of Māori students within a PTE environment.

Greenhalgh, A., Tipa-Rogers, K. & Walker, S. (2008).

In 2008, Workforce Development was identified by Te Puni Kōkiri as being in the top 15% of PTEs for successful delivery to Māori. Research focused on identifying the tutor qualities, in relation to delivery of content, student engagement and cultural awareness, which have resulted in quality teaching practice and learning environments for Māori.

The participants in this project included 37 students (surveyed) and three focus groups of students. Retention and success data from Workforce Development was collected. The researchers looked to link tutor practices with students' success across ten factors. The outcome provided indicative support to the importance of supportive tutors and interactive teaching methods.

Adult refugee learners with limited literacy: needs and effective responses.

Benseman, J. (2012).

This study analyses the learning needs of adult refugee learners with low-level language and literacy skills. The project identified educational strategies for teaching these learners and a teaching resource has been developed.

To build an effective resource for migrant learners, 49 people were interviewed: programme co-ordinators (2), course tutors (5), bilingual tutors (6) and learners (36).

This project identified four important elements of momentum in learning for migrants: Learning skills, English and literacy skills, Self-confidence and Understanding life in New Zealand. (Refer to Fig. 1 diagram opposite).

The project proposed a variety of strategies for successful teaching and learning under the following headings:

- Teaching strategies and skills
- Teacher qualities
- Teaching content
- Teacher development
- Learning environment
- Interpersonal relationships
- Outside the classroom

Certificate programmes and beyond: A longitudinal study tracking the pathways and factors influencing students' choices.

Trewartha, R. (2016).

This is a pilot project focused on developing a model to track student outcomes for certificate-level programmes across the sector, with the aim of addressing the lack of available data in this area.

This is a longitudinal study, using a cohort model, tracking 76 (out of the possible 342) students from their foundation programme to their next enrolment in study.

While the surveys from the 76 participants contained a wealth of interesting and useful data and information around understanding bridging students, the study would only be able to continue if further funding was available.

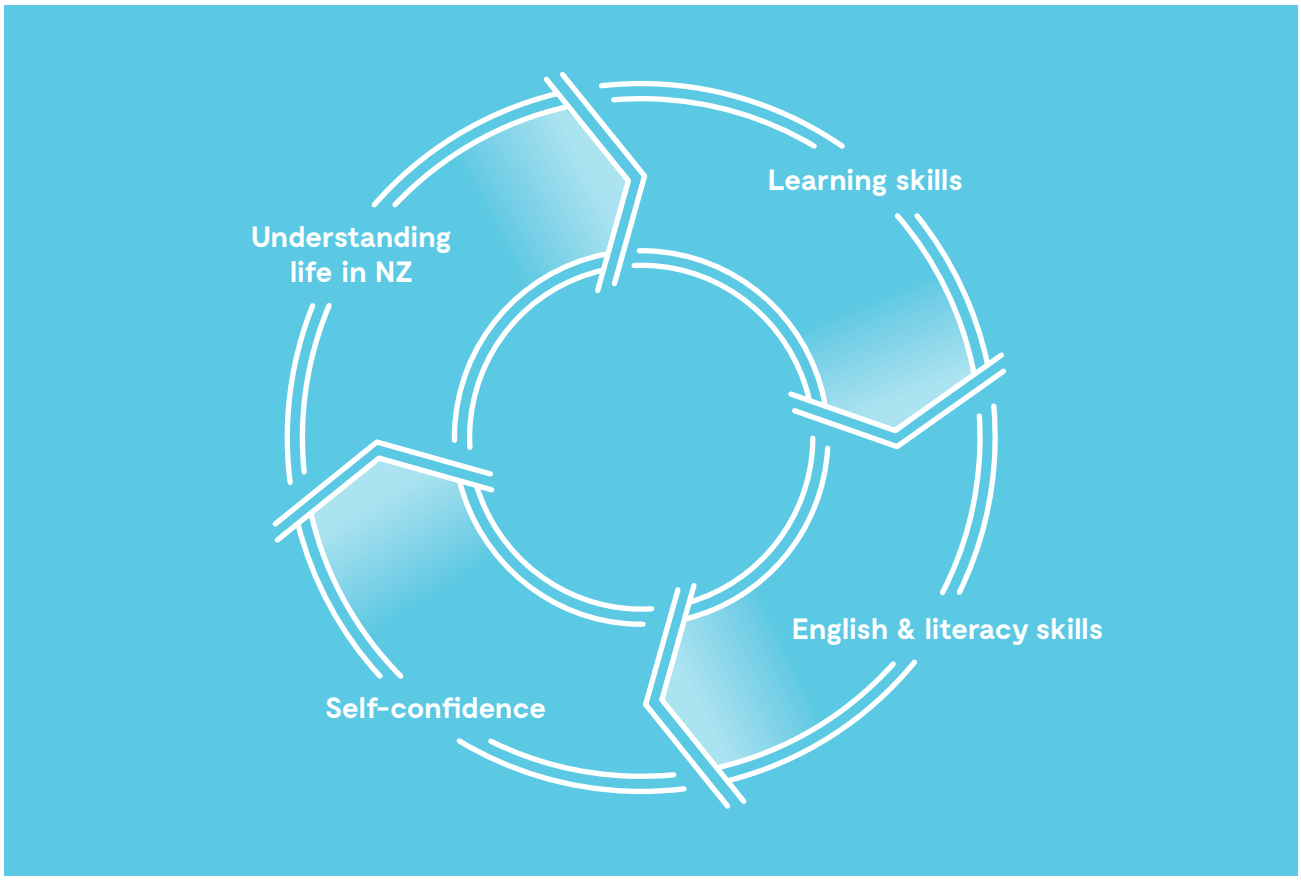
Enrolment assessment tool for workers from non-English speaking backgrounds in agriculture.

Heather, C. & Thwaite, D. (2011).

Migrant dairy workers from non-English speaking backgrounds (NESB) are often literate in their own language, but find adjusting to New Zealand English and dairy farming terminology challenging. They are often enrolled in training for which they have insufficient English language skills. This project developed and trialled a quick diagnostic placement tool that Agriculture ITO training advisors could use on-farm to assess the most appropriate qualification for each trainee.

While there was clarity about the need for a quick, easily administered diagnostic tool to assist with accurate placement of NESB dairy workers, low numbers using/trialling the tool have resulted in the need for a larger group of participants to check the validity of the development.

Fig 1 The learning needs of adult refugee learners with low-level language and literacy skills



Supporting workers from non-english speaking backgrounds in agriculture industry training.

Heather, C. & Thwaite, D. (2011a).

When migrant dairy farm workers from non-English speaking background (NESB) were enrolled in industry training by the Agriculture ITO, they were at a considerable disadvantage for successfully completing qualifications. The project developed and trialled two tools to assist migrant dairy farm workers succeed in agriculture training. These tools were a Language Diary and a 2-day orientation event for new NESB dairy workers.

Both resources were researched and developed to be as user friendly as possible and tutors were trained in their use. Five participants attended the orientation days and a class of students used the language diary intermittently. While these immediate outcomes were indicative of the potential of the tools, there was more significant understanding of the NESB dairy workers' aspirations, difficulties and support needs identified by the observers whose role was to gather qualitative information directly from the participants and summarise it in the report.

Change strategies to enhance Pasifika student success at Canterbury tertiary institutions.

Luafutu-Simpson, P., Moltchanova, E., O'Halloran, D., Petelo, L. & Uta'I, S. (2015).

This project identifies effective organisational practices in tertiary education that lead to Pasifika student success. Two universities and one polytechnic collaborated to investigate what organisational strategies have an impact on Pasifika student success. Eight focus groups were conducted across the three organisations involving 55 students; additionally, a regression analysis was carried out across 915 students using data from 2008-13 to compare the pass rates of Pasifika students who accessed Pasifika support systems. This comprehensive research was premised on Pasifika research methodologies.

The outcomes are informative for organisational strategy. There was a clear relationship between the likelihood of passing and accessing support systems, particularly mentoring and tutoring. Further, students identified Pasifika context in content of programmes, targeted Pasifika support systems and 'engaging' spaces for informal meeting and study as highly valued in support of their studies.

THEME

Projects breaking new research ground in bridging

These projects address topics not commonly found in the bridging literature, they highlight the importance of digital literacy for bridging students, the importance of contextualized resources and the positive impacts of collaboration across organisations.

Improving participation, retention and progression of Māori tertiary learners in the Whanganui region.

Harrison, G., Marshall, G. & Beckham, A. (2009).

This project investigated how two Private Training Establishments could improve the participation, retention and progression of Māori Tertiary Learners in the Whanganui Region.

Two participant PTEs worked collaboratively to improve their outcomes using a focused literature search, agreement on the common kaupapa and a range of joint developmental activities. The outcomes included a research-based approach to designing activity/development, an increased capacity and capability to critique, plan and evaluate and an enhanced focus on student achievement.

Cracking the reading code: An audio-visual resource for learners and teachers.

Hazledine, C. & Silvester, M. (2012).

This project provides very practical resources for students wanting to improve their academic reading skills and also another useful tool for teachers to understand the reading needs of their students.

The resource was developed after considering student feedback and a review of the literature. The resource for tutors and students includes video clips and associated notes and guides. This is a complete resource in a practical format that has been trialled with students and proven useful in improving academic reading skills.

The identification of tutor practices that achieve positive outcomes for Youth Guarantee students.

Greenhalgh, A., Fussell, E. & Petersen, L. (2016).

The researchers used case study methodology to gain insight into effective tutoring practices. Data was collected from interviews and observations of 13 tutors and focus groups with 48 YG students. Narrative and content analyses were carried out on the qualitative data alongside a review of the literature. There were two important outcomes; the importance of focused and positive professional learning was affirmed and a current and future state chart was developed using Shulman's (2005) 'Signature Pedagogies'. This chart provides strong guidance on necessary pedagogical shifts for YG tutors and teachers in general.

Trialling and evaluating a strengths-based learner engagement programme.

Hay. M, & Campbell, C. (2012).

This collaborative project evaluated the outcomes of a strengths-based course called My Voice. Trialled across two PTEs and three secondary schools, this approach resulted in earlier engagement for learners (compared to a comparison group). Learners reported that the approach was associated with increased well-being and self-confidence. Tutors reported earlier learner engagement rates, increased motivation and higher aspirations among learners.

Participants were 39 students in youth training projects split into two groups. One received the strengths-based training and the other did not. Data came from a student survey, and tutor and student focus groups. Visual analysis of trends showed increased engagement for the trained group with this finding supported by the focus group comments.

Fig 2. Current and Future Pedagogical Practices

Shulman's (2005) signature pedagogies model	Project findings: current state	Project findings: desired future state
Dimension one: surface structure - the concrete acts of teaching	› Teacher-led delivery › Chalk and talk › Teacher at front of class › Workbook focused › Assessment focused	› Role models effective ways to communicate › Develops a sense of community in the classroom › Teaching is informed by teaching and learning theory and adult learning principles › Regular self-evaluation and reflection › Sound learning assessment methods › Teachable moments › Proficient literacy and numeracy knowledge and skills › Transferable learning › Deliberate acts of teaching
Dimension two: deep structure - assumptions about how best to impart content	› The programme being fun a priority › Do not see selves as teachers › Knowing about teaching is not necessary › State use of project-based learning (PBL) however unable to fully describe the PBL method	› Structured delivery based on both curriculum and learner requirements › Use of reflection as a tool for improvement/ advancement for both learners and tutors › Programme content is delivered through a series of topic based modules and is student-led
Dimension three: Implicit structure - set of beliefs about professional attitudes and values that define a teacher's pedagogy	› Only YG tutors know what it's like to teach young students › Gatekeeping possibly to obscure limited pedagogical knowledge and skills Inability to articulate teaching practice › PD is mainly conferences and seminars › Adjust teaching and learning to the mood of the student/class daily, sometimes hourly › Focus on student barriers rather than the strengths they bring and the use of teaching skills and strategies to build on these	› Discusses and analyses practice and curriculum delivery › Committed to the highest levels of learner achievement possible – achieved through quality content and engaging students using sound adult educational principles › Well-planned and well-designed programmes › PD is working with peers and peer team › Critical reflection on and in practice › Identifies PD needs against own practice and engages in PD to build on and/or improve practice › Actively and deliberately transfers PD learnings into own practice

Regional collaboration to develop a degree preparation programme.

Chinlund, E. & Shaw, A. (2011).

The purpose of the project was driven by the current tertiary education policy settings that have prompted many providers of bridging education to reduce or streamline the programmes they offer. It has resulted in the collaborative development of a new Certificate of Degree Preparation.

Three tertiary providers worked collaboratively to design a programme preparing students for degree study. The providers used a search of the literature to inform the design of the programme including pedagogies, content and competencies.

The provision of quality education and training for students with an intellectual disability.

Carson, C. (2008).

In this publication, Colin Carson describes how working collaboratively with the IHC enhanced the educational outcomes of intellectually disabled learners in their programmes. This project describes 14 brief case studies to illustrate possible elements of supported learning.

A project approach to teaching collision repair: A story of change.

Johnstone, J. & Govers, E. (2009).

In this publication, a case study is described where purposeful changes to a course, including taking a project approach and embedding literacy and numeracy, resulted in enhanced learner benefits. This report describes the delivery of a trades programme (collision repair) and tracks its retention and pass rates over 3 years. The implementation of project pedagogy, embedded literacy and numeracy, in-class use of work books and an enhanced orientation were associated with much improved retention and pass rates.

Hei ara ako ki te oranga: A model for measuring wellbeing outcomes from literacy programmes.

Hutchings, J., Yates, B., Isaacs, P., Whatman, J., & Bright, N.

The project sought to identify literacy outcomes for Māori adult learners, and how they might be assessed. Working within a Kaupapa Māori framework, this research sought to understand the notion of literacy-wellbeing outcomes among Māori adults that can be disseminated across the sector.

A model was developed using the work of Sir Mason Durie in conjunction with focus groups of learners and tutors. Twenty-five participants contributed through 6 focus groups. Possible models of wellbeing were debated and challenged in two wānanga.

The Wellbeing Model was piloted and refined and now provides a much more comprehensive and holistic description of the outcomes of literacy than the National Assessment Tool has been able to, and it serves to inform learning and goal setting for Māori adult learners and their tutors.

"The model has four stages:

1. the initial assessment process where the goals of the learner are identified and a learner plan is developed to provide a focus for the tuition
2. a formative assessment where the learner and tutor review progress and both contribute to the learners' responses to three questions about their progress.
3. the summative assessment where the progress towards achieving the learners' goals are discussed and validated
4. the exit statements where the learners complete their programme (s) with the provider comments against a Likert scale to three questions that focus on achievement and future direction"

Using authentic spoken texts in socio-pragmatic focused instruction: A survey of teacher practices and perspectives.

Denny, H. & Basturkmen, H. (2009).

This project sought to discover to what extent teachers had access to suitable authentic materials to teach the important norms of pragmatics (socio-culturally appropriate use of language) in situations relevant to the personal and academic or employment lives of their students.

A survey was conducted with 18 teachers of English to ascertain their levels of access to authentic texts for teaching. The findings were of concern given the low levels of use of authentic written and spoken texts and the lack of easy access to such materials.

Making literacy portable: digitising the programme.

Howse, J., Naisaulala, O., Whaanga, M., Alderson, S. & Thom, S. (2009).

This project put together a DVD to describe the work and methods of the City of Manukau Education Trust's (COMET) "PACTT: Parent and Child Time Together" component of their Manukau Family Literacy programme.

Teaching adults poster and learning object project: Phase 2 - field testing.

Duignan, G. et al (2011).

This project has designed a set of posters/electronic learning objects with messages that tutors employ in their courses to underpin core concepts of teaching and learning. Being exposed to core principles about learning can help adult learners engage better within their learning context.

The posters are available on the Ako website: akoaotearoa.ac.nz/posters

Conclusions and recommendations

5

It is evident from Tables 1 and 2 that the Ako Projects have collectively made a substantial contribution to understanding what organisations must do, what programme designers must consider and what teachers must deliver to achieve effective bridging. This set of projects makes a very particular contribution in the category of Community and Cultural Engagement where the importance of identity, place and collective learning are exemplified and also in the category of Literacy and Numeracy where New Zealand is a leader. Many projects have developed resources contextualised to their very specific learner needs, these provide a clear signal that this approach has much to commend it. Further, the Ako Projects have demonstrated some very effective uses of collaboration across organisations. This important element is not well noted in the established literature, so this is clearly a new and valuable contribution. Teacher education has not been a focus of many of these projects but is implicit in a great number of them and its importance should not go unnoticed in the effective implementation of the strategies proposed.

The gaps can be seen in Table 2 and this is where New Zealand researchers can contribute further. In the 'Learning' category there is room for work on digital literacy, perhaps building on the new digital curriculum being developed by the Ministry of Education for the compulsory sector. Understanding how to build what have been called 21st Century learning skills is a challenge across all sectors. Here, self-direction has been highlighted and there is work to be done to describe what this means and to verify what strategies support its development in adult bridging students. A larger gap can be seen in the 'Organisations' category where it would be useful to see projects both describing and testing the value of particular organisational processes to support bridging. The notion of study pathways, for example, is well-established within many tertiary organisations; and across tertiary organisations collection of data occurs, but research informed analysis and publication is less apparent. Thus, practitioners and researchers might consider the following research questions:

Digital literacy

What are the essential digital skills for adults wishing to study in NZ at Level 5 and above?

What are the essential digital skills for adults to access services and support essential to survival in New Zealand Society?

Self-directed learning

What are the components of 'self-directedness' for adults who are novices to study?

How do the skills of being self-directed contribute to the development of autonomy as an individual and as a student of higher learning?

Organisational processes

What are the roadblocks for underprepared students in accessing educational organisations? What practices are evidenced to reduce these roadblocks?

Teacher education/professional learning

What model of teacher education can be evidenced to improve learning outcomes for students and is also practical for delivery in tertiary education?

Any provider who is initiating or redeveloping their bridging provisions will find much to learn at a relatively granular level by perusing these projects. They are mostly grounded in the realities of the bridging effort in terms of the difficulties and the joys that are part of the experience of working to make it possible for people without traditional credentials to 'bridge' to work and/or further study.

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Notes

Nā āheitanga ā-mātauranga,
ko angitū ā-ākonga
Building educational capability
for learner success

Ako
AOTEAROA