MINISTRY OF EDUCATION
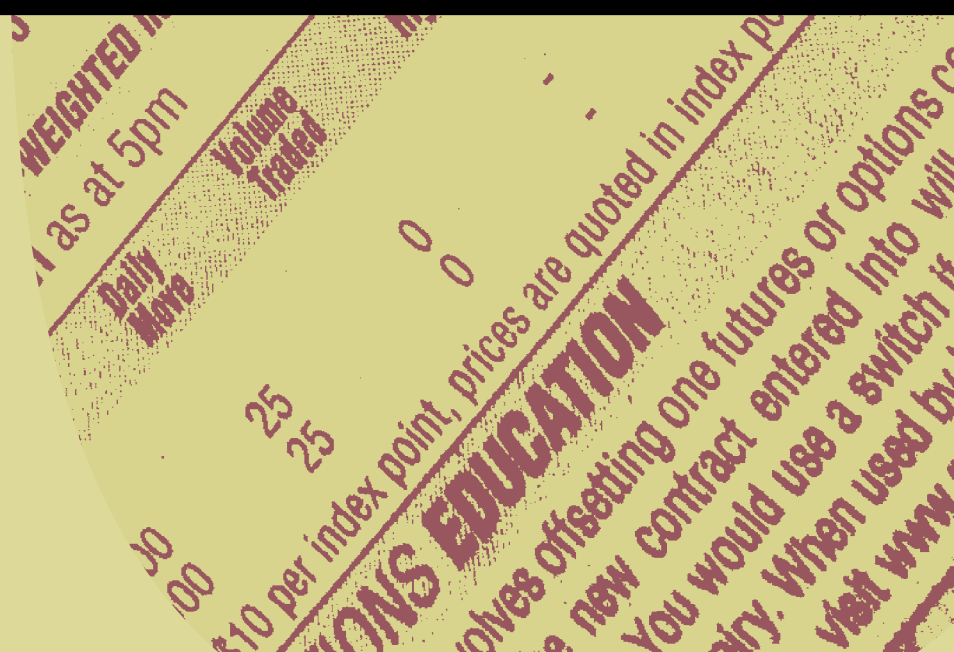*Te Tāhuhu o te Mātauranga*

Lighting the Way

A summary of the best available evidence about effective adult literacy, numeracy and language teaching

ABOUT THIS SUMMARY

This is a summary of the best available evidence of effective programme design and methods for teaching literacy, numeracy and language to adults. The purpose of this summary is to provide useful, succinct information to everyone interested in providing good adult education.

Some of the findings here will not be new to educators – many have intuitively known which teaching practices are most effective. The value of this research is that it confirms those intuitions with research evidence. Due to the limited amount of definitive research material available however, the researchers could not present a list of factors to ensure effective teaching and learning.

If you would like to know more details about the findings or about the research methodology and source references, read the full report at www.minedu.govt.nz/goto/FLlitreview

KEY FINDINGS

There has not been a great deal of high quality research into teaching adult literacy, numeracy or language and sample sizes of studies are often small. The findings presented here are therefore tentative and presented according to the strength of research evidence supporting them. The table below sets out factors supported by most research evidence through to those for which no evidence was found.

	Tutors . . .	Programmes . . .	Providers . . .
Factors *most* likely to benefit learners	With appropriate skills, able to identify learners' strengths and weaknesses.	Delivering clearly structured teaching using a range of methods.	Make efforts to retain learners and offer assistance where external factors can influence attendance.
	Providing deliberate acts of teaching using a wide range of teaching strategies focused on learners' diagnosed needs.	Using a curriculum that is linked to the real-life literacy demands of learners' lives.	
	Well trained in the reading process, explicitly teaching reading.	Allowing high levels of participation of probably 100 hours' tuition or more.	Who enable staff to have adequate non-teaching time for preparation and professional development.
	Working fulltime.	Performing ongoing assessment that takes variation in learners' reading and writing skills into account.	Family literacy education providers who arrange home visits and collaborate with social workers, career counsellors and other groups.
	Assisted by aides or volunteer tutors.	Providing learning plans for every learner.	
	Having adequate time for planning and professional development.	Using learning plans for regular assessment and review with the learner.	
	Able to use a learner's first language to explain concepts in English language.	Family literacy programmes providing teaching for parents only and children only as well as together.	
Factors that *may* benefit learners (supported by only limited evidence)	Undertaking regular professional development.	Providing a positive teaching and learning environment.	Recognising and providing support at times when a learner is likely to withdraw or fail.
	Praise and encourage learners and are open to their students.	That provide a next step programme for learners.	Have adequate financial resources and facilities and administrative leadership.
	With credibility in their field and enthusiasm for their subject.	Including learners' self-assessment into assessments.	Community-based programmes where there is trust and collaboration between literacy providers and communities.
	Able to balance challenge and support for learners and encourage peer support amongst learners.	Using computers for teaching mathematics and to motivate literacy learners.	
	Who teach learners to monitor their own comprehension and understanding as they read.		
	Spending at least 70% of time on reading and writing tasks.	Bridging programmes that are centrally coordinated rather than based in separate academic departments.	
	Using learners' prior reading knowledge from the start and teaching all 4 components of reading at the same time.		
		Having commitment from the company in workplace literacy programmes and tuition provided during work hours.	
No evidence found to support these factors		That one form of delivery such as one-to-one or small classes is better than another.	
		Differentiating between dyslexic and non-dyslexic learners.	
		Recommendations for time, nature and extent of numeracy teaching.	

EFFECTIVENESS AND QUALITY

FEATURES OF QUALITY PROGRAMMES

Key characteristics of quality programmes include:

• highly trained staff who relate positively to learners;

• explicit teaching of literacy; and

• programmes that provide individualised tuition.

Learners also confirm the importance of qualified and supportive staff.

Environments where adult learners feel valued and supported, especially in times of need, are very important. Adults value intimate teaching arrangements where their learning needs are explicitly recognised and tuition is tailored to these needs.

Research carried out in the UK between 1975 and 1997 established the following as hallmarks of quality programmes:

· Clearly structured teaching in literacy and numeracy (using a mixture of teaching methods).

· Teaching delivered in a range of contexts meeting the motivation and interests of learners specifically related to that context.

· Programmes that have high expectations of achievement have higher levels of attendance, completion and outcomes.

· An individual learning plan that lists and provides activities and material to meet individual need (including learner aims, learner perceptions of strengths and weaknesses, priority areas for development, skills broken down into manageable steps with appropriate learning strategies,

an estimated timeframe, the resources needed and a way of reviewing and recording progress).

· Adjustments to individual learning plans based on regular assessment and review of learner progress.

· Learners are able to progress and gain credit and accreditation for their learning.

· Flexibility to adjust the programme length, including realistic amounts of tuition time according to the level of skills required.

· Adequate time for staff to plan and co-ordinate provision.

· Limited reliance on tutors working 2-4 hours per week. Full-time teaching staff ensure better consistency of teaching methods and better use of professional development resources.

· Teaching staff have a recognised qualification appropriate to the field.

· Tutors need to have credibility in the context in which they are teaching (particularly important for vocational programmes where tutors need a set of job-related competencies and skills in addition to literacy, numeracy and language teaching).

· Learners supported by volunteers who undergo a rigorous selection process, receive both initial and in-service training, are supervised and supported by paid staff and make a minimum commitment to the programme.

Another important English study of the progress learners made over two years found that having qualified tutors and using teacher aides led to improved progress.

CHARACTERISTICS OF QUALITY TUTORS

A New Zealand study found that successful tutors had the following characteristics:

·   an overwhelmingly positive attitude towards their learners, were approachable and accentuated learners' strengths

·   used the learners' experiences in teaching, created a positive and supportive learning environment, had passion and expertise in their subject and had links to industry

·   were aware of and managed critical periods in the programme (when learners were susceptible to failure and/or withdrawal) and were supportive in times of crisis

·   taught learners how to set realistic long-term goals, were able to balance challenge and support for learners, used specific teaching strategies and methods they had developed and refined.

LEARNERS' PERSPECTIVES

Perspectives from learners will be particularly important when considering whether and how provision meets the needs of learners such as Māori, Pasifika, ESOL and young adults.

Learners considered specific factors such as trusting and supportive environments and free childcare made programmes effective for them, together with the fact that the teaching approach was geared for adults.

Participation in planning programmes emerged as important along with peer support, individual tuition and encouragement from tutors. Also, the learners linked assessment practices with effectiveness. Self-assessment and constructive, verbal feedback from tutors helped them learn. Most learners preferred assessment to be "an ongoing process based on discussion and portfolio building supported by tutor feedback".

PROGRAMME ORGANISATION

PARTICIPATION

While most studies reviewed agree on the importance of providing sufficient time to learn, studies vary on the actual number of hours they recommend.

A minimum of 100 hours over a year appears to be needed by many learners in order to have a realistic chance of improving their skills. Learners at the more basic levels probably require even greater amounts of tuition to make equivalent gains. More intensive programmes are a more effective way of ensuring minimum amounts of tuition. Regular attendance may be as (if not more) important than the number of hours per week for ESOL learners.

LEARNER-CENTRED CURRICULA

Evidence was found supporting 'authentic instruction' or *learner-derived content*. These terms describe programmes where teaching content is taken from the everyday environment of the learner, rather than pre-designed and sequenced programmes that often rely on individual workbook completion, repetition and drills.

CLASS SIZE

The research review did not reveal any findings on the effectiveness of one size of provision over another. There are many variables to take into account, including the skills of tutors, whether there is constant turn over of students in groups and hours of tuition. There is some evidence that ESOL learners may do better in groups and that teaching in small groups may increase the likelihood of learners staying in programmes.

COMPUTER-AIDED INSTRUCTION

'Computer-aided instruction' covers a range of teaching and learning approaches using computers. Programmes range from the use of simple typing programmes through to sophisticated, multi-media-linked programmes with refined assessment and feedback components.

Computer-aided instruction may be more effective in maths and with learners at basic levels. There is some evidence that it can contribute to improvement in reading skills.

The use of computers in teaching is consistently reported as being valuable for motivating reluctant or hesitant learners. It has also been a valuable means for decreasing the social stigma of seeking help as it is generally felt to be more socially acceptable to learn to use a computer than to get help with reading and writing. The programmes work best as a supplement to other forms of instruction, rather than as a stand-alone option.

Tutors are central to making these programmes work. However, one study found that tutors' ability to integrate computer use into their teaching was very dependent on their own skills. The report recommended effective computer training for tutors, incorporating more strategies for getting learners to work independently; and a wider range of teaching styles.

LEARNING DISABILITIES AND DYSLEXIA

There is very little material on effective teaching for people with dyslexia and learning difficulties. However, a recent UK study suggests that both dyslexic and non-dyslexic students need to acquire the same knowledge and skills in literacy and numeracy. It also recommends that both groups receive structured and explicit teaching and that tutors of both groups understand how language and literacy skills are acquired. Tutors need to be highly skilled in assessing reading and teaching reading to meet the diverse needs of students, irrespective of the causes of the difficulties.

READING

This review was structured around four crucial components of reading – *alphabetics* (phonemic awareness and word analysis), *fluency*, *vocabulary* and *comprehension*.

The limited research findings on assessment pointed to the need for accurate assessment (both initial and on-going) of all aspects of reading.

Fluent accurate reading and reading with appropriate rhythm, intonation and expression are important skills for getting meaning from text. Guided oral reading and frequent independent reading were identified as two strategies for teaching fluency.

The review stressed the need for explicit teaching of comprehension. The 'diagnostic-prescriptive' approach that appeared to lead to improvement involved assessment to identify a learner's strengths, needs and interests, an individualised teaching programme, contextualised content, and the explicit teaching of reading processes.

There is strong evidence from research, backed up by the judgement of researchers and practitioners, that tutors need to be well trained in the reading process. Specifically, tutors need to be skilled enough to observe learners reading and understand what they are seeing and to know how to teach at the word, sentence and text level to overcome the difficulties they observe.

Explicit teaching of all components of the reading process was also found to be beneficial. This requires both tutors skilled at teaching, plus programme structures that enable 'deliberate acts of teaching' to take place.

The strongest finding appears to be the efficacy of reciprocal reading. This approach involves explicitly teaching self-questioning (making up a question on the main idea) and summarising information to enhance comprehension were also found to be beneficial. However, this finding is only from one study.
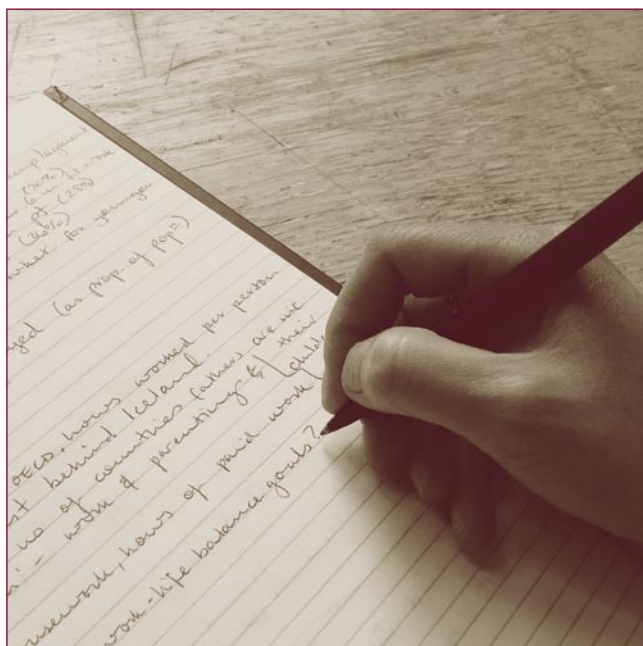
It is particularly important to emphasise that any teaching of phonics must relate to an identified need rather than being taught to all learners. Phonics teaching needs to be integrated with teaching of skills related to other components of reading.

WRITING

The main implication of the very limited amount of research located is that using 'authentic' everyday, learner-related content is likely to help improve writing practices of adults. Another thread of the discussion on writing considers that tutors need to encourage learners to think beyond surface features of text. A third seems to be that tutors need to promote a range of writing activities.

Other findings suggest that tutors should encourage:

· fluency of writing rather than technical competence, reading aloud to discover and correct errors in writing

· critical discussions on the conventions of writing, and

· collaboration and interaction between learners.

ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESOL)

Research identified for this section of the report related more to those with low or no literacy skills in their first language, rather than those who are literate in their first language. The research findings fell into five main themes:

The relationship between oral communication skills and literacy

Until learners' understanding of English vocabulary and syntax is good enough to understand basic sentences and expressions, they are not able to draw on any reading strategies they have in their first language. Programmes need to emphasise building oral competence and face-to-face communication skills before, or at least alongside, basic literacy skills.

Connecting literacy learning to real world tasks

Students in classes where tutors connect teaching and communication tasks to the community and real work materials showed greater increases in basic reading skills than those in classes where those things did not happen.

Working in groups in project based learning and cooperative-learning approaches appears to bring about positive results, with cooperative learning being effective when there are group awards and individual accountability.

Computers and multi-media

Computers and video (separately or multi-media) in language instruction may be useful for ESOL literacy learners. Skill and drill software with its structure, repetition and immediate feedback can also be very helpful.

Using the first language to support learning English

Some learners may have to be taught how to transfer what they know about reading and writing in their native tongue to English. There is evidence from a number of studies that literacy instruction in their native language could be helpful, particularly for those languages with regular spelling patterns.

Improving English literacy through a focus on reading

Studies show that extensive exposure to print improves both vocabulary and comprehension; and specific teaching of strategies related to vocabulary acquisition and reading comprehension appear to benefit the learner.

Longer classes also appear to help learners gain oral language skills. However, regular attendance may be as or even more important for learners than the actual hours attended. In one key study, ESOL learners who attended regularly improved oral skills and reading comprehension, regardless of how many hours of classes they had per week.

Many studies referred to the need for tutors to have a 'meta-language' for describing the structure of language so they could explain to learners what they needed to know and where they had made mistakes.

NUMERACY

In recent years there have been five reviews of adult numeracy literature, none of which clearly identified specific factors linked to improvements in learners' skills. There are indications that perhaps adults would benefit from aspects of teaching that appear to aid learning in school children.

Many numeracy studies report a concern about the poor maths skills and understandings of the tutors teaching these skills. Numeracy is also distinctive in that it is mostly taught by non-specialists who are allocated the role by default rather than choice. Research consistently recommends the development of initial training and professional development of tutors in numeracy – both in their understanding of the subject and their skills in teaching it.

The research evidence about numeracy in adults to date gives no guidance about the amount of time and the nature and extent of teaching required for adults to make significant progress in numeracy.

There are some indications that computer-aided instruction may be a fruitful teaching strategy, especially in an area where many tutors themselves lack mathematical understanding, let alone appropriate skills for teaching it.

LITERACY CONTEXTS

There is very little evidence on whether one context or form of provision is better than another and many of the aspects of quality described in studies of specific contexts appear very similar or identical to aspects of quality provision described earlier.

The distinctive value of family literacy is still largely unproven, but better retention rates and the strong motivation of parents to help their children are probably central to the positive outcomes reported in the large number of evaluations carried out. Successful programmes focus on specific teaching of the adults involved as well as the children.

WORKPLACE PROGRAMMES

Gaining access to learners through their workplaces is a form of provision that has developed very strongly over the past decade and a half, both in New Zealand and in a number of other countries. However there was very little outcome-related research to inform this review.

There is ample evidence that in addition to achieving work-related outcomes, these programmes also achieve considerable 'ripple effects' in the learners' households and communities.

COMMUNITY-BASED PROGRAMMES

These organisations are frequently the main education provider in towns and smaller centres and their needs-based, learner-centred philosophy is a strong influence on the sector's operations. Despite their centrality in terms of provision and philosophy, community-based programmes have been the focus of very little research.

PRISON PROGRAMMES

Again, the evidence relating specifically to the distinctiveness of prison programmes is lacking, and what is available, lacks rigour. Participating in these programmes appears to be more beneficial than not, but substantive evidence is yet to be produced.

grating ... adj. ... n. ...

gratis ('grætɪs) adj., adv. free of charge. [C16: ...] — n. a feeling of ...

gratuitous (grə'tjuːɪtəs) adj. 1. given or received ... without cause; ... [... from grātia favour] —

gratuity n., pl. -ties. 1. a gift or reward ... tip. 2. ... long or meritorious service. ... latəri) adj. expressing congratulation ... to congratulate]

... grau'byndən) n. an Alpine canton ... largest of the cantons ... ur. Pop.: 167 100 (1987 est.). Area: sparsely ...

... ward shift n. ... morning.

gravid ('grævɪd) adj. ... from L gravidus ...

gravimeter (grə'vɪmɪtə) ... the earth's gravitation ... instrument for meas...

gravimetric (,grævɪ'mɛtrɪk) ... gravimètre, from L ... using measurement ... quantities by weigh...

graving dock n. a ...

COMPARING NEW ZEALAND PROGRAMMES TO OVERSEAS

It is useful to have some idea of the similarities and differences between New Zealand and overseas in order to understand to what extent the research findings can be applied here.

There is little systematic knowledge about literacy, numeracy and language tutors in New Zealand. In one of only a few studies that has collected data on tutors, a sample of 80 tutors showed 85% were women, 75% Pakeha, 65% were over 40 and approximately 42% had full-time literacy, numeracy and language-related jobs.

There is no standardised training system for tutors and many have minimal levels of formal literacy, numeracy and language-related training relative to other educational sectors. In one study, only 17% were categorised as having teaching and specialist adult literacy qualifications.

The following are likely areas of difference between New Zealand and overseas.

· There is higher retention in some New Zealand programmes than overseas; however, we have little data on this and none on the regularity of attendance of learners.

· Leaving for employment is considered as a positive outcome for vocational programmes here, regardless of the extent of any literacy, numeracy and language skills gain.

· There is the opportunity for more learner-centred curricula in New Zealand than seems to be evident in the overseas literature and in a related vein, a more limited use of textbooks.

· New Zealand places emphasis on culturally appropriate provision for Māori and Pasifika learners.

· New Zealand has a historical pattern of voluntary participation, compared with the degree of compulsion for welfare beneficiaries that is apparent in the USA.

· There is less differentiation of provision based on formalised assessments and learners' literacy or language levels.

· In New Zealand vocational and workplace literacy provision is very evident in the sector alongside provision in tertiary institutions, compared with the USA, for example, where vocational provision is far less visible.

· Tutors have less formal literacy, numeracy and language training and fewer professional development opportunities than tutors working in some programmes overseas.