# UEB in New Zealand 2008-2012

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The introduction to this paper gives an overview of braille in New Zealand and outlines the implementation plan used to transition from English Braille American Edition to Unified English Braille (UEB). More detail of the transition plan for both New Zealand and Australia can be found in the paper *Transition to Unified English Braille (UEB) in the ICEVI Pacific Region* (Howse, Gentle, Stobbs, Reynolds 2010). The current paper focuses on New Zealand and describes in more detail the challenges and successes in the areas of teaching and production since implementation began in 2008.

New Zealand is a small country, with a population of approximately four million spread across the North and South Islands. There is a diverse range of ethnicity including Māori, European (Pakeha) and Polynesian. There are two official written languages, English and Māori. One of the benefits of being a small country is the small number of stakeholder groups. The major stakeholders in the field of vision impairment in New Zealand are the Ministry of Education, Blind and Low Vision Education Network NZ (BLENNZ), Royal NZ Foundation of the Blind (RNZFB), Association of Blind Citizens NZ (ABC), Ngāti Kāpo, and Parents of Vision Impaired NZ (PVI NZ). All of these groups were represented on the Braille Authority of NZ (BANZ) which was established in 1989. In August 2010 BANZ was disestablished and a new Trust inaugurated. The same stakeholders now appoint Trustees to the Braille Authority of NZ Aotearoa Trust (BANZAT).

The usage of braille in New Zealand started with British Braille and later moved to English Braille American Edition, as established by the Braille Authority of North America (BANA). In 1991, the International Council on English Braille came into being and development of the UEB code began. Following extensive consultation with New Zealand braille users, teachers, producers, parents and users of Te Reo Māori during 2005, BANZ voted to adopt UEB in November 2005.

In 2006, BANZ set up a subcommittee to develop a plan for UEB implementation across four areas: Curriculum Support, Teaching of Adults, Production, and Library services. The subcommittee consisted of braille users, producers, educators of children and adults, librarians, teacher trainers and braille examiners. The subcommittee was the key element in achieving the successful implementation of UEB, because its membership was representative of all key stakeholder groups and as a result, was able to build upon the interconnections and co-dependencies of the various sector players.

The subcommittee established a timeline for UEB implementation in order to capture the complexities that would need to be grappled with to achieve a smooth transition. This included setting dates for the development of the first UEB materials for the different braille user groups, and then working backwards to identify timeframes for the various activities.

The first UEB training was conducted with the RNZFB production team in July 2007. Training of the production team was prioritised to ensure that student material would be available in the new code at the beginning of the 2008 school year. In September 2007, introductory UEB training was provided for Resource Teachers Vision (RTV's) during the NZ National Teachers' Conference.

It was evident from the outset that it would not be possible to produce all school materials in UEB immediately, and as a result, a phased approach to UEB implementation was put in place. Young students beginning their braille journey received all their material in UEB. However students working at secondary level

who were transitioning to UEB received only new material in UEB and still accessed material in the old code from the library. An exception was Maths and Science where new material for secondary students was still produced in the Nemeth code as these students needed continuity for their senior studies.

The provision of braille material for adults was handled slightly differently. Technical material requested by adult readers is primarily in the area of braille music which is unaffected by the braille code changes. Adult braille readers of literary texts, while possibly having a personal preference for the old braille code could generally read UEB. The existing braille collection in the RNZFB library has been retained, with new library acquisitions in UEB. This is resulting in a natural attrition of books in the old braille code over time.

For adults new to braille, it was recognised that a new teaching scheme would be needed. The Simply Touch and Read (STAR) braille teaching programme has been developed by the RNZFB Adaptive Communications team and was launched in May 2010.

This paper now gives an update from the educational sector, an account of the challenges faced by producers and proofreaders, an update from the libraries and more information about the STAR teaching programme.

## Blind and Low Vision Education Network NZ

This section of the paper is an outline of the successes and challenges of the transition as faced by young braille readers and their teachers, parents and support staff

### Background

Blind and Low Vision Education Network NZ (BLENNZ) is a state run special school with residential facilities and is the only school in New Zealand for students who are blind, deafblind or have low vision. It is one of only three sensory schools in New Zealand, the other two being the Deaf Education Centres of Kelston and van Asch.

The BLENNZ Homai Campus School is located in Auckland with twelve Visual Resource Centres located in the larger metropolitan centres across New Zealand. BLENNZ has responsibility for education programmes in, and access to both the New Zealand Curriculum and the Expanded Core Curriculum; the compensatory curriculum for students who are blind, deafblind or have low vision which helps students access and participate in the regular curriculum.

In 2012 BLENNZ has 120 Specialist teachers working with 1475 children and young people from birth to 21. 22% of all BLENNZ learners are under 5 years of age and 97% are educated in their local community schools. Of those in compulsory education, 64% are in regular settings and almost one third have additional needs and are educated in special schools or attached units. There are approximated 85 school aged students in New Zealand who are using braille to achieve literacy and numeracy.

Services provided by BLENNZ teachers through the campus school and Visual Resource Centres include assessment, teaching programmes in the Expanded Core Curriculum, e.g. braille, facilitation and consultation within schools, professional development for teachers and support staff, support to parents, the provision of resources and technology and maintain relationships and liaison with other agencies.

When BANZ set up the subcommittee in 2006 to develop an implementation plan for UEB, a subset of teachers and educators with expertise in braille and braille teaching was elected to ensure the transition plan supported the New Zealand Curriculum in its principal function ‘to set the direction of student learning and to provide guidance to schools’. This plan was also seated alongside The New Zealand Curriculum Key Competency area of ‘Using Language Symbols and Text’. (Ref. The New Zealand Curriculum 2007 pp6&7) The main task of the implementation group was to achieve a successful and smooth transition to UEB for all school aged braille learners in New Zealand.

The success required a close collaboration of all partners in the implementation group to identify achievable timeframes for the development of resources and training workshops for Resource Teachers Vision (RTVs) who would be leading the transition with young braille learners. A programme of professional development for RTVs was required to build teaching resources to support access and learning in the mainstream curriculum. The organisation and production of resource material, along with the programme of teaching opportunities, was planned around existing national and regional working groups and occasions. The priority was set for increased knowledge and teaching of UEB with the introduction of the professional development opportunity for all BLENNZ teaching staff and the launch of the newly developed teaching resource ‘The *Hitchhiker’s Guide to UEB’* at the Association of Teachers of the Vision Impaired (ATVI) Conference in September 2007. *The Hitchhikers Guide to UEB* provided RTVs and young braille users with the literacy and numeracy reference material and exemplars to begin the transition.

Parents of BLENNZ students who have been involved in the transition to UEB, have been keep well informed throughout the process. The student’s IEP or Individual Education Plan meeting has been the prime opportunity to inform and support parents and caregivers through the transition. Parents have been well supported in their requests to learn the braille code changes and few issues have been encountered during, the since the implementation period. The transition for parents would have appeared seamless, with any concerns encountered, addressed at the student’s IEP meeting.

This introduction of UEB at the national conference of teachers was consolidated with on-going teaching and learning opportunities and professional development for staff throughout 2008 and beyond. This was provided as required, on a regional and local level. One of the key areas for this professional development was numeracy. The decision was made that some students would remain on Nemeth to complete their studies and this was also considered appropriate for some at the younger levels transitioning to UEB. The decision about which code to use was made on an individual student basis in consultation with the student’s Individual Education Plan (IEP) team. This would ensure specific numeracy needs could be addressed and teaching resources available in mathematics and science at appropriate levels. For those students in the early years, all learning material was produced in UEB with older students moving between the codes as teaching material dictated.

### Four years on.

Change can be a challenge and the transition from English Braille American Edition to UEB had significant implications in both literacy and numeracy for BLENNZ learners. Wider implications were also identified in the curriculum areas of science and music. To ensure as smooth a transition as possible, and to be cognisant of individual student need, strong and transparent collaboration between teachers and producers was essential in this process. Both parties faced the challenge of ensuring braille was available and taught in UEB while on a steep UEB learning curve themselves.

It is apparent that young braille learners have moved seamlessly into literary UEB with the move to numeracy identified as slightly more challenging. Feedback from teachers and schools suggest that, overall, the transition has been smooth and effective.

In a recent anecdotal survey of teachers the following collective observations have been made.

Young users of UEB have coped extremely well with the changes to the code. BLENNZ teaching and support staff have embraced the changes created by the transition to UEB in a positive manner and have implemented a range of strategies to ensure these changes have been received and taught in an interesting and informative way while providing explanations as to why the changes have occurred. The students adapted well to the change when they had greater understanding of the reasoning behind this.

The initial challenges for the BLENNZ teaching and support staff was in understanding why this change occurred and learning the changes required, while continuing to instruct students. The majority of challenges were raised around the braille mathematics code, especially for those higher level primary students who made the change to UEB and required new resources and for those students at an emergent numeracy/literacy stage. Year nine mathematics is also very UEB code heavy and prior instruction at this time becomes essential.

Understanding and learning the changes required to implement the transition to UEB has involved a reliance on *The* *Hitchhiker’s Guide to UEB* and quick reference sheets. Accepting that all teaching staff did not need to be experts immediately, but needed to know and have access to correct UEB and formatting, was important. Setting out a mathematics equation is a good example of this. As students progress to senior levels, it is the setting out of a mathematics equation that can be challenging. Additional examples in the ‘guide’ would clarify some of the more challenging areas.

The production of UEB involves a number of providers, all of whom are required to produce accurate documents for learners. The supply of UEB resources from Homai Special Formats Library is produced by RNZFB’s Accessible Format Production department and includes textbooks, workbooks, background reading for the curriculum, school journals and recreational reading. Early readers tend to be produced by volunteer or Visual Resource Centre staff and electronic format is becoming more widely used than hard copy, especially by senior students.

System changes required to adapt assistive technology to UEB, for example the BrailleNote and Mountbatten braille writers, were also managed with as little disruption to student learning as possible, as were the changes made to the Duxbury system to continue the production of braille material at a regional level.

The overall transition to UEB over the past four years has been smooth and effective. Decisions about individual student needs have been able to be flexible and UEB is now a reality and working well. New and reformatted resources have been necessary but this has been well managed to minimise any disruption to the student learning.

## RNZFB Accessible Format Production (AFP)

This section outlines the experiences of the accessible format production team at the Royal New Zealand Foundation of the Blind. It covers preparation for the first year, the ongoing challenges and a more detailed look at maths and science.

## Background

RNZFB is the main producer of accessible formats in New Zealand. AFP produces braille, large print and electronic text and currently has a team of around twenty staff. Two thirds of the funding comes from a contract with the Ministry of Education to provide accessible versions of curriculum materials for schools across the country. Material for adults is largely funded by the charity dollar, although some external organisations do pay for their own material to be provided in accessible formats. The team produces around 50,000 pages of new braille a year, including about 5,000 tactile diagrams. The largest portion of the workload is the production of Maths and Science textbooks in braille, in 2012 there are eleven of these textbooks in production for a small group of senior school students.

Requests from the education sector come to the Homai Special Formats Library who can sometimes meet requests from the shelf or by interloan. The librarians pass jobs needing production work to the workflow coordinator at AFP. After the publisher has been notified and files requested, the job is allocated to a producer. There are eight braille producers on site and also two contractors and two volunteers who work from home. All braille for the school curriculum is proofed by touch by one of the two proofreaders who work with sighted volunteer copyholders. After the corrections have been done the volumes are collated and bound by the two despatchers.

## Preparation

Extra funding for transition was provided by the Ministry of Education and RNZFB provided eighteen months extra proofing support to the AFP team. Implementation began in January 2008 (the school year in New Zealand follows the calendar year), so planning and training took place during 2007.

The first step was to ensure that the braille translation software had the most up to date translation tables and that a template had been circulated not just to staff on site but also to AFP volunteers and contractors and to BLENNZ staff who produce braille directly for students. The AFP team produces most literary material by translation whereas staff producing Maths and Music use a mixture of translation and 6-key entry.

New Zealand has two official written languages, English and Māori. In the 1970s it was agreed that Māori would be brailled with just one contraction, dots 156 for wh (which is pronounced as a single consonant). The only accent is the macron which was represented by dots 456. When UEB was adopted in 2005, the Braille Authority of NZ concluded that this was compatible with UEB. It was agreed that Māori would continue to be brailled with the wh contraction, with ā, ē, ī, ō and ū represented by dots 456 before each letter and with UEB symbols for areas such as punctuation and typeforms.

A decision was made to make no immediate changes to braille layout. The reference book used by the team is the BANA publication “Braille Formats – Principles of Print to Braille Transcription 1997”.

A short document summarising the code changes was prepared. This had a page each on punctuation, capitalisation, numbers, typeforms, grade 1 mode, māori and foreign words and contraction changes. It was based on the interim rules being developed by the ICEB rules committee. A workshop was held in July 2007 for the producers and proofreaders. Each page of the summary document was discussed and everyone transcribed a short exercise on the Perkins. A symbols list was prepared in print and braille, grouping the symbols under headings for easy reference.

A new producer started in 2007, and for her braille training she used the draft of the *Unified English Braille Manual, New Zealand Edition*. This was written in 2007 and was based on the UEB Primer Australian Edition with adjustments for New Zealand layout.

The RNZFB magazine, Outlook, had been produced in UEB for several years, so the proofreaders were used to reading UEB and familiar with the most common changes. When implementation began in 2008, proofing queries were dealt with pragmatically, with the producer and proofreader working together to check them out against the interim rules. The New Zealand representatives on both the ICEB Rules Committee and the ICEB UEB Overarching Committee work at AFP so were also available for advice.

The New Zealand examiners for the Trans-Tasman Braille Proficiency Certificate also work at AFP and during 2008 the first exam was being prepared. However producers and proofreaders were not asked to sit the exam itself as they were focussed on understanding the changes in the context of their urgent production work. For more information on this qualification see the paper *The Trans-Tasman UEB proficiency experience 4 years on (Stevens, Gentle, Howse).*

Another joint project with Australia was the updating of the *Duxbury Braille Translator Producer’s Manual (for the production of Unified English Braille in Australia and New Zealand).* The adoption of UEB by both countries was an opportunity to combine two separate versions under the auspices of the Round Table and this was published in 2011.

During 2007 discussions took place with seven producers who worked off site, five as volunteers and two as contractors. One volunteer and one contractor were producing literary material using braille translation software. They both agreed to carry on, using the adjusted template and relying on proofreader feedback. The staff training material was shared with them. One volunteer retired. The other four producers were all Maths specialists and agreed to stay on to help with the production of Maths texts for students staying with the Nemeth braille code.

Another decision was around the preliminary pages and binding of the braille books. As the libraries were now to contain books in both codes, the UEB ones each have a bright green sticker on the front cover with UEB in print and braille. The special symbols page states that the book is in UEB and includes all the new symbols in the volume. The catalogue record includes a UEB flag in an easily searchable field.

Adult readers were also provided with a summary in braille of commonly used UEB symbols.

## Ongoing challenges:

Producers and proofreaders found some aspects of the code challenging in the first year. The standing alone rule was not easy to digest and a list of examples showing how this affected words separated by hyphens, slashes or dashes was found to be of help. The use of contractions in words containing prefixes and suffixes also caused much debate.

Adjustments needed to be made for the dash when translating documents, as it could no longer be entered from the keyboard as two hyphens. Number codes for entering common print symbols like the dash and the minus sign were shared.

There was also ongoing debate about the spacing of the dash. The team had a strong preference for a consistent approach and it was agreed that AFP would unspace all dashes from the word on either side. However it was also agreed that it was technically correct to follow print and that any intervention to do otherwise was in this case just an agency decision. The phrase “technically correct” became a bit of a catch phrase, as the team struggled to find a balance between readability, human intervention and the need for braille to more accurately represent the print. In many cases the balance shifted gradually as producers and proofreaders became more familiar with UEB.

Another area of debate was around email and web addresses. After consultation with members of BANZ from the education sector, AFP made an agency decision to braille these uncontracted, while acknowledging that it was also correct to contract them. However when brailling business cards the contracted form has been used and in this context readers prefer the saving of space.

A third area was around acronyms. Again in 2007 an agency decision was made to braille these uncontracted, even if the acronym was pronounced as a word rather than as individual letters. Four years later the proofreaders are less concerned if they meet a contraction in an acronym such as BLENNZ though they would still ask for the common acronym GST to be uncontracted.

During the first year, the translation software would sometimes give unexpected results, often in a situation when there was an unusual combination of typeforms, punctuation or styles. These queries were logged and emailed to Duxbury for clarification. These queries were often shared with key Duxbury users in Australia and South Africa as everyone felt their way with the new code and the software was fine tuned. Now, in 2012, it is unusual for software related queries to arise.

The software queries were part of a wider queries list which the production team set up as a spreadsheet that all producers could access. As each query was resolved it was ticked off and a cross reference to the appropriate documentation was added. This turned out to be a very effective way of keeping everybody on the same page.

There was a certain nervousness the first time a foreign language textbook was requested in UEB. Again a pragmatic approach was taken, and the French phrases were brailled as usual using the French accents while UEB was used for the English phrases. It was decided not to use code switching as the interface between the two languages was clearly indicated by the layout. The team still refer to the BANA publication on foreign languages for formatting advice and this does not seem to cause any conflict with UEB. A similar approach was taken to Music texts and again this seems to be workable.

The proofreaders have reported some difficulties with the numbering of exercises in textbooks. Initially it was a general unease that a,b and c no longer line up. However there were also examples where an unpunctuated standing alone “a” could be misinterpreted as the start of a sentence.

There have also been interesting complications when Word files are requested for reading on a braillenote. For example, if single quotes are used in print, the software will treat them as apostrophes and in UEB this has a disconcerting effect on the contractions within the word.

There had been some concern that the overall size of books would increase, but no one has commented on this. The money spent on braille paper has not increased and the occasional extra page has not been noticed. Another potential area for concern was the labelling of diagrams as it was felt that the braille labels might be longer and harder to fit on the page. Again no one has commented on this being a problem. However there have been challenges when upgrading collage books to UEB as the braille is applied as an overlay and will not always fit in exactly the same space.

There were some issues with the archiving of braille files, as there would often be two versions of a print document, one in the old code and one in UEB. Initially we just added a suffix so that the two files had the same identifying number with one ended in –u. However this was not ideal and in the end we changed our file naming convention so that all jobs had a different id number. When running off extra copies of Maths books, care must also be taken when retrieving master copies of the diagrams as two separate sets may be archived.

Overall, the production team coped very well with the transition to UEB and by 2010 they were relaxed and confident with the production and proofreading of almost all literary material.

## Mathematics and Science:

The brailling of Maths and Science has been a much bigger challenge. Maths texts for younger students needed to be brailled in UEB, whereas Maths texts for older students were still being brailled in Nemeth. The proofreaders could therefore be proofing UEB Maths in the morning and Nemeth in the afternoon. Although this was tiring, the adjustment between codes became increasingly seamless.

The producers found this more challenging. Three volunteers and one contractor focussed purely on Nemeth, but staff on site needed to do both. By 2009 several staff were brailling Maths books in two codes simultaneously.

By 2010 the proportion of Nemeth was decreasing and two long serving volunteers took the opportunity to retire. The other two off site producers have both passed the TransTasman Braille Proficiency Certificate and will transition to the production of UEB Maths.

In 2008 producers and proofreaders were taken through key chapters in the Guidelines for Technical Material. This involved practising the direct entry of fractions and superscripts. When a producer began a Maths book in UEB they were encouraged to use less direct entry and instead use the text from the publisher and insert the Maths fraction and superscript codes in Duxbury. Producers who had previously only produced literary material were assigned simple Maths texts and learnt on the job, something that had never been attempted in the past when a producer was learning Nemeth. A downside of this was that there was less support in how to lay out equations and exercises, but the training period was much shorter.

In July 2008 AFP ran a training session for support staff from BLENNZ to share the numeric entry codes for common mathematical symbols and to explain the Maths codes in Duxbury.

As the UEB reading students moved up the school and started tackling algebra, producers were increasingly asking questions, often around where best to put the grade 1 indicators. In July 2010 a team was set up to prepare some supplementary examples to sit alongside the Technical Guidelines. Areas to be covered were fractions, superscripts and subscripts, spatially arranged arithmetic, roots and modified expressions. Each member sourced a list of tricky print examples (many from the Nemeth tutorial book), brailled them using the advice in the Technical Guidelines and presented them to the group. Reading through these examples was a good learning exercise for the whole group and enabled input from an experienced proofreader on the readability of the braille. Again some queries were shared with the wider ICEB community.

Alongside these supplementary examples will sit some extra guidance on the layout of mathematical exercises. Initially Maths layout has been based on the advice in the Nemeth tutorial book, but increasingly the team see this advice as overly prescriptive and would like a more flexible approach.

Producers with a long background in Nemeth are still experiencing grief at losing the elegance that is so much a part of the Nemeth code. However they have risen to the challenge and now have the confidence to present complex Maths in UEB. It has been impressive to see the ease with which the proofreaders have adapted to the change.

## RNZFB Libraries

RNZFB runs two libraries for accessible format material.

The Parnell Library, which is located at our main site in Auckland, provides library services to our members and clients from all over New Zealand. The Library offers a variety of DAISY audio books, braille books, audio magazines and electronic texts (e-texts) to adult members around the country. We have just over 5,750 DAISY audio books and 4,500 braille titles. We also provide access to information in a variety of accessible formats and members also have access to approximately 20 DAISY audio magazines.

The [Homai Special Formats Library](http://www.rnzfb.org.nz/members/library/homai-special-formats-library), which is located at the Blind and Low Vision Education Network of New Zealand (BLENNZ) campus in Auckland, provides library services for children and young people. Borrowers use the Library to get material that supports the school curriculum or just to enjoy some leisure reading.

The two libraries have been affected by the change to UEB in quite different ways.

### Parnell Library

There are over 3,000 users of Parnell Library, but the majority only borrow talking books. Only about 100 of these users borrow braille books and only half of those borrow braille on a regular basis. When UEB implementation began in 2008, all new braille books produced by RNZFB and added to the library were produced in UEB. Since then, 91 UEB titles have been added to the library. Regular readers are alerted when new titles are added to the collection so although the UEB books are a small proportion of the stock, they have been issued more often. The braille readers are in regular contact with the library staff and are not afraid to express their views, but to date only one person has commented on the new code and expressed a preference not to receive the new books. There are two factors which may explain this adaptability. One is that most of these braille readers would have attended the consultation sessions held around New Zealand in 2005. At these sessions attendees were taken through a UEB braille sample and the pros and cons were debated. The most common response from adults was that although they preferred the old code, they felt they could cope with the changes if this meant that young children had access to a code that would support them better in the future. The other factor is that the library collection at RNZFB already contains books in a variety of braille codes. Although books are regularly produced by RNZFB, books are also bought from libraries overseas, particularly from the UK, the USA and Australia.

### Homai Special Formats Library

The [Homai Special Formats Library](http://www.rnzfb.org.nz/members/library/homai-special-formats-library), however, provides material to support the school curriculum so is dealing both with school students who are transitioning from the old code to UEB as well as younger students who are learning braille for the first time in UEB.

New braille material for the library collection is ordered from Accessible Format Production, and from 2008 this was mainly requested in UEB. The only exception is Maths and Science material which might be required in either Nemeth or UEB, depending on the age and background of the student. This did mean that some primary school Maths textbooks which could have been provided off the shelf in Nemeth had to be rebrailled in UEB. This introduced another layer of complexity for the library staff and some delays in delivery but on the whole the adjustment went smoothly.

The demographics of the student body between 2008 and 2012 meant that the main clumps of braille reading students happened to be at the younger end and the biggest challenge has been keeping up with the demand for early readers. The library has a large collection of these, and although many of them had been prepared by software translation and could be quickly adapted, the work involved in printing and binding has been significant. It is not clear yet what the implications will be as this group of students moves up the school. Many New Zealand textbooks have new editions every few years so textbook production may not be much affected. However the library has a large collection of literary material in the old code. The prediction from the education sector is that students who have only learnt UEB will soon get familiar with the non-UEB contractions and will not be disadvantaged. An example would be the Shakespeare collection. By the time a student is reading Shakespeare they will have had exposure to material in several codes, even if their initial braille training was only in UEB. Feedback from Resource Teachers Vision indicates that even young students will read over the differences, and if they do notice them are more likely to find them interesting rather than disconcerting.

Another factor is the trend in New Zealand schools away from reliance on a single textbook and towards a more research based approach to learning. When textbooks are used they are often accompanied by a write on workbook that introduces different challenges. Senior students are also accessing more material in electronic form and using braille technology to access it in UEB on a braille display.

## Simply Touch and Read (STAR) Contracted Braille Teaching programme

In New Zealand, adults learning braille by touch are trained by Adaptive Communications Instructors employed by RNZFB. These instructors are based at five regional locations throughout New Zealand and are trained to provide braille instruction to adult learners. They also provide assessment and training in braille technologies and other blindness and low vision technologies. It is becoming more common for braille and related technologies to complement learning programmes.

When the New Zealand Braille Authority (BANZ) voted to adopt the Unified English Braille Code (UEB) in 2005, this coincided with research findings that clearly identified the need for updating content of existing adult contracted braille teaching materials used in New Zealand. Plans were initiated for the development of a new contracted braille instructional course with the Royal New Zealand Foundation of the Blind (RNZFB) agreeing to support this project. The outcome was the production of Simply Touch and Read (STAR). STAR was launched in May 2010. STAR provides a comprehensive resource based on individual learner outcomes.

Course objectives are:

* To assist the learner to achieve a braille tactual recognition base for the development of reading and writing fluency.
* To enable the learner to achieve the following literacy tasks:
	+ record information in braille
	+ read braille for enjoyment
	+ write & read a braille e-mail address on hard copy or when using equipment with a braille display
	+ read & write a web-site address (URL) and computer file pathway in braille

The STAR course has 5 lesson books. Each lesson book has ten lessons.

Each lesson book is supported by:

* A tutorial in audio format;
* Reading practice books;
* A braille signs book listing the new braille signs plus those from previous lesson book(s).

Each lesson has three pages. Pages are 40 cell & 25 lines with double line spacing.

There is an optional book, STAR Supplement: Additional Braille Signs. This book also has an accompanying tutorial in audio format.

The design of STAR was guided by the following principles:

* Readability; the content uses simple language and makes sense to a later learner of braille who will be reading slowly.
* Vocabulary is “controlled”, meaning words using contractions that have not yet been introduced are not included.
* Lesson books are easy to handle and consistent in the number of pages per book.
* The learning process is enjoyable. Reading practice sentences in the lesson books have hints of humour.
* The overall content of the course for both lesson and practice books is designed to assist the learner to develop tactual reading fluency. Braille signs are introduced in logical groupings.
* There is a consistent page format for the introduction of new braille signs. When a new braille sign is introduced, examples are given of the new sign as part of a word, then sentences with the new sign.
* The course follows the principle of building on previous learning. As a new braille sign is introduced there is a link to a related sign or a braille usage pattern from previous lesson material.
* Sentence and paragraph lengths cater for the slower reading speed of new learners.
* The development of braille writing skills is an important component of learning braille. A writing practice exercise page is included within each lesson. This assists learners to develop writing skills for everyday tasks as well as providing a means for learners to consolidate their learning and understanding of braille usage.
* Reading practice books are available for use upon completion of lesson 5 and lesson 10 of each lesson book. These practice books are designed to reinforce previous learning and provide reading practice in recognising the new braille signs introduced in the previous five lessons.
* The course is suitable for learners receiving instruction individually, in a small group setting or through distance learning.
* Learners are encouraged to use the tutorial in conjunction with the lesson book during practice sessions. Although lesson book contents can be accessed and understood without the audio tutorial, it is strongly recommended that the tutorial be used for clarification and reinforcement of new learning.

In 2011 tables for introduction of braille symbols across the STAR lesson contents were included in the Duxbury translation program. Hence the scope for practice materials has been extended.

Now in 2012 a small number of learners have completed learning contracted braille using the STAR course. Others have used segments of STAR to assist in transitioning to UEB.

In New Zealand an uncontracted braille instructional programme, Keeping In Touch, is also available. This may be used prior to the STAR Programme. Tactual development books are also available for assessment and as a supplementary resource.

The Adaptive Communications Instructors all had some involvement with the development of the STAR programme and so were themselves fully conversant with UEB by the time the programme was launched.

The RNZFB offers the STAR course materials as a package for purchase. For further information email star@rnzfb.org.nz or go to <http://www.rnzfb.org.nz/learn/accessible-information/braille/new-braille-teaching-course-for-purchase>

### Conclusion

In the writing of this paper it has been encouraging to reread the original UEB implementation plan 2006 and acknowledge how much of the work has already been completed. When talking to the various players the general feeling is that implementation is almost complete and that the transition, though challenging at times, has been successful.

Ensuring that school students were not disadvantaged was a crucial driver when planning began in 2006. Key to the success of the introduction of UEB to young learners in New Zealand has been the excellent consultation and collaboration between teaching staff and producers to prioritise the resource to be transcribed, the ongoing use of existing braille resources not in UEB, a shared desire for the transition to be successful, the availability of individualised student material and a sound ongoing professional development programme for staff. A very high percentage of teachers and students indicated an excellent transition to UEB. It is therefore important that there is a continued increase in resources available in UEB, ongoing opportunities for training and professional development and continued collaboration among the producer, teacher and student.

Another key theme is the identification of the different types of training manuals that would be needed both for the teachers and for the production team, the involvement of staff in the writing of these wherever possible and the collaboration between teams across BLENNZ and RNZFB.

Training sessions for the production team needed to be flexible, so that staff had the chance to air their concerns and debate the best approach. Commencing training while the Rulebook was still incomplete and the translation software still being tuned had its disadvantages, but the involvement and problem solving that were required did lead to a sense of ownership and achievement.

But the biggest lesson learnt from the whole process was not to underestimate the adaptability of the braille reader, whether they be young or old. Braille is an evolving, living code, which now appears as commonly on braille displays as it does on paper. The success of transition in New Zealand reflects the power of braille, its flexibility and its future.

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