Implementing Unified English Braille in the United Kingdom

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# Background

The UKAAF board voted to adopt Unified English Braille, in the UK, back in October 2011. In making their decision the board considered a summary 30 page document supported by an appendix of 130 pages containing a number of specially commissioned research reports. The appendix contained:

* The views of braille users responding to a consultation carried out by BAUK in 2008
* The views of different user groups (adult braille users, student braille users, transcribers and braille teachers)
* The views of braille users who might choose not to respond to a general consultation exercise
* The views of technical code users (the UEB technical code is quite different to the current UK code)
* The views of users who had already gone through the process of adoption and implementation (in New Zealand and Australia)
* The evaluation of research on specifics such as reading speed and the increased size of documentation

It was a very difficult decision and it was not carried unanimously but the majority felt that on balance braille users, particularly braille users of the future would be best served by the adoption of the UEB code in the UK.

I list the work that we did, not for any other reason than that there were times over the following four years when I began to question whether we had truly done the right thing. When someone who has used braille for 60 years says that they are cancelling all their magazine subscriptions and declares that UEB offers them nothing but irritation and annoyance, a small part of you agrees and understands where they are coming from. So, what follows is a summary of our journey from Standard English braille to Unified English braille which will probably be of more use to some of you than others but hopefully of interest to you all.

# The plan

Our national standards organisation UKAAF is unusual in that it covers the standards for all accessible media and it has a number of different subject areas, including large print, audio, exams, music, e-files etc etc. I head up the braille subject area and we have three core working groups that meet every 2 months by telephone. We have a coding group, a teachers group and a producers group. We have also set up temporary subject groups where specific specialist issues need to be addressed such as how to deal with foreign languages, maths and Welsh.

The UKAAF braille groups began work on the implementation of UEB straight away. We had learnt from our Australian research that a dual system was confusing and costly so we worked on a four year plan prioritising youngsters and new learners who stood to benefit most from the change. Implementation for long term users was delayed to the last year of the plan. The final cut-off date for producing UEB was December 31st 2015. So in year 1 we looked at costing, planning and raising awareness of the change with face to face sessions, presentations, articles in magazines and features on radio programmes. In year 2 and year 3 we trained teachers and transcribers, updated our braille reading schemes, and provided supplementary resources. All the children transferred to UEB apart from some older students. In year 4, the final transfer took place and all braille transcription units started to produce UEB

# Raising Awareness and Finance

Following on from the decision to adopt UEB there was a programme of awareness raising. UKAAF ran several sessions (primarily for teachers and transcribers) up and down the country outlining the plans for implementation. We did pieces on national radio and RNIB radio and wrote feature articles for specialist magazines. There was quite a lot of negative reaction to the decision from individuals and a lot of time was spent on phone calls trying to make the case for the adoption and reassuring people that it was not a dramatic change. A lot of the angst was directed towards RNIB (as the main agency for blind people in the UK) rather than UKAAF the standards organisation who had taken the decision.

We calculated that there was going to be a substantial cost to the move, particularly for RNIB. RNIB put together a large bid and submitted it to the UK government. Unfortunately we only received a small portion of the amount requested and that was used to subsidise the one day update courses run up and down the country for teachers. The cost of updating all the resources and creating new ones (mostly labour costs) would have to be borne by the transcription agencies.

# Training Teachers and transcribers

With the money we did get from government, we were able to put together a really good package for teachers and transcribers. Nearly 600 people attended the literary courses and 250 the technical ones. The literary course was based on work by our good friends Phyllis and Darlene from Canada. The one day update courses took place all over England, Wales and Scotland in schools, hotels and RNIB premises. We were able to provide delegates with a copy of the UEB rulebook and we received excellent feedback on the course presenters. The only negative being that some felt the course tried to cover too much in the time, but others found it just right. The primary issue being the different abilities of the people attending the course

# Technical subjects and UEB

And now a bit more in depth information on transferring to technical subjects in UEB, as when I canvassed to see what areas of particular interest there might be in our experiences of implementing UEB in the UK, it was this topic that came up most often.

Part of the research that UKAAF undertook when evaluating whether to adopt UEB in the UK was to give a class of 13 year olds a maths lesson in UEB. They had never seen the code before. This would give a "worst case scenario" approach. The topic covered was numeric fraction arithmetic.

The teacher reported afterwards that the students had all picked up the new code within the hour lesson. This would have included the arithmetic signs and how to braille numeric fractions.

As well as the one day training courses for the main changes for literary text, UKAAF and RNIB conducted a similar series of day training courses focusing on the technical code aspects of UEB, training a total of 250 people. Although the day was aimed at teachers working with students aged 11 and over, we started with basic arithmetic, moving up through the various topics that students would have met when they were much younger. Towards the end of the afternoon, we covered more advanced topics such as trigonometry and functions, matrices and, if needed, calculus (though the notation for calculus is in fact not really any more complex than advanced algebra).

We soon realised that, though we advertised the day for secondary level maths and though many of the people who came said they had to deal with it, many were uncomfortable with the maths, let alone any braille encoding.

Although there was a bias towards mathematics in the training day, topics such as unit abbreviations, physics, chemistry and computer science naturally flowed in the discussions. One of the beauties of UEB is that it is a unified code and there is no separate maths or science code. Therefore, concepts, signs and principles learnt once, may be used across a range of subject areas.

The training days concentrated on the concepts underpinning the notation, such as grade 1 mode and the various indicators; once these are mastered, you are able to deal with maths at any level.

One curious aspect of UEB, which manifests with technical notation, is that there is not always a unique way to represent the expression. This is in particular down to the choice and use of grade 1 indicators. UKAAF were worried that some children, having become used to reading a particular expression written in a particular way, could become confused when receiving an exam paper, produced by a different transcription agency, which used a different policy on grade 1 indicators.

UKAAF therefore developed a short set of additional guidelines for maths and other technical subjects in UEB. Concerning the grade 1 indicator, the policy adopted does not always give the minimum cell count, but does provide a consistent way to write expressions and is quick to determine, both for transcribers and students alike.

Regarding actual transcription of technical material into UEB, current evidence suggests that agencies have not experienced any major difficulties with the new code. Staff were trained in the new code (either internally, or by sending people to the day training course). It appears that, though software solutions now exist to translate mathematical expressions into UEB, some transcription agencies are still relying on coding Unicode characters, or manually inputting the braille.

Additionally, my colleague James Bowden discovered that when he checked the mathematics output of a software program against the expected output in UEB, in the vast majority of cases (approaching 100%) no manual intervention was necessary.

One issue reported was that UEB does have a longer cell count, especially for some punctuation signs. In the UK we also have to factor in the inclusion of capital signs. This is of most relevance when dealing with situations of limited space, such as diagram labels or in tables written in tabular form.

In November 2015, RNIB published a book, Using UEB for Mathematics, again aimed at education professionals, but research suggests it is being used by anyone with an interest in technical subjects and UEB. A sister publication, Using UEB for Science, has also been produced and both are popular titles.

This year is the first when students will have a choice about what braille code they want to use for state examinations. This will be the first major test of the robustness of UEB in the technical field.

# New Resources to help with transition

The main repository for all UEB information and resources in the UK is the UKAAF website and if you haven’t had a look at it, I would encourage you to do so. It is constantly being updated with new information and there is a substantial collection of resources now, available for free download.

I have already mentioned the maths document. We had a similar situation with foreign languages. Again there are a number of different ways to deal with foreign languages in UEB and all have their merits in different situations. Again, our primary aim was to ensure that there was an agreed standard for text books and exam papers so that students didn’t have to cope with individual transcription agencies taking different approaches. The discussions were fairly heated at times as there was a firmly held view by some that students should learn the entire national braille code of France and Germany etc. Although interestingly those holding this view weren’t teachers charged with enthusing teenagers the joys of learning a foreign language. Since we were discussing text books and exams the views of practicing teachers won the day and the agreed document is on the UKAAF website.

Another resource to help with transition is the UEB-ed mailing list which is regularly used by people asking questions and advice primarily on UEB code issues. It has developed into an international community that offers mutual support and explanations for tricky aspects of coding.

We have also recently developed a number of resources for individual braille users transferring to UEB:

* We had a sample of UEB so that people could get to try out UEB before transferring permanently
* We have a one page summary of the changes to the old code. The idea being that it can be used as an aide-memoire when reading UEB for the first few times
* We have a longer document detailing most of the changes with a bit of narrative explaining why the change was made
* We have a set of 6 ten minute podcasts available for download or on an audio CD which explains the changes in short episodes in question and answer style in an interesting and chatty way

Our key method of communicating all these new additions to the UKAAF website is the UEB update. This is the termly email newsletter that I send out (now upto issue 13) which flags up anything new and interesting about UEB. Again they are all archived on the UKAAF website.

# Updating existing resources

The job of updating existing resources, a task for the transcription agencies (primarily RNIB) rather than UKAAF, was probably the biggest and most time consuming tranche of work. It is work that in fact continues to this day:

* We had staffing issues (births, weddings and funerals)
* We had archiving issues (difficulties trying to track down files of source documents to update)
* And we had aspirations to rewrite some courses which contained quite antiquated language which inevitably took a lot longer than anticipated

Once again we prioritised the reading schemes for our younger learners along with key documents such as the Primer which is a staple for people teaching braille. Working through all these publications is very time consuming. The finished publications need scrupulous proof reading and the people doing the proof reading, particularly at first, have spent many years working with a subtly different code. Despite meticulous attention to detail we still ended up with a list of errata for the Braille primer after publication. It is important not to underestimate the length of time that this process will take. We had negotiated with exam boards a timetable for transferring production of exam papers across to UEB. There was to be a 2 year transitional period when they would offer a choice of UEB and SEB before transferring completely. There was no transition period for exams in technical subjects. Students would have a choice for as long as they required one. 27% of 16 year olds have requested exam papers in UEB this summer.

# The Big Move

As I mentioned previously, we prioritised youngsters and their teachers in the four year plan. 2015 was the year that we made the final push. I think it is important that we had a deadline for the transition, 31st December 2015. It meant that all transcription agencies were working to the same timetable. It helped focus minds in terms of getting things done and getting resources to make the change happen. It also meant that braille users didn’t get a confusing mix of UEB and SEB. It was also a simple message to communicate to Commercial companies who were paying for their information to be transcribed into accessible formats. There was a national timetable which everyone had signed upto. We would all be doing exactly the same thing.

In February 2015 we sent a letter out to all our magazine subscribers and library members (I have my RNIB hat on now). It explained that from the 1st of April, all magazines and all new additions to the library would be in UEB. We included our ‘aide memoire’ UEB sheet so that when they received their magazines they could easily look up any symbols they didn’t recognise. We offered a free sample of UEB so that users could see what the code was like before it arrived. If you had problems reading the free sample you were invited to enrol in a telephone talk and support group where there would be an expert on hand to answer any coding questions. The RNIB transcription centres who transcribe individual requests for braille transferred across to UEB in the summer and finally all our commercial work (statements and bills for banks, utilities and phone companies) which is mostly automated and was the biggest head ache transferred in December 2015.

# Taking your customers with you

I have left what I feel are my most important observations till last and hope that they might offer you some practical suggestions as to how to make the implementation of the code as painless as possible for our general braille users. By and large children and students have adapted well to the new code. They are in learning mode; they are more accepting and have something to gain from transferring across to it. If anything it is the teachers who have found the change more difficult than their charges. No, it is the long term braille user, the braille user of 60 years that I mentioned in my opening comments that I return to here:

* My first observation is that whilst all of us here are completely immersed in all matters relating to the braille code and this is a progression that has taken years, decades even, for a number of people receiving a letter from RNIB last February it was a complete and utter shock to hear that their braille code was changing. There were some very angry people. We spent a lot of time talking things through. Don’t underestimate the time that this takes
* It is important to recognise that the new code will probably cause frustration and irritation particularly at first and also recognise that there is not really any great advantage for the long term braille user. We tried to appeal to people’s passion for braille and their altruistic nature, hoping that they would want braille to continue to be relevant in the years to come
* The phone calls were always made by braille users themselves so that there was an empathy and a genuine understanding of the issues
* We adopted a pro-active approach. The people who had contacted us right at the beginning of the process (back in 2011) with their concerns were contacted in advance of the mass mailing that was sent out in February last year to explain what would be happening. Most people were very appreciative of this
* The letter and summary sheet that we sent out was quite confusing for some people. They would have preferred a longer more narrative style to their first explanation of the changes rather than a one page crib sheet even if, for us, it summarised how little had actually changed
* The other major issue has been the inclusion of unnecessary typeform indicators. This was highlighted to all transcription agencies but inevitably due to automation the dreaded ‘dot clutter’ has caused major irritation. This situation has been exacerbated in the UK due to the introduction of capitals along with UEB. As a result of this, RNIB has seen a significant drop in the number of people subscribing to its magazines. It is not clear at this stage whether people have transferred to audio, electronic versions or in fact have opted out altogether
* So yes, unfortunately there are people who could not be persuaded to give UEB a go for a period of months and get used to the changes and we have to accept that we will not be able to convince everyone to embrace the new code for the good of all but by and large the conversations have been quite civil and good humoured

# Conclusion

It has been a long road for the UK to get to the situation where we are now and I have no doubt that there are odd little pockets of SEB production that remain in the outposts. In fact even within RNIB, braille business cards and product instructions initially slipped through the net. My thanks go to the teams at UKAAF and RNIB, particularly my colleagues Claire Maxwell and James Bowden for their expert knowledge and unfailing patience and support, not only with me but more importantly with all the braille users who have contacted us over the past few years with their concerns and queries. I couldn’t possibly have done it without you.