Unified English Braille: International training and research initiatives

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Presentation overview

- UEB Online for sighted learners – Aims
  - System requirements & technology “nuts & bolts”
  - Program content
  - Uptake by users
  - The next challenge – An accessible version

- Perkins SMART Brailler Project
  - Background
  - Case study aims, participants, highlights
UEB Online for sighted learners

- UEB Online - [http://uebonline.org](http://uebonline.org)
UEB Online - Aims

• To offer braille training to any sighted person who has access to a computer and the internet, regardless of his/her location or financial circumstances

• To promote braille literacy globally
UEB Online – System requirements & technology “nuts and bolts”

- Program users need:
  1. Mac or PC computer;
  2. Any web browser (e.g. Safari, Internet Explorer, Firefox, Google Chrome);
  3. Computer keyboard (6-key entry)

- Program’s underlying technology:
  - Standard website technology, including PHP (Server Side Scripting), MySQL database, Javascript (Client Side Scripting), HTML/CSS (for page display); Braille font designed by PeppaCode
UEB Online - Content

- Home
- About
- Getting started
- Lessons (30)
- Resources
- Contact us
Getting started

Using your keyboard

To complete the UEB Online course you need a computer and access to the internet. The Program works on Mac and PC platforms and all web browsers; however, the program will not work on a tablet device e.g. iPad.

To replicate using a braille machine, this course uses six keys on the computer keyboard to present the six dots of the braille cell. These keys are s d f j k l. You will also use the space bar to enter spaces between words, the return key to move to the next line, and the backspace or delete key to correct errors. The diagram below illustrates which keyboard buttons refer to braille dots 1-6.

Each keyboard button illustrated represents the dot shown in the braille cell.
(* note these dots do not represent the letters)

S  D  F  J  K  L

Dot 3  Dot 2  Dot 1  Dot 4  Dot 5  Dot 6
Keyboard finger placement

- The images below show a computer keyboard and the buttons you will be using, and the positioning of the hands and fingers. The left hand index finger will use letter F for dot 1 of the braille cell, with 2nd and 3rd fingers of the left hand using letters O and S for dots 2 and 3. The right hand index finger will use letter J for dot 4, with 2nd and 3rd fingers of the right hand using letters K and L for dots 5 and 6.

- The 6 keys will be pressed in different combinations to produce the braille letters, contractions and punctuation required to complete all lessons in this course. View the video demonstration of how to enter braille on the video resources page.

Use delete (Mac) or backspace (PC) to correct errors

Use Return/Enter to start a new line

Use space bar for spacing between braille words
Lessons

- 30 lessons presented in 2 modules
- Based upon 2013 UEB Australia Training Manual (Howse, Riessen & Holloway)
Lesson 1

Lesson 1: Letters a–j, Numerals, Capital Indicator, Full Stop

Letters a–j, Numerals

<table>
<thead>
<tr>
<th>Letter</th>
<th>Dots</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>1</td>
</tr>
<tr>
<td>b</td>
<td>2</td>
</tr>
<tr>
<td>c</td>
<td>3</td>
</tr>
<tr>
<td>d</td>
<td>4</td>
</tr>
<tr>
<td>e</td>
<td>5</td>
</tr>
<tr>
<td>f</td>
<td>6</td>
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<tr>
<td>g</td>
<td>7</td>
</tr>
<tr>
<td>h</td>
<td>8</td>
</tr>
<tr>
<td>i</td>
<td>9</td>
</tr>
<tr>
<td>j</td>
<td>10</td>
</tr>
</tbody>
</table>

Capital Letter Indicator

Capital letter indicator: dot 6

A capital letter is preceded immediately by a capital letter indicator.

Examples:

Dad
Big Cage

Exercise 1.1

Translate Exercise 1.1 into braille. Save your progress regularly using the ‘save’ button below.

Exercise 1.2

Translate Exercise 1.2 into braille. Save your progress regularly using the ‘save’ button below.
UEB Online - Resources

- UEB Australian Training Manual 2013 by Josie Howse, Kathy Riessen & Leona Holloway
- Braille references
- Cheat sheets
- Books and articles
- Video resources
- Useful links
Video resources: How to enter braille in UEB Online

How to enter braille in UEB Online
Video examples of how to use your keyboard to enter braille in UEB Online. Visit using your keyboard for further explanation.
Video resources: How to fix errors
Video resources: Reading braille and loading paper into a Perkins Brailler

Reading braille example video
This video demonstrates an accomplished braille reader reading an extract from Harry Potter aloud.

Loading paper into a Perkins Brailler
An instructional video of how to load paper into a Perkins Brailler machine.
Uptake by program users, July-Dec14

- Overall number of sessions
  - July 2959
  - August 3284
  - September 4599
  - October 5735
  - November 6746
  - December 5809
  - TOTAL = 29955
Location of program users (Dec14)

- 53.7% United States (UEB)
- 21.5% Australia (UEB)
- 13.9% United Kingdom (UEB)
- 5.9% Canada (UEB)
- 5% from 83 other countries (non-UEB)

- Other UEB countries
  - 0.79% New Zealand
  - 0.10% South Africa
The next challenge

- To develop a fully accessible version of UEB Online for people with vision impairment and print disabilities

- Planning to date:
  - Google Chrome (has inbuilt speech synthesiser), plus
  - Screen reader (NVDA, JAWS, Apple Voice Over)

- Funding needed for development
Acknowledgements

- Philanthropic support
  - Baxter Family Foundation for Children
  - James N. Kirby Foundation
  - Hargrove Foundation
  - Royal Institute for Deaf and Blind Children

- Program design team
  - Teresa Williamson, Cathy Yu, Ben Clare, Tricia d’Apice, Josie Howse
  - Craig Cashmore, PeppaCode Website & App Development
Case Study Research Project

PERKINS SMART BRAILLER PROJECT
Background

- Perkins Products (Massachusetts, USA) introducing SMART brailler to Australia
  - Opportunity to trial its introduction to young braille learners
- 3 research partners:
  - (1) RIDBC Renwick Centre; (2) NSW Department of Education & Communities (DEC); & (3) Perkins Products, Perkins School for the Blind
- Ethics approval:
  - (1) Human Research Ethics Committee (HREC), University of Newcastle; (2) NSW State Education Research Applications Process (SERAP)
Perkins Smart Brailler attributes

- Similar in operation to Perkins Classic brailler
- Video screen displays SimBraille & large print
- Audio feedback
- Ability to edit, save & transfer documents via USB
- Multiple language platforms
- Patterns Kindergarten exercises for braille learners (non-UEB at present)
Case study research project, 2014

Aims:

• To document use of the Classic & Smart Braillers by a small group of NSW braille learners aged 3-8 years (including dual media learners)
• To seek the perspectives of each child’s vision support teacher, preschool/school teacher, & parents/carers regarding:
  – the relative merits of the Classic & Smart brailleurs, &
  – whether or not the additional Smart brailer features promote greater learner interaction with teachers and sighted classmates
Participants

- 12 “cases”, each case consisting of the following individuals:
  - Child with a vision impairment
  - Child’s parents/guardian
  - Child’s vision support teacher
  - Child’s class teacher (preschool or K-Yr 2)
Participant diversity

- **Enrolment:**
  - 6 enrolled in RIDBC VisionEd programs
  - 6 enrolled in NSW DEC schools

- **Gender:** 8 girls, 4 boys

- **Location:**
  - 8 metropolitan Sydney, 4 non-metropolitan and country regions

- **Age & Year level:**
  - 6 aged 3-5 yrs – in home-based early learning and preschool programs
  - 6 aged 5 – 8 years in Kindergarten to Year 2
Research phases

Pre-implementation
- Information Statements
- Consent forms
- Online professional learning from Perkins School

Round 1
- Baseline assessment
- 5 wks Braille instruction
- Weekly data collection by vision support teachers

Round 2
- Changeover of braille machines
- Mid-point assessment
- 5 wks braille writing instruction
- Weekly data collection

End of project assessment
- Assessment of children’s braille writing skills
- Questionnaires: Vision support teachers, class teachers, parents/guardians
Data collection instruments

Checklists for teaching braille writing

- Braille Learner Profile
- Observations of Braille Writing Behaviours
- Checklists of Perkins Classic & Smart brailler skills
- Weekly Observation of Learner’s Braille Writing
- Questionnaires: Braille learner, parents/guardian, vision support teacher, class teacher
- Anecdotal notes
Project limitations

- Limited number of Smart Braillers on loan from Perkins Products → Limited number of “cases”
- Diversity of children’s backgrounds, abilities, ages & writing abilities → emphasis on “within-case” rather than “across-case” comparisons of children's development of braille writing skills and interaction with teachers and classmates during writing lessons
Project highlights to date

- Great enthusiasm and positive feedback from class teachers, participating children & classmates
- Project provided first exposure to braille equipment for parents enrolled in RIDBC’s early learning VI program
- Development & trialling of braille writing checklists
Project outcomes to date

- Project to be extended to Term 3, 2015 due to the following:
  - Technical issues with some of the Smart braille devices (e.g., US-Aust adaptors & battery; glitches with displays)
  - Time delays in communication and shipping between RIDBC & NSW DEC (Sydney) and Perkins Products (Boston)
  - Implementation interrupted for some participating children due to illness or overseas travel
  - More professional learning time needed for vision teachers who were new to the Smart brailler
References


THANK YOU