

Delaware's Unified English Braille Implementation Plan

Revised July 8, 2018

Background

Unified English Braille

Unified English Braille (UEB) is the revised braille code used internationally for transcribing braille in the English language. UEB is based on the previous international literary braille code, English Braille American Edition (EBAE), with the same alphabet and most of the same contractions and punctuation. UEB is a complete braille code encompassing revisions and extensions to EBAE that include symbols for technical materials (e.g., science, technology, engineering, and mathematics). UEB is designed to be less ambiguous, with fewer exceptions and rules. Literary materials transcribed in UEB are easily read by most braille readers who are familiar with EBAE. Currently, UEB is an official braille code in eight English-speaking countries, including the United States.

Braille Authority of North America

The Braille Authority of North America (BANA) is the organization charged with promoting and facilitating the uses, teaching, and production of braille. BANA is comprised of representatives from eighteen different organizations of and for people who are blind and visually impaired. BANA meets twice a year to promulgate rules, make interpretations, and render opinions and decisions pertaining to all braille codes and guidelines for the provisions of literary and technical materials and related forms and formats of embossed materials now in existence or to be developed in the future for use in North America. BANA's mission is to assure literacy for tactile readers through the standardization of braille and/or tactile graphics.

Background BANA Timeline

On November 2, 2012, BANA adopted UEB as an official braille code to replace EBAE in the United States. The formal motion is as follows "Therefore it is moved that the Braille Authority of North America (BANA) adopts the Unified English Braille to replace the current English Braille American Edition in the United States while maintaining the Nemeth Code for Mathematics and Science Notation, 1972 Revision; the Music Braille Code 1997; and the International Phonetic Alphabetic Braille Code, 2008. The official braille codes for the United States will be Unified English Braille, Nemeth Code for Mathematics and Science Notation, 1972 Revision and published updates; Music Braille Code, 1997; and The IPA Braille Code, 2008."

The implementation date for UEB in the United States as established by BANA was January 4, 2016. BANA developed an implementation timeline that includes four phases. BANA's implementation plan is as follows:

2013 – Information Year

Development and dissemination of UEB information and gathering of constituent input.

2014 – Infrastructure Year

Procurement and production of UEB braille materials and development of training materials.

2015 – Instructional Year

Readers, producers, and educators will become proficient in UEB.

2016 – Implementation Year

All new transcriptions will be produced in UEB. Educators will teach the UEB code. Devices and software will fully and accurately incorporate UEB. UEB is to be the official braille code beginning January 4, 2016.

UEB Implementation in Delaware

In response to BANA’s adoption of the UEB Code, the Division for the Visually Impaired (DVI) created a UEB Implementation Committee which resulted in the State of Delaware adopting **UEB as a complete braille code for literary and technical instructional materials** (i.e., reading, writing, mathematics, science, and technology).

Factors that influenced the adoption of UEB for tactile readers across all grade levels (K-12) included, but were not limited to:

- continued support of current EBAE and Nemeth needs
- dissemination of information
- training for professional, paraprofessional, and production teams
- alignment of braille instruction to support diverse needs of tactile readers
- production of instructional materials and statewide assessments
- preparing tactile readers for post-secondary education, independence and competitive employment
- resources to continually support future braille instruction and literacy needs

The UEB transition process will occur *gradually over several years*, with the anticipated completion of the full transition to UEB by the end of the 2020-2021 school year.

Instructional materials and statewide assessments will continue to be available in EBAE and Nemeth Code to address individual student needs, *as determined appropriate by the Individualized Education Program (IEP) team* throughout the transition period.

UEB Implementation Timeline in Delaware

In response to the Braille Authority of North America’s adoption of the Unified English Braille Code the Delaware Division for the Visually Impaired will proceed as follows:

Educational Textbooks & Materials and Statewide Assessments

2015-2016

All Educational Textbooks & Materials and Statewide Assessments will be produced in English Braille American Edition (EBAE) and Nemeth Code.

2016-2017

Individualized Education Plan (IEP) will determine braille code usage in the production of braille materials.

1. Educational Textbooks & Materials and Statewide Assessments will be produced in EBAE and Nemeth Code if a Braille Code is not specified on the student's Individualized Education Plan.

~OR~

2. Educational Textbooks & Materials and Statewide Assessments will be produced in UEB as stated on the student's Individualized Education Plan (IEP).
 - a. UEB embedded with Nemeth
~or~
 - b. UEB, including UEB Math

2017-2018

Individualized Education Plan (IEP) will determine braille code usage in the production of braille materials.

1. Educational Textbooks & Materials and Statewide Assessments will be produced in UEB embedded with Nemeth Code if a Braille Code is not specified on the student's the Individualized Education Plan.

~OR~

2. Educational Textbooks & Materials and Statewide Assessments will be produced in the Braille Code as stated on the student's Individualized Education Plan (IEP).
 - a. UEB embedded with Nemeth
~or~
 - b. UEB, including UEB Math

2018-2019

Individualized Education Plan (IEP) will determine braille code usage in the production of braille materials.

1. Educational Textbooks & Materials and Statewide Assessments will be produced in UEB embedded with Nemeth Code if a Braille Code is not specified on the student's the Individualized Education Plan.

~OR~

2. Educational Textbooks & Materials and Statewide Assessments will be produced in the Braille Code as stated on the student's Individualized Education Plan (IEP).
 - a. UEB with Nemeth
~or~
 - b. UEB, including UEB Math

2019-2020

Individualized Education Plan (IEP) will determine braille code usage in the production of braille materials.

1. Educational Textbooks & Materials and Statewide Assessments will be produced in UEB, including UEB Math, Science, & Computer Notation if a

Braille Code is not specified on the student's the Individualized Education Plan.

~OR~

2. Educational Textbooks & Materials and Statewide Assessments will be produced in the Braille Code as stated on the student's Individualized Education Plan (IEP).
 - a. UEB, including UEB Math
- ~or~
- b. UEB, including UEB Math, Science, & Computer Notation

Student Instruction of UEB

2015-2016

Teachers of the Visually Impaired (TVIs) will bring an awareness of forthcoming changes in braille code to students through discussions that include the rationale and the Braille Authority of North America's timeline for implementation.

2016-2017

Individualized Education Plan (IEP) will drive braille code instruction.

1. TVIs will bring an awareness of forthcoming changes in braille code to students through discussions that include the rationale and the Braille Authority of North America's timeline for implementation.
2. TVIs will introduce UEB through a series of ten lessons in which the changes between EBAE and UEB are compared and contrasted.
3. TVIs will introduce UEB Math through a series of lessons in which the changes between the Nemeth Code and UEB Math are compared and contrasted.

2017-2018

Individualized Education Plan (IEP) will drive braille code instruction.

1. TVIs will introduce UEB through a series of ten lessons in which the changes between EBAE and UEB are compared and contrasted.
2. TVIs will introduce the UEB Math through a series of lessons in which the changes between the Nemeth Code and UEB Math are compared and contrasted.

2018-2019

Individualized Education Plan (IEP) will drive braille code instruction.

1. TVIs will introduce UEB Math through a series of lessons in which the changes between the Nemeth Code and UEB Math are compared and contrasted.
2. Teachers of the Visually Impaired will introduce the UEB Science and Computer Notation through a series of lessons in which the changes between the previous Braille Code and UEB are compared and contrasted.

2019-2020

1. TVIs will provide supportive instruction in UEB, including Math, Science and Computer Notation, as needed.
2. TVIs will provide opportunities for fluency building in the areas of reading and writing while utilizing UEB, including UEB Math, Science, and Computer Notation.

Production Staff UEB Training

2015-2016

- Certified Braille Transcribers studied Unified English Braille materials, including Math, Science, and Computer Notation, as recommended by the Braille Authority of North America (BANA), to prepare them for the Unified English Braille (UEB) Letter of Proficiency examination.
- Production staff were provided methods and procedures to produce Unified English Braille using Braille Translation Software.

2016-2017

- Certified Braille Transcribers received their Letter of Proficiency in Unified English Braille from the Library of Congress.
- Production Staff attended a two-day training that focused on literary materials and the changes between UEB and EBAE. A portion of the second day was dedicated to the changes between numerical representations in Nemeth Code and the UEB Math code. Numerous opportunities for hands-on practice of various UEB examples were provided.
- Production Staff were provided instruction, training, and materials that focused on the use and instruction of Screen Reading Software (*Software that provides text to speech or braille display output.*)

2017-2018

- Production Staff engaged in a three-day Accessible Document Creation & Remediation workshop where they learned key elements of creating accessible documents using Microsoft Word.
- Production Staff were provided instruction, training, and materials that focused on the use and instruction of Electronic Devices (*A device that offers input through a Perkins-style Braille keyboard or a standard QWERTY keyboard. Output is available through text-to-speech or a refreshable braille display*) that students use to access Unified English Braille in electronic format

2018-2019

- Production Staff will participate in Accessible Document Creation & Remediation (*A document created to be as easily readable by a low vision or non-sighted reader.*) training that focuses on Unified English Braille Math, Science, and Computer Notation.

2019-2020

- Production Staff will be provided further development opportunities in order to remain knowledgeable and fluent in the use and production of UEB.

2015-2016

- TVIs became aware of the forthcoming Braille Code changes and familiar with the Braille Authority of North America's (BANA) UEB Implementation Timeline.

2016-2017

- TVIs, DeafBlind and paraprofessionals attended a two-day training that focused on literary materials and the changes between UEB and EBAE. A portion of the second day was dedicated to the changes between numerical representations in Nemeth Code and the UEB Math code. Numerous opportunities for hands-on practice of various UEB examples were provided.
- TVIs and paraprofessionals participated in training of the use and instruction of Screen Reading Software (*Software that provides text to speech or braille display software*).
- TVIs and paraprofessionals participated in professional development sessions that focused on the basics of creating accessible documents (*A document created to be as easily readable by a low vision or non-sighted reader.*).

2017-2018

- TVIs and paraprofessionals engaged in workgroup sessions that focused on strengthening their Unified English Braille literary and basic math code skills and learned of the changes between Nemeth and UEB in the advanced areas of math (Algebra, Geometry, etc.).
- TVIs and paraprofessionals participated in professional development activities, both at the Division for the Visually Impaired and at conferences, in which they learned how to use and instruct students whom utilize Electronic Devices (*A device that offers input through a Perkins-style Braille keyboard or a standard QWERTY keyboard. Output is available through text-to-speech or a refreshable braille display*) with UEB.
- TVIs and paraprofessionals were involved in Braille Translation Software trainings in which they explored the basic aspects of UEB production.
- TVIs and paraprofessionals engaged in a two-day Accessible Document Creation & Remediation workshop where they learned the key elements of creating accessible documents through the use of Microsoft Word.

2018-2019

- TVIs and paraprofessionals will engage in a day long UEB workshop in which the main focus will be on Technical (Math, Science, and Computer Notation) Unified English Braille. This training will begin with a review UEB literary and basic math code.
- TVIs and paraprofessionals will participate in trainings in which they will learn advanced methods of Braille Translation Software tools such as, in-depth use of Templates and Styles in both Word and Duxbury, and Foreign Languages.

- TVIs and paraprofessionals will engage an (Advanced) level of Accessible Document Creation & Remediation.

2019-2020

- TVIs and paraprofessionals will participate in professional development opportunities in order to remain knowledgeable and fluent in the use and instruction of UEB to enable students with visual impairments access to media in their educational and community functional daily activities.

Resources

Braille Authority of North America

<http://brailleauthority.org>

Overview of Changes from Literary Braille to UEB

Informational document from BANA that highlights the most significant changes in UEB that will be noted by the general reader of braille.

http://www.brailleauthority.org/ueb/overview_changes_ebae_ueb.html

Provisional Guidance for Transcription Using Nemeth Code in UEB Contexts

This method of switching between the Nemeth Code and Unified English Braille has been developed to ensure the continued viability of the use of the Nemeth Code for mathematics.

<http://www.brailleauthority.org/mathscience/math-science.html>

The Hitchhiker's Guide to UEB

"The Hitchhiker's Guide to UEB" was written for children learning UEB as a quick reference tool for all those supporting children learning UEB.

<http://www.banzat.org.nz/documents/HHGMaths.pdf>

UEB Rulebook

Full UEB rulebook for braille transcribers from the International Council on English Braille (ICEB)

<http://www.iceb.org/ueb.html>

UEB Curriculum for Braille Students

This free resource presents a series of 10 lessons for students who are making the transition from EBAE to UEB. Developed by Catherine Summ and Suzanne Cappiello, the lessons are available on the "Paths to Literacy" website from Perkins.

<http://www.pathstoliteracy.org/blog/ueb-curriculum-braille-students>

UEB Chart from Duxbury

Quick UEB reference sheet from the makers of Duxbury Braille Translation Software

http://duxburysystems.com/images/ueb_black.pdf

UEB Chart from Aroga Technologies

<https://canasstech.com/products/unified-english-braille-chart>

Quick UEB reference sheet from Aroga Technologies

Resources – Professional Training

The Hadley School for the Blind

The mission of The Hadley School for the Blind is to promote independent living through lifelong, distance education programs for individuals who are blind or visually impaired, their families and blindness service providers.

<http://hadley.edu/UEBTransition.asp>

UEB Online

A training program for sighted people, consisting of 30 lessons that are sub-divided into two modules. Renwick Centre offers certificates (\$40) for each of the two modules.

<http://uebonline.org/getting-started/course-outline/>

Introduction to Unified English Braille

Wisconsin Center for the Blind and Visually Impaired

<http://www.wcbvi.k12.wi.us/outreach/ueb-introduction>

Unified English Braille Online Training (UEBOT)

Northern Illinois University's online course designed for people proficient in English Braille, American Edition (EBAE).

<http://uebot.niu.edu>

The ABCs of UEB

Authored by Constance Risjord, this document outlines the major differences between English Braille, American Edition (EBAE) and UEB.

<http://brailleauthority.org>

Unified English Braille Australian Training Manual 2016

Series of lessons & exercises by which teachers, transcribers & parents can learn UEB.

<http://brailleaustralia.org>

New Zealand UEB Manual

<http://brailleauthority.org>

Resources – Transcriber Training

Transcriber’s UEB Self-Directed Course

Self-directed course from CNIB for transcribers, proofreaders and teachers of braille reading to children and adults.

<http://www.cnib.ca/en/living/braille/Pages/Braille-Courses.aspx>

NLS Braille Transcriber Course

Information about the National Library Service for the Blind and Physically Handicapped (NLS) braille transcriber course is available at:

<https://nfb.org/braille-transcribing>

Examination for Letter of Proficiency in Unified English Braille

Available only for currently certified transcribers who wish to add a Letter of Proficiency in UEB:

www.nfb.org/ueb-resources

UEB Implementation Plan Monitoring

Ongoing monitoring and review will occur throughout the UEB transition process with revisions to the implementation plan, as necessary.

Information will continue to be disseminated to designated school division administrators and posted to the Division for the Visually Impaired web site.

Contact Information

Erin Weaver

Statewide Coordinator for Education Services

Division for the Visually Impaired

Biggs Building

1901 North DuPont Highway

New Castle, DE 19720

Phone: (302) 255-9828