



## Assistive Technology Assessment Report

<b>NAME</b>	NB	<b>DATE(S) OF ASSESSMENT</b>	2/17/2023
<b>AGE/GRADE</b>	13/8	<b>SCHOOL/ORGANIZATION</b>	ABC School District/ ABC School
<b>PRIMARY DIAGNOSIS</b>	Traumatic Brain Injury	<b>ADDRESS</b>	
		<b>PHONE</b>	

### REFERRAL INFORMATION

NB was referred to Westminster Technologies by ABC School District to determine if he would benefit from assistive technology to improve his access to the curriculum. The IEP team decided that, based on NB's current skills and deficits, further investigation was needed.

Westminster Technologies' Director of Assistive Technology visited the school on the date of the assessment. Observations and conversations with NB's teacher and teacher aide were completed along with a review of his IEP and student information forms completed by his teachers/therapists: motor aspects of writing, composition of written material, computer access, math, seating, positioning, and mobility, and a general form for strengths, behaviors, and fatigue.

### STUDENT PROFILE

NB is a bright young man who suffered a TBI as an infant and has left hemiplegia, which affects his access to the school curriculum. He takes part in class discussions, demonstrates a strength in verbal expression, and is working to improve his reading, writing, and math skills.

### DAILY TASKS/ACTIVITIES AND ENVIRONMENT

NB is working on the following goals:

- Reading: correctly decode ten words from reading narratives or specific informational text; define words and phrases from a list of five unknown and multiple-meaning words and phrases from reading literature and content area subjects.
- Writing: use the writing process rubric to evaluate and quantify the editing process; use available classroom technology to produce and publish writing and share with an audience.
- Math: identify the proper operation and solve three read-world and mathematical problems that involve addition, subtraction, multiplication, or division with whole numbers.
- Social/Emotional/Behavioral: take ownership of actions, maintain social boundaries, and respond to intervention and support; use positive strategies to resolve a conflict when faced with a social conflict with peers or adults.
- Motor Skills: assume and maintain a specified posture for fifteen minutes to take part in classroom activities; complete six specific exercises which require upper body strength to complete desk work independently; maintain balance for ten minutes during static or dynamic activities; ascend and descend stairs for safe transitions; recognize the differences/similarities in pictures or to find a picture within a picture to assist with visual memory and recall of information.

The following supports and services are available to NB:

- Special Classes (ELA, Math, SS, Science): 12:1:1
- Physical therapy

- Occupational therapy
- Counseling
- Refocusing and redirection
- Additional time to complete assignments
- Constructive breaks
- Checks for understanding
- Teaching assistant: 2:1
- Assistance during transitions
- Preferential seating
- Visual cues
- Modified homework assignments
- Multisensory information
- Break down directions into small steps
- Special paper: raised line paper
- Access to audio books
- Scribe
- Use of calculator

NB has the following assistive technology available:

- Slant board
- Dark-lined, extra wide ruled paper
- Access to adaptive seating
- Alternative keyboard
- Headphones with microphone (reported as broken)
- Access to computer
- Access to speech recognition software

## **RESULTS OF ASSESSMENT/EDUCATIONAL IMPLICATIONS (COMPLETE AREAS AS NEEDED)**

### **COMMUNICATION (ORAL/WRITTEN)**

No oral communication concerns.

NB struggles with handwriting because of his left hemiplegia and muscle weakness, and composing of written content because of cognitive delays. He has access to a slant board and raised, dark-lined writing paper. Handwriting is slow and fatiguing for NB. He needs reminders for capitalization, punctuation, and spelling and benefits from sentence frames, graphic organizers, instruction and strategies on the writing process and editing, and will seek a scribe often. NB uses the RACES writing strategy (restate, answer, cite, explain, sum up) with modeling and guidance. His writing is limited to short words, phrases, and sentences and does better when he verbally describes what he wants to convey. NB has access to story starters, preset choices, writing templates, outlines, word wall/lists, adaptive software (e.g., text-to-speech, word prediction, voice recognition software).

During the observation, NB was happy, smiling, compliant, and engaged with the classroom activities until presented with a writing assignment. He argued with the teacher, which appeared to be an avoidance technique, did not use his slant board or adapted paper.

### **COMPUTER ACCESS/COMPUTER BASED INSTRUCTION**

NB has access to a Chromebook and adaptive software (e.g., text-to-speech, word prediction, speech recognition). He uses a one-handed hunt and pack typing style, and is very slow due to motor deficits. NB has an old Califone multi-colored USB keyboard that he no longer uses. It is color-coded with primary colors and is typically used for younger children as a starter keyboard.

## SEATING/POSITIONING

NB has a Compass Chair 4 with arms and rounded bottom, however, it needs to be re-evaluated as he has grown and it is no longer comfortable. He expressed he prefers the chair, but it also cannot be easily moved from classroom to classroom because it is not on wheels.

## HEARING/VISION

It was reported that NB struggles with seeing the interactive whiteboard, and is observed to squint to see it at times. He also has difficulty transitioning vision between the board and desk work.

## READING

NB is working on increasing his reading, comprehension, can read simple sentences, but has difficulty breaking down multi-syllabic words into syllables. When asked, he can identify the beginning, middle, and the end, and can accurately give at least two specific details about the main character with help during guided reading. NB can use his background knowledge for making predictions, can explain who, what, and where, but does still struggle with the why and how. During class, each student had a character description to read for a game they were playing. He did an excellent job and self corrected as needed when he read his passage out loud.

## MATH

NB benefits from counters, number lines, and the use of a calculator. He struggles with money concepts, reading an analog clock, concepts of half, twice as many, and multi-step problems. NB can count and skip-count by 2s, 5s, 10s, and 100s, can read, write, and identify decimal notation for money. He uses the CUBES (circle, underline, box, eliminate, solve) strategy when solving word problems.

## LEARNING/STUDYING

NB has strong verbal expression skills, well-developed verbal reasoning, and strong word knowledge, and can be highly motivated, but does become frustrated when presented with hard tasks, such as writing. NB benefits from manipulatives, positive reinforcement, and a structured routine, preferential seating, checks for understanding, multisensory instruction, and additional time.

## OTHER OBSERVATIONS

NB has many supports available to him, but will sometimes refuse to use them. He was happy, and fully engaged during the game the class played, and did an excellent job reading. When presented with a laborious task, writing, he engaged in avoidance behaviors, and became argumentative with the teacher.

## RECOMMENDATIONS FOR CONSIDERATION

The following items should be considered for NB. It is highly recommended that you take advantage of any free demos and loan equipment options to trial the technology before purchasing to determine if it is something that NB benefits from and enjoys using. It is recommended that the IEP team have a meeting to discuss the options below and decide which should be trialed. If desired, the team can conduct a Zoom meeting with Westminster Technologies to assist in this process. After trialing, decide keeping in mind the ability to use the assistive technology at home and in other environments (as needed). The team receives **three Zoom/phone meetings** with this evaluation for consultation on decision making, technology trials, technology implementation, or questions regarding the assessment or technology.

All current supports and technology should be continued as needed and warranted.

### Reading & Writing

NB struggles with handwriting and fatigue. He should continue all current supports and services. The following are recommendations for improving access to writing on a computer.

1. **Pencil Grips:** The classroom teacher and aide requested pencil grips for the classroom that NB can use when he is handwriting. Please work with the OT to identify grips that will be of benefit to have in the classroom.

2. **Audiobooks:** Continue the use of audiobooks with NB. If additional resources are needed, [Bookshare](#) and [Learning Ally](#) are two of the main audio book libraries. Bookshare is free to students with reading and physical disabilities.
3. **Dictation:** NB has used voice dictation, which has helped him get his thoughts down quicker, with less typing or handwriting, which also helps with reducing fatigue and can increase writing speed.
  - a. **Google Docs or Slides – Voice Typing:** when using Google Docs/Slides to complete an assignment, NB can use the built-in voice type feature to dictate his thoughts. This feature is found under the Tools menu.
  - b. **TextHelp Read&Write Talk&Type:** One of the many features of this program is the voice dictation used with the text-to-speech and spelling tools. This program will allow NB to use dictation in more programs, including Google Docs. The Talk&Type has training included with the desktop version to improve the speech recognition of specific words/pronunciations and add customized words and phrases. See more information and a link to learn more about TextHelp Read&Write.
  - c. **Speech Recognition as AT for Writing:** This is a school guide for trialing, teaching, assessing, and implementing voice typing.  
[https://www.lwsd.org/uploaded/Website/Programs\\_and\\_Services/Special\\_Education\\_and\\_504/Assistive\\_Technology/Speech\\_Recognition\\_as\\_AT\\_for\\_Writing\\_A\\_Guide\\_for\\_K12.pdf](https://www.lwsd.org/uploaded/Website/Programs_and_Services/Special_Education_and_504/Assistive_Technology/Speech_Recognition_as_AT_for_Writing_A_Guide_for_K12.pdf).
4. **TextHelp Read&Write:** NB will benefit from the features available in the full version of Read&Write. It contains supports for reading, writing, vocabulary, summarizing, and more. Get a free demo, more information, and watch videos at <https://www.texthelp.com/en-us/products/read-write/>. The Read&Write toolbar consists of the following features to assist with reading.
  - a. **Text-to-Speech:** have documents and web pages read aloud when reading support is needed, including PDF, websites, Google docs, etc. All text is highlighted as words are being read, which has been shown to improve reading and reading comprehension.
  - b. **Dictionary:** look up words in the dictionary or picture dictionary; definitions can be read aloud.
  - c. **Practice Reading Aloud:** a newer feature that students can use to record them reading a selection and then send it to the teacher who can easily track progress.
  - d. **Vocabulary:** highlight words and create a vocabulary list that includes definitions, symbols, and notes.
  - e. **Reading Speed:** adjust the speed text is read in the settings. NB can also select the voice that works best for him.
  - f. **Audio Maker:** highlight text and create an MP3 audio file of the text being read. NB can then access the text-to-speech file whenever it is needed for studying, etc.
  - g. **Screenshot Reader:** when working online or in a document, quickly grab a text block, which is then placed in Word and read aloud.

### Computer Access

NB enjoys using technology and will benefit from improved access.

1. **Ease of Access Features:** NB will benefit from trialing the following free built-in features on his laptop.
  - a. **Sticky Keys:** This feature helps use keyboard shortcuts easier for one-handed typists to activate multi-key functions. Go to Settings – Accessibility – Keyboard and text input – Sticky Keys. <https://support.google.com/chromebook/answer/177893?hl=en>
  - b. **Keyboard Shortcuts:** Google Chrome keyboard shortcuts can increase accessibility, eliminate mouse/trackpad usage, which can increase the speed of access and navigating.  
<https://support.google.com/chromebook/answer/183101>
  - c. **Touchpad and Keyboard Settings:** View the [Mobility Features and Functions](#) video to see a demo of the Sticky Keys, adjust Touchpad settings, keyboard settings such as word prediction, auto-correction, auto-capitalization, etc., and voice input. Go to

<https://support.google.com/chromebook/answer/1047367?hl=en> to view how to make the TouchPad easier to use.

2. **Alternative Keyboard:** If the Ease of Access features do not provide enough support for NB, he can trial an alternative keyboard. Below are a few options to consider.
  - a. **Dvorak One-Handed Keyboard Layout:** The Dvorak keyboard layout can be selected on the Chromebook through Settings – Keyboards & Input Methods – Add Dvorak; [Keyboard stickers](#) can then be added to the keyboard to arrange the keys to match the Dvorak keyboard layout.
  - b. **Logitech Bluetooth Keyboard:** This compact keyboard has a smaller surface area for easier one-handed typing if NB doesn't want to use a different layout. <https://www.inclusivetlc.com/logitech-bluetooth-keyboard>
3. **Noise-Canceling Headset/Microphone:** When using voice typing, it is best to use this feature in a quiet location. However, when that's not possible, a noise-canceling microphone should increase word recognition while decreasing interfering background noises. The **Koss Communication Headset/Microphone** (<https://koss.com/products/cs100>) is an excellent noise-canceling headset.
4. **Typing Practice:** NB will benefit from additional typing practice, which can be done at home. Below are some free programs that he can try.
  - a. **TypingClub:** This free online typing program has one hand typing practice at <https://www.typingclub.com/one-hand-typing>
  - b. **EdClub Left Hand Typing:** This typing course teaching touch-typing with the left hand on a standard QWERTY keyboard. <https://www.edclub.com/library/left-hand-typing>
  - c. **Sense-Lang:** An online typing program with visual support for students who struggle with a kinesthetic awareness of their fingers. It includes tutorials, games, and tests. This program is free and has a customized text entry option to add customized typing practice, and has Dvorak and Colemak layouts. The program can be found at <https://sense-lang.org>

## **Math**

NB will benefit from digital math access to reduce handwriting. Below are several options for the team to review and consider.

1. **Kami PDF:** Math (and other class) worksheets can be uploaded into Kami, which will allow Francis to annotate digitally and complete his math work. It works seamlessly with Google Classroom. <https://www.kamiapp.com/>
2. **KiwiWrite Math:** A web-based math application that works with iPads, keyboards, and more to eliminate handwriting math. It has four math levels to provide the tools needed to decrease visual clutter. Worksheets can be imported or created in the application. Learn more at <https://www.kiwiwrite.com/> and access a free 30-day trial.
3. **TextHelp Equatio:** This digital math program works with Google Chrome and Google programs (e.g., Docs, Slides, Forms, Drawings, etc.) and is integrated with Desmos. It has voice to math (speech recognition) to dictate math expressions, equations, formulas, and solve problems. Upload or create digital worksheets, assessments, forms, and more. Learn more at <https://www.texthelp.com/products/equatio/>

## **Access to Curriculum**

Besides the standard curriculum, NB should be provided access to accessible digital instructional materials to use a computer when desired or needed due to fine motor and fatigue. Below are a few examples if the district doesn't currently have a tool for this task.

1. **Kami:** Full-featured PDF annotation and creation tool with text-to-speech, voice comments, and more. Learn more at <https://www.kamiapp.com/> and <https://www.youtube.com/watch?v=9VsGJyvFTYM>
2. **OrbitNote:** A new program by TextHelp gives quick access to make accessible digital materials from either handwritten or printed text. Provides multiple ways for digital worksheets, tests, etc. – draw, highlight, voice comments/answers, use text-to-speech, and more. Go to

<https://www.texthelp.com/products/orbitnote/> to learn more and watch a video on its use at <https://www.youtube.com/watch?v=dvvsdRXLZtw>.

### **Seating/Positioning**

NB should be re-evaluated by the OT/PT to see if he needs a larger Compass Chair. The new chairs have adjustable height, which will benefit him as he continues to grow. The classroom staff requested a chair with wheels for easy transfer from classroom to classroom, however, the Compass does not come with wheels because of stability. The [ComforTek Chair Caddy](#) can convert a stationary chair to a rolling chair for easy maneuverability from room to room if needed.

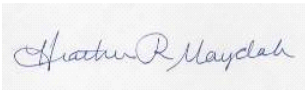
**TextHelp Free for Teachers:** Teachers can get a free full-featured license for both Read&Write and EquatIO at <https://www.texthelp.com/en-us/products/free-for-teachers/>

### **Keyboard Loan Resources**

AT Tech Free Loan Program: call XXX or email [XXX](#); Ms. B will work with you to identify the various keyboards they have available for NB to trial.

7/12/2023

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Heather R Maydak, ATP

Director of Assistive Technology

Signed by: 3e5b2cd0-1c49-4f0e-8b9c-df40754a596d