

Assistive Technology Resources for Children and Adults with Disabilities

Closing The Gap

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Solutions



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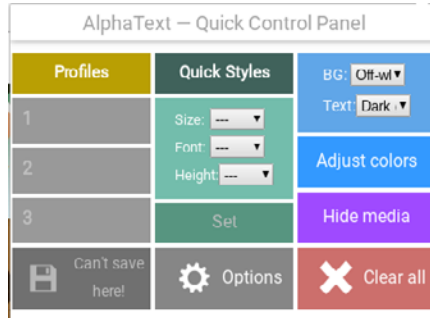
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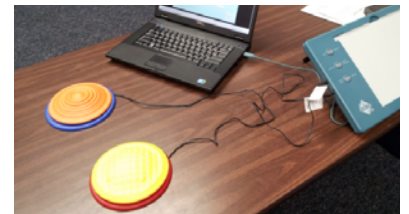


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Free Assistive Technology Tools for Google Chrome

(and some that are not so free)

INTRODUCTION

As an educator, I strive to make sure my students can access and understand the information I am teaching. In addition, as much as possible, I want my students to shape their own educational experience. To me, this is the best way for students to become self-aware of what types of learning work best for them and to be able to advocate for themselves and their needs.

But since it can be difficult to advocate for yourself when you don't know what you don't know, or don't know what works well for you, I start out by providing a lot of different options.

I'd like to do the same here. I'd like to give a lot of different options, so you are better able to select tools that will work for you and the people in your lives, in pursuit of self-advocacy.

These tools and resources generally fall into three categories.

- Tools that are built into the Chrome operating system or Google Suite apps
- Extensions that can be added to the Chrome browser to add functionality
- Other web-based tools that can be useful to those who learn differently.

Not all these tools and resources were designed as assistive technology (AT), but we are fortunate to be living in a time that flexible and customizable features are increasingly common, and if those features can benefit myself or my students, I will use and recommend them.

In my role at The Prentice School, I work with many of the students who experience language-based learning differences, so

you may find that this article is heavy on tools that support those needs. As well, for many of the tools I describe the students who I find appreciate each tool the most, but I also recognize that individuals prefer different tools for different reasons, so please be encouraged to try anything that sounds like it might work for you.

BUILT-IN TOOLS

Let's get started by looking at some tools and features that are built into the Chrome operating system and gSuite apps. There are many tools and features, and Google updates their apps frequently, so this list is meant to be representative, not comprehensive.

CHROMEBOOK SETTINGS

Chrome OS has an accessibility menu with a number of helpful options built into it.

There are two possible ways to access this menu, depending on your personal settings and/or or entity's settings (school or business).

First, click your avatar in the lower right corner of the screen. In the menu that pops up, is the Accessibility menu listed?

See image 1

If not, click the gear icon in the menu and scroll through the setting window until you find Accessibility.

Let's take a walk through the accessibility menu:
See image 2



KIMBER JOHNSTON is the Director of Technology for The Prentice School, a K-8 school specializing in students with learning differences. She has been a Technology and STEAM specialist for K-6 schools, and has taught 5th & 6th grade and middle school science. She has her BS in Communication Design and MEd in Learning Design and Leadership. Kimber has her Multiple Subjects teaching credential with a supplemental authorization for Computer Concepts and Applications and will soon be adding single subjects authorizations for English and Social Studies. She believes that giving students the ability to express themselves multi-modally through various technology tools can unlock the rich knowledge they have to share.

Chromevox

Chromevox enables spoken feedback. In other words, as you mouse over items in screen, including menu items, they will be read aloud. The feature is useful for those with visual impairment and those with profound reading issues.

High Contrast Mode

High Contrast Mode alters the default color scheme of the device to one with a dark background and higher contrast colors. Some users find this setting helps with focus and eye strain.

Screen Magnifier

The screen magnifier enables a keyboard shortcut to zoom in on a particular area of the screen (often Ctrl-Alt-brightness). Unlike using the Ctrl+ keyboard shortcut, this doesn't just enlarge a browser window, but allows for targeting an area to zoom in on. This feature can be helpful for those with visual impairments and those who struggle with focus.

Automatic Clicks

When automatic clicks are enabled, after pointing at an item on-screen, there is a countdown followed by an automatic click. This feature aid individuals who struggle with the fine motor control to point and click, including very young users, and those who may have a tremor that makes it difficult to hold still while clicking.

On-screen Keyboard

Whenever text entry is possible, an on-screen keyboard will pop up allowing for input from the screen. This eliminates the need to shift focus from screen to keyboard and back again. This is particularly useful with touchscreen devices.

See image 3

Large Mouse Cursor

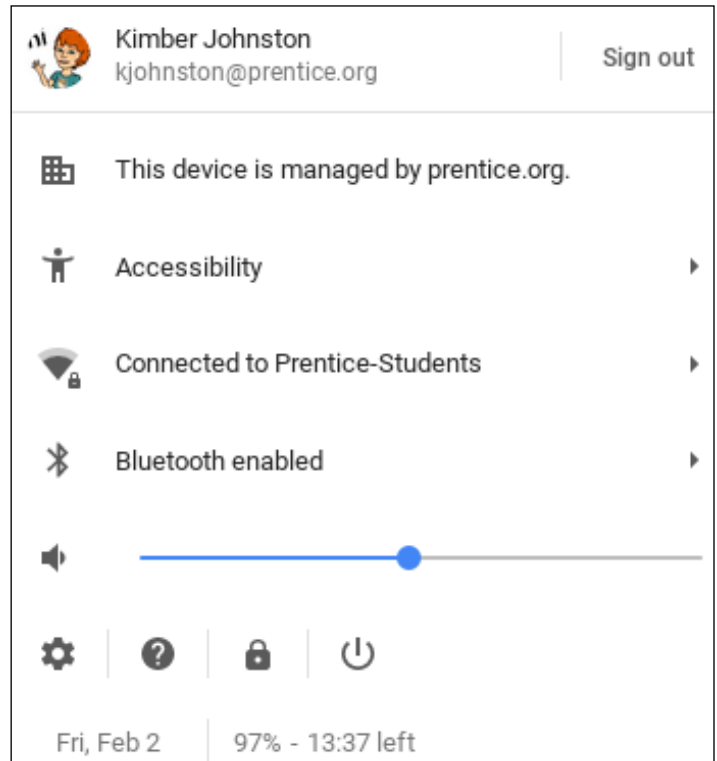
Enabling large mouse cursor increases the size of the cursor, making it easier to see onscreen. In addition to those with a visual impairment, this feature can be very helpful for those with focus or attention issues, as it makes it easier to locate the cursor on a busy background.

Mono Audio

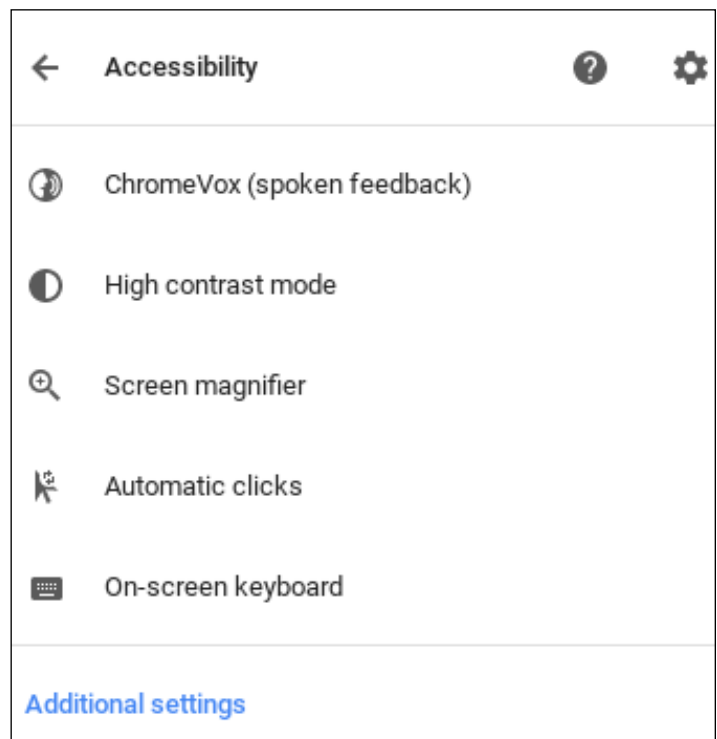
Mono audio combines audio so that those with a hearing impairment affecting one side can hear the full audio from either side.

Highlight Text Caret

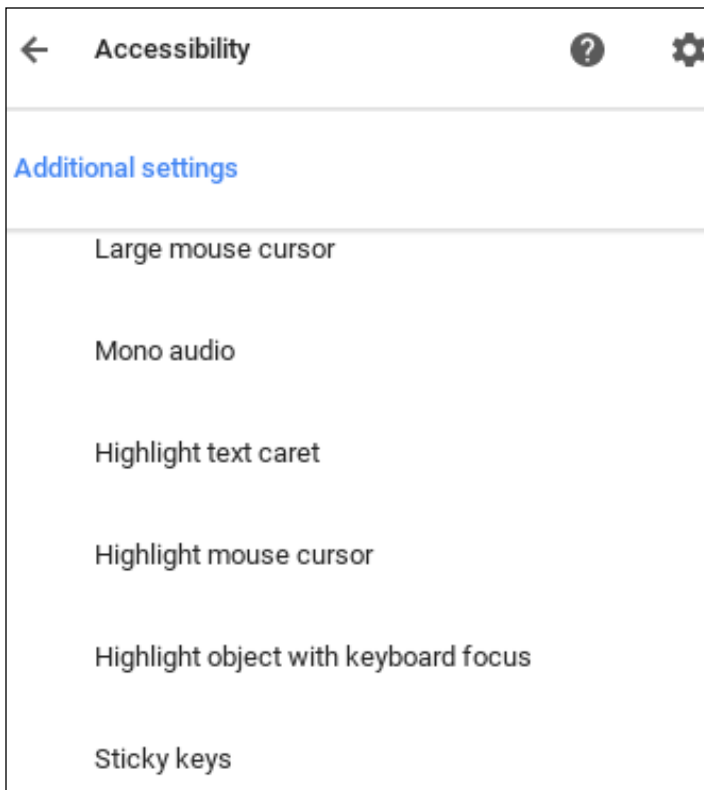
Highlight Text Caret highlights the location of the text caret in blue, making it easier to determine where text will be entered. In addition to those with a visual impairment, this feature can be very helpful for those with focus or attention issues, as it makes it easier to locate the cursor on a busy background.



See image 1 - Click your avatar in the lower right corner to access the accessibility menu.



See image 2 - Accessibility Settings



See image 3 - Additional Accessibility Settings

Highlight Mouse Cursor

Similar to highlighting the text caret, highlight mouse cursor places a red circle around the cursor when it's in motion. This, combined with large mouse cursor, can be a very effective combination to help track the location of the cursor.

Highlight Object with Keyboard Focus

This feature places a gold highlight around the active text field, making it easier to navigate forms and pages with multiple areas for text entry.

Sticky Keys

Sticky keys keeps modifier keys active until the next key is pressed. For example, instead of having to hold down the control key while typing "p" to enter the keyboard shortcut to print, you can press the control key and release it. This feature can be helpful for those with motor control and coordination issues.

Tap Dragging

Tap dragging allows for tapping the trackpad to select an object, then swipe across the trackpad to drag it, instead of requiring a concurrent click and drag. It's highly effective for those who lack the finger strength or motor control for a sustained click and drag. Unfortunately, this feature does not work in all apps.

If you use an operating system other than Chrome, check into



See image 4 - Google Voice Search

the accessibility features included with your OS.

GSUITE

Let's delve into features built into the suite of Google apps.

Voice Search

Click the microphone in the omnibox on the Google search page to dictate your search terms. This feature can be helpful for many people – even if you're trying to search while driving.

See Image 4

YouTube Transcripts

Many YouTube videos have available transcripts. Click the three dots for more, then select Open Transcript. The transcript shows the text with a timestamp, highlights text as the video plays and clicking on a piece of text will jump to that part of the video. This feature helps support comprehension and is a great way to multi-modally experience content.

See Image 5 and Image 6

Voice Typing

Voice typing is a speech-to-text tool built into Google Docs and Slides. It uses contextual transcription, which means the transcription is more accurate when dictating longer phrases as opposed to individual words. It also permits dictating formatting commands such as "new line" or punctuation. It also allows for keyboard input and formatting while active, so the user can speak a passage, modify it, and continue transcription. One caveat: at this point, in Google Slides, Voice Typing is only available in the speaker notes, requiring a copy and paste into the slides themselves.

See image 7

Google Translate

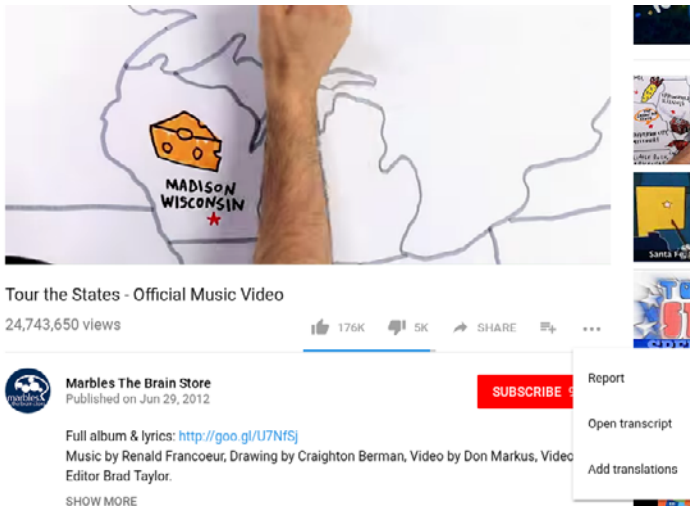
Google Translate spans the categories in this article. It's a built-in feature of Google Docs and allows a document to be translated in its entirety into the language of choice. It's also an extension for the Chrome browser. The extension text passages or entire web pages to be translated. It doubles as a text-to-speech tool, as it allows highlighted text to be read aloud in the language of choice.

See image 8, image 9 and image 10.

Explore

The Explore tool pops up a panel on the right side of the





Tour the States - Official Music Video

24,743,650 views

176K 5K SHARE ...

Marbles The Brain Store
Published on Jun 29, 2012

SUBSCRIBE

- Report
- Open transcript
- Add translations

Full album & lyrics: <http://goo.gl/U7NISj>
Music by Renald Francoeur, Drawing by Craighton Berman, Video by Don Markus, Video Editor Brad Taylor.
SHOW MORE

See image 5 - Click the 3 dots to select "Open Transcript".

01:48 Aloha to Honolulu, Hawaii

01:51 Des Moines, Iowa, so peaceful to me

01:53 Going to Springfield, Illinois, to build a little house on the prairie

01:58 In Little Rock, Arkansas, I love what I saw

02:01 Going back to Dover, Delaware, cause I want more

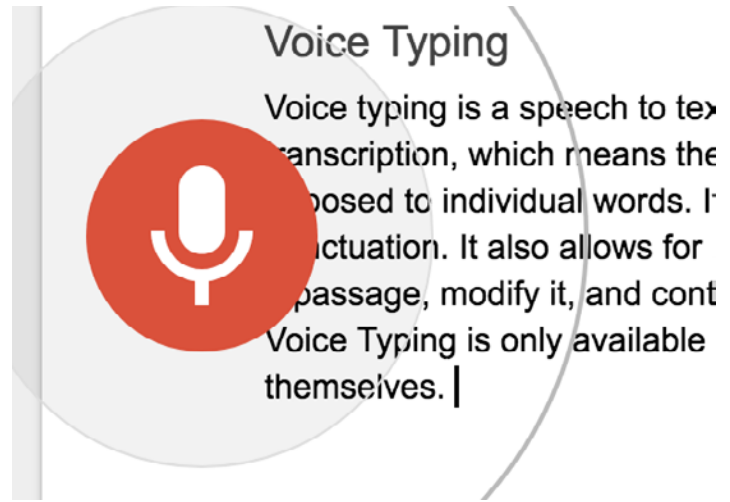
02:03 Indianapolis, Indiana, and

English

See image 6 - The transcript is time-stamped and the text is highlighted as the video plays.



Voice Typing Demo: <https://www.youtube.com/watch?v=ry38CEq4A1M&feature=youtu.be>



Voice Typing

Voice typing is a speech to text transcription, which means the words are composed to individual words. It allows for dictation. It also allows for editing a passage, modify it, and control the text. Voice Typing is only available on mobile devices themselves.

See image 7 - When voice typing is active, the icon turns red and concentric circles show when it is "listening".

Translate document

Create a translated copy of the current document

New document title

Translated copy of Shark Tank Rubric

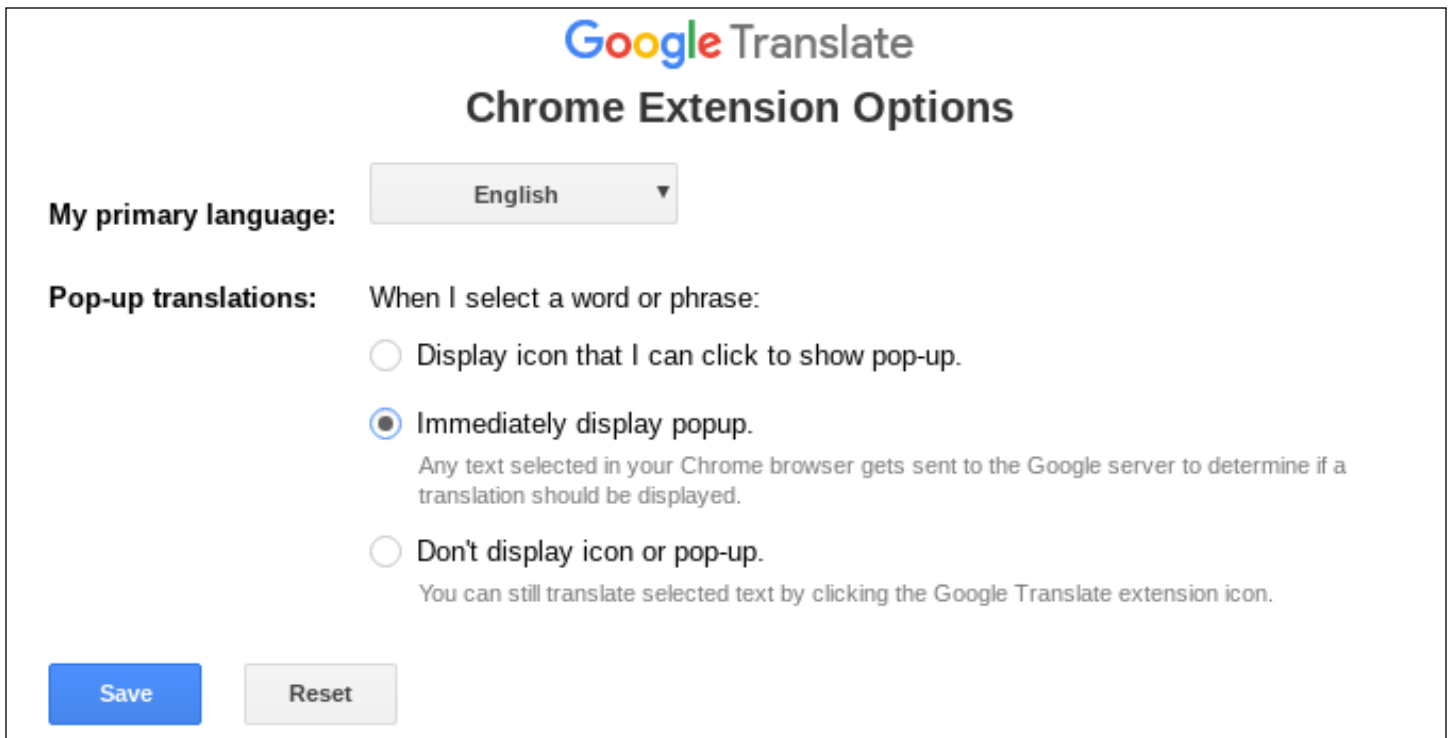
Translate into

- Indonesian
- Irish
- Italian
- Japanese
- Javanese
- Kannada
- Kazakh
- Khmer
- Korean

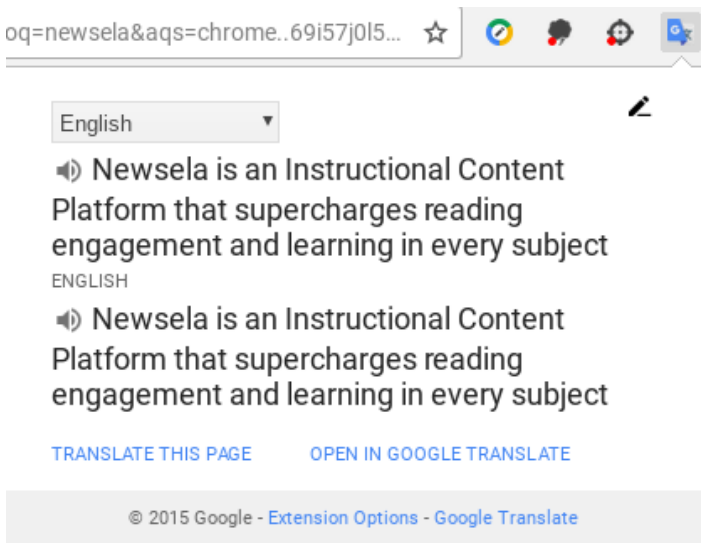
See image 8 - In Google Docs, you can translate entire documents between languages.

screen in most Google apps. This panel gives contextual information (like layout suggestions in Slides, suggested search terms in Docs, etc). From the Explore panel, you can search your Drive, search for images and search the web. You can easily drag links or images over into your document, and everything you add will have a link embedded in it with the source.





See image 9 - For the Chrome Extension, you can set your translation preferences..



See image 10 - Here, a passage has been translated from English to English. Clicking the speaker will read the passage aloud..

Also, all images shown in Explore image searches have been pre-screened for usage rights to include only those licensed for reuse. Particularly for individuals who have executive function challenges, the ability to search for and add content without leaving the document window can be very helpful.

See image 11

Insert Image from Camera

Google has many options for inserting images into docu-

ments, but this one is great for bridging the gap between offline and online work. Embedded in the "Insert Image" menu, this option allows you to take a snapshot and place it directly into your document. For example, if you have a sketch you'd like to include in a presentation, there is no need to scan it, save it and then insert it – you can insert an image of it directly from the camera.

See image 12 and image 13

Keep

Keep is Google's note-taking tool. You can easily save content from other Google apps into Keep notes, and import information from Keep notes into other Google apps. Voice notes are stored in audio form, as well as text. Pictures can be taken and annotated and writing in a photo can be captured as text. This is a versatile tool that can support individuals who prefer to communicate multi-modally.

EXTENSIONS

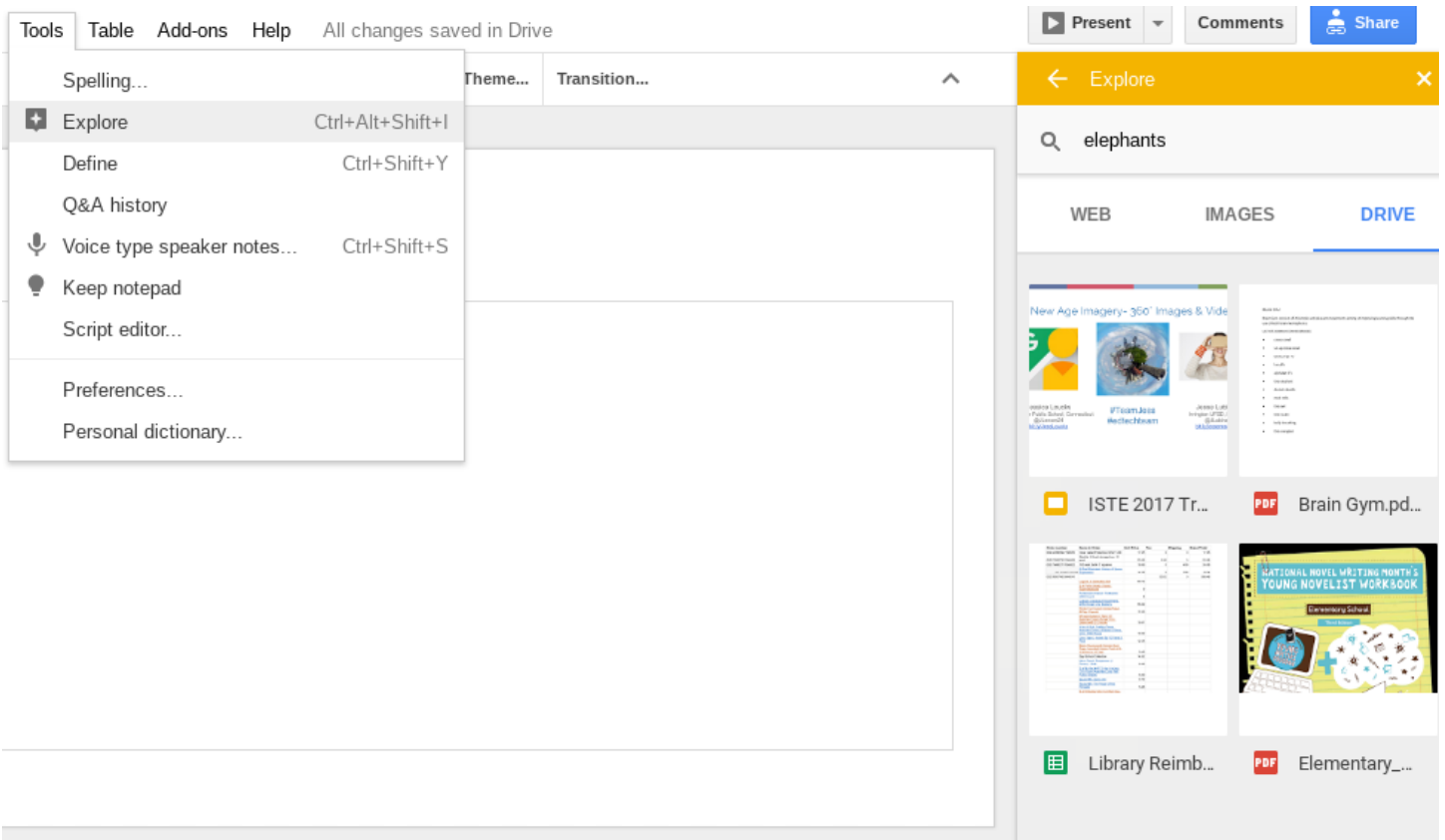
Using the Chrome browser allows you to add a wide variety of extensions to extend functionality. The extensions listed are free unless noted. To download any of these tools, search for them by name in the Chrome Web Store.

See image 14

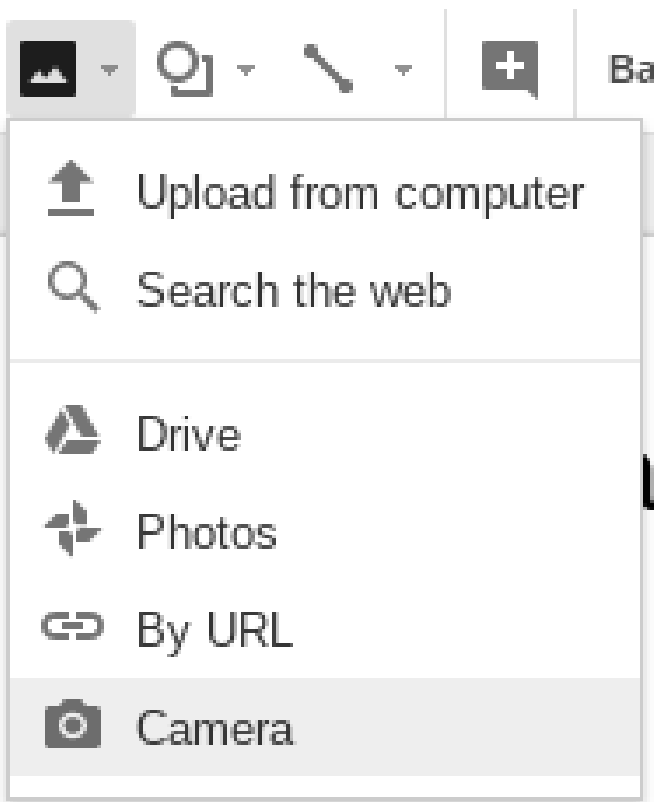
Voice Instead

There are many free text-to-speech extensions out there. Voice Instead is a representative offering.

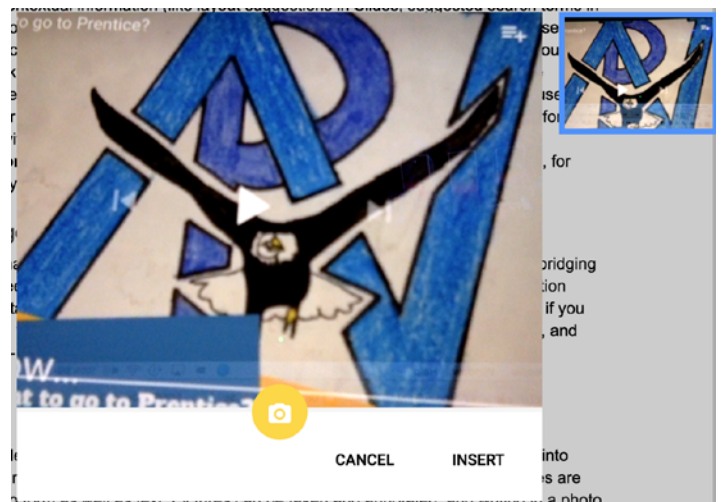




See image 11 - The Explore tool allows you to easily search the web, for images, or in your Drive without leaving your document..



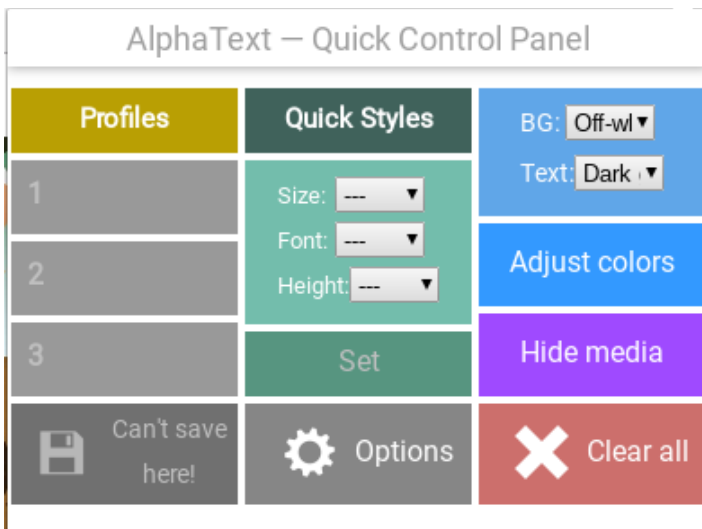
See image 12 - Select "Camera" from the Insert Image menu.



See image 13 - Take your snapshot and insert it directly into your document.



See image 14 - Your Chrome Extensions will appear in the extensions bar of your browser.



See image 15 - You can define and store multiple profiles for web browsing

Mercury Reader

Mercury Reader allows you to declutter webpages, stripping away ads and images that might be distracting. This is particularly effective on sites that are very busy visually. This can be very effective for those who struggle with focus.

Open Dyslexic

This extension alters the default text of websites to one that strives to make text more stable and readable for those with dyslexia.

Alpha Text

This extension allows you to create custom settings for viewing websites. You can set up to three profiles and customize fonts, colors, text sizes, backgrounds and more. For those who struggle with focus or attention, or those with visual processing issues, this can be quite useful.

See image 15

Bee Line Reader

Bee Line is a paid extension, with some free options. This extension allows you to alter the appearance of webpages to apply a gradient to the text such that each line ends with the color that the following line begins with, making it easier to track from line to line. Colors are customizable, Open Dyslexic font is available as a setting and there is a “declutter” mode that strips away anything that might be perceived as a distraction, similar to Mercury Reader.

See image 16

Dictionary

The Google Dictionary extension allows you to click on any word to see the definition and hear the word read. It’s a nice one to have for anyone and can be very helpful when reading just above your reading level.

AdBock

This extension screens out ads and is useful for decluttering pages. It’s free but does request a donation.

Simple Blocker

This extension is engineered to assist with self-regulation. It allows you to temporarily block one or more high-interest websites to help with focus. For example, if social media is an attractive nuisance when you are trying to focus on work, you could activate the blocker for a set period of time to get work done. It does also have a password protection option for teachers or parents to use with children.

See image 17

Move It

We all know that movement breaks are good for us, but it’s sometimes difficult to remember to take them. This extension allows you to set an interval between 5-55 minutes. At each inter-

Kendrick Lamar Is First Mainstream Artist Ever To Win Music Pulitzer

NEW YORK, New York — Kendrick Lamar won the Pulitzer Prize for music Monday, April 16, making history as the first non-classical or jazz artist to win the prestigious prize.

The revered rapper is also the most commercially successful musician to receive the award. The prize is usually reserved for critically praised classical acts who don't live on the popular music charts.

See image 16 - This shows a decluttered article in Open Dyslexic font, with Bee Line’s gradient text.





See image 17 - Practice self-regulation by choosing sites to block during high-focus times, or add a password for more control.

val, a full-screen pop-up will appear with a brief physical activity on it. This can be highly effective for those that don't know they need a break until they are past the point of being able to regulate.

See image 18

Read and Write for Google Chrome

This is a paid app available with different functionality for different platforms. There are some features available for free, including text-to-speech. Features include text-to-speech, speech-to-text and PDF annotation.

Snap & Read

This is a paid extension that offers text-to-speech, PDF annotation and note-taking features. One feature that sets it apart from many other text-to-speech options is the "snapping

tool" which allows you to capture non-clickable text via OCR.

Co:Writer

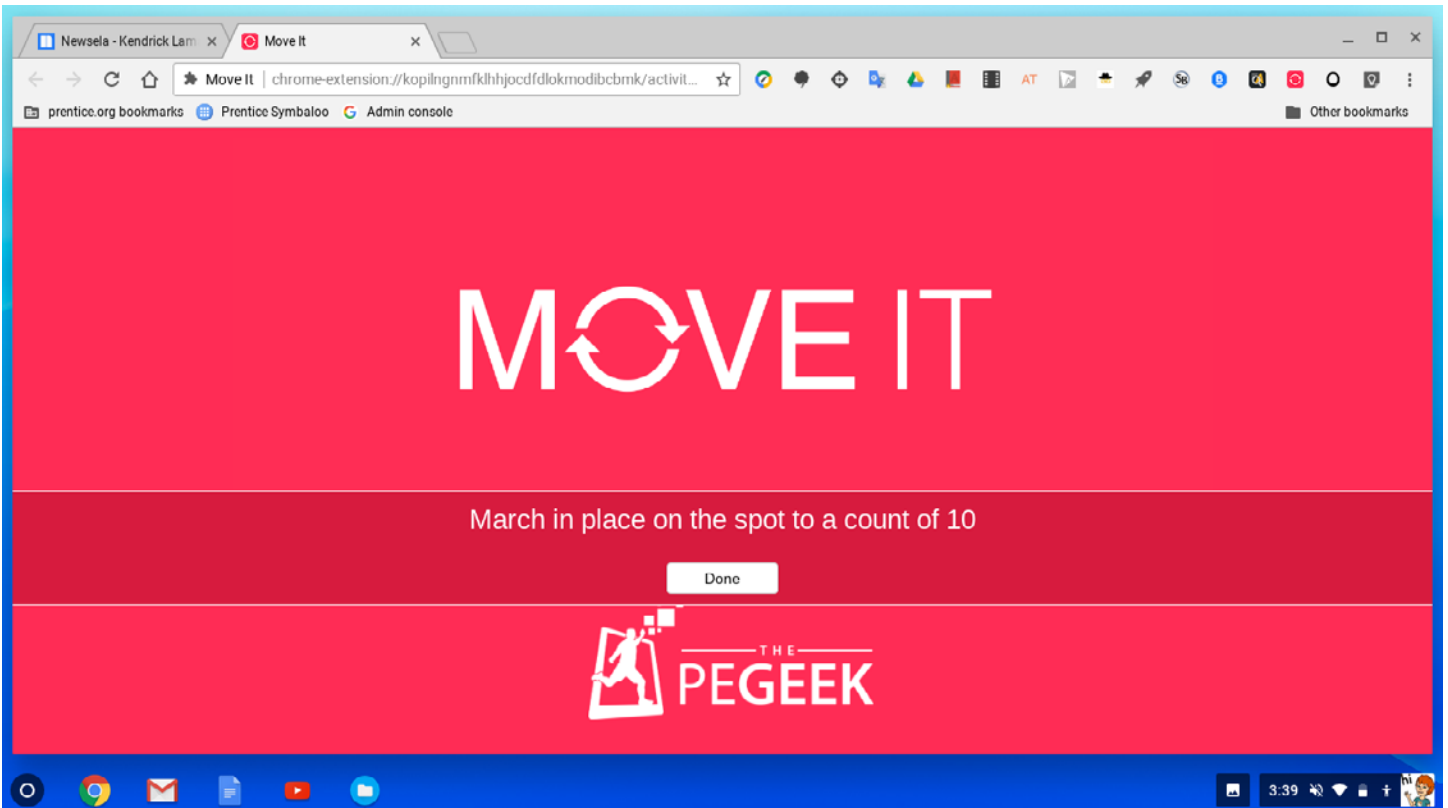
Co:Writer is from the same developers as Snap & Read, and includes speech-to-text, word prediction and word banks. For individuals who have difficulty with spelling and producing text, but who do not prefer speech-to-text as their primary means of generating text.

WEB-BASED TOOLS

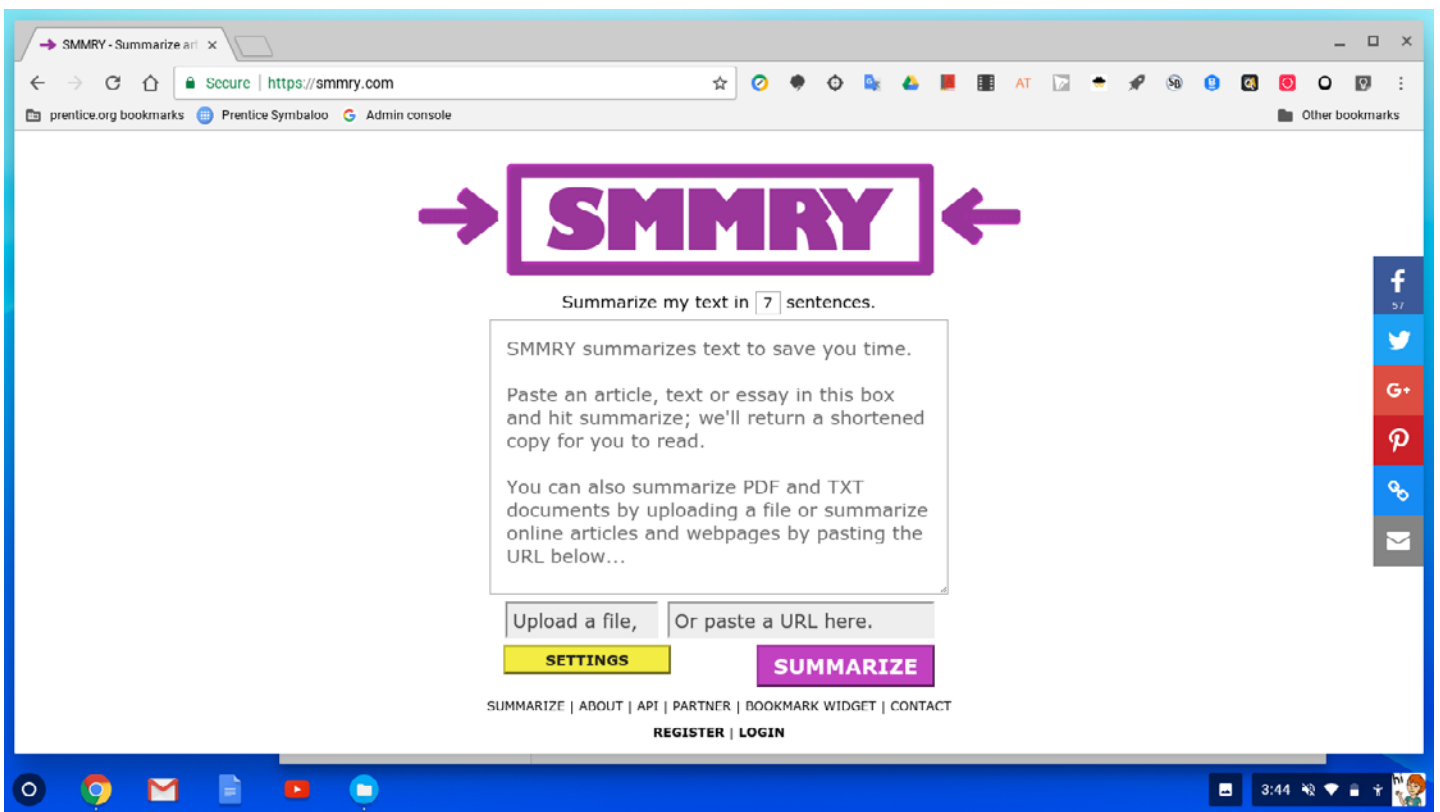
smmry.com

This website allows you to paste in a text passage or url and will summarize it into the number of sentences stipulated. Even with the help of text-to-speech tools, fatigue can set



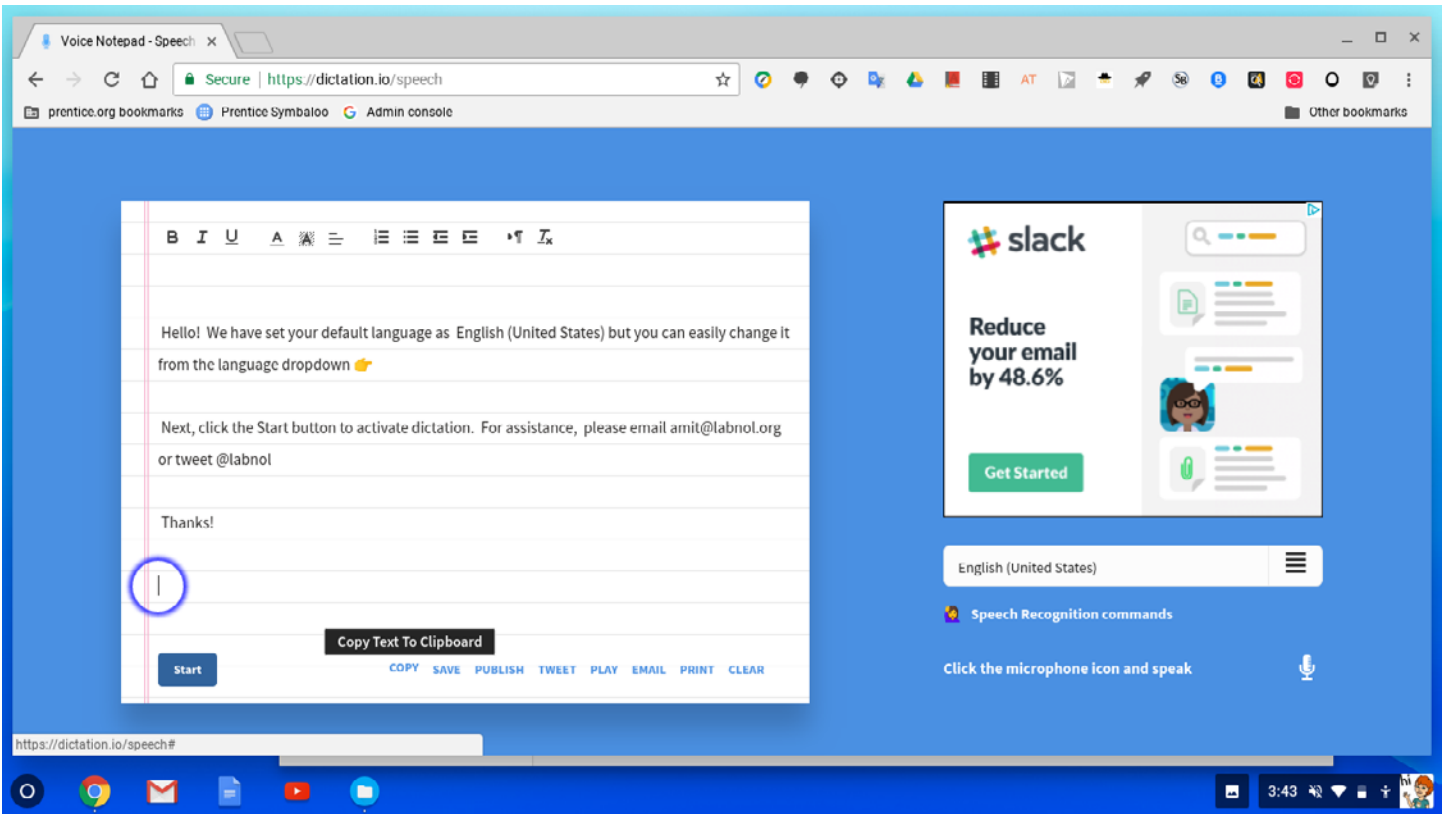


See image 18 - Schedule movement breaks for yourself.

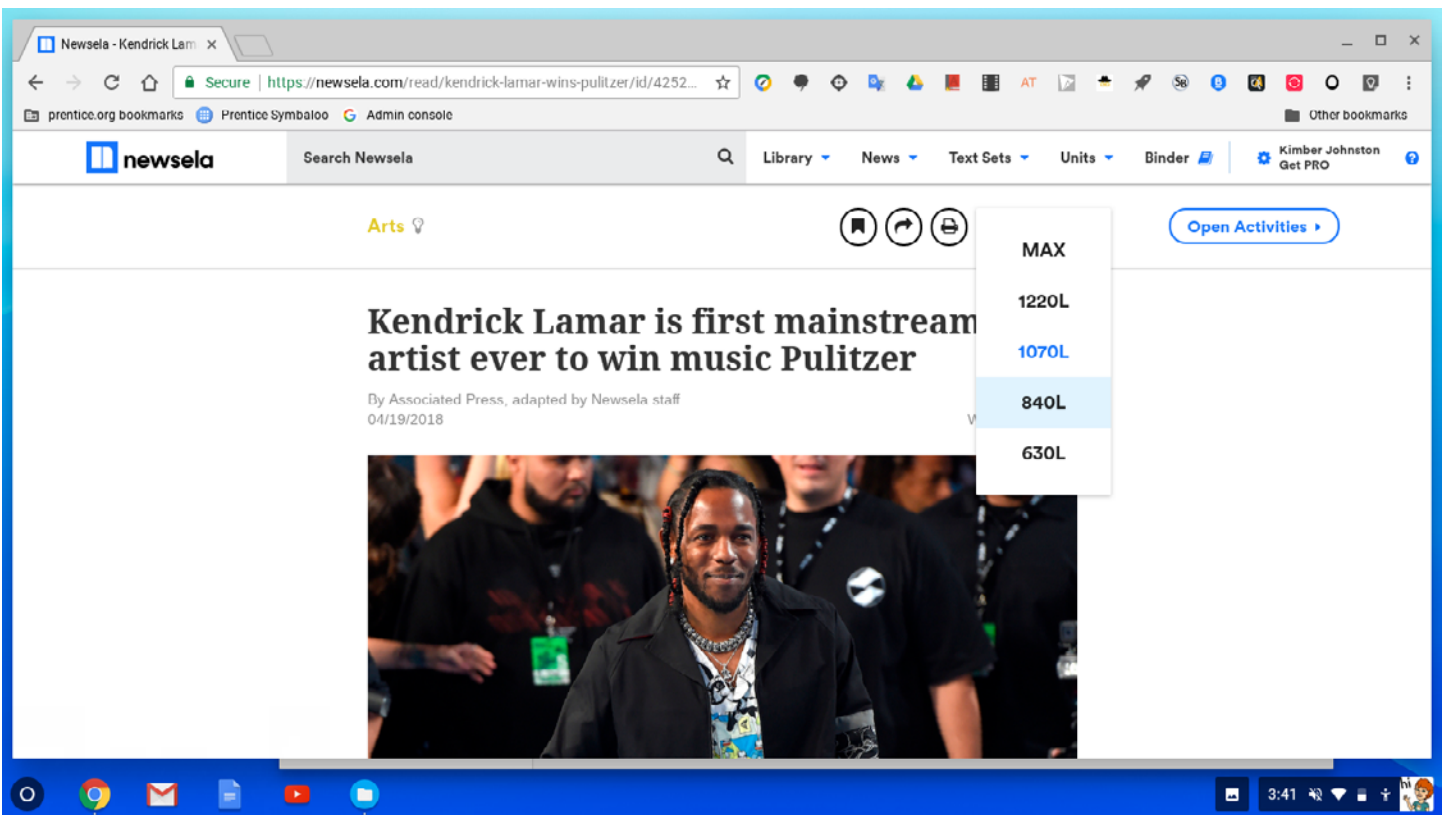


See image 19 - Paste a passage or URL to summarize text.





See image 20 - Dictation.io is a web-based speech to text alternative.



See image 21 - High-interest text is available on NewsELA in multiple Lexile levels.

in on longer articles or websites, and Smmry can help you get the gist of a page or article and see if you want to read it in full.

See image 19

dictation.io

Since Voice Typing doesn't work everywhere, it's nice to have an alternative. This website allows you to use speech-to-text and copy and paste it into other areas. You can even apply basic formatting.

See image 20

NewsELA

This site started as a current events site for students but has matured into a fully featured site for news articles, text sets and content. Each passage is available in a number of reading levels and challenging vocabulary is highlighted and defined. The basic site is free, and with a paid version it includes a broader range of reading levels, writing prompts, quizzes and more. This is a great source of high-interest text at many reading levels.

See image 21

CLOSING THOUGHTS

This selection is not meant to be comprehensive – there are so many resources out there, it can be overwhelming. This selection is intended to give an overview of some of the tools I have tried and found effective.

When choosing tools to try, please remember that these are useful, but not magical. They won't be a good fit for everyone, and as with all technology will sometimes not work exactly as expected. It may take trial and error to find what works best for you or your children. Don't be afraid to try stuff! You can refine as you go. ■

Workforce Innovation and Opportunity Act (WIOA) and Pre-Employment Transition Services (Pre-ETS)

The Workforce Innovation and Opportunity Act (WIOA) is paving the way for increasing employment outcomes for students with disabilities. WIOA supports improved collaboration among schools, vocational rehabilitation and the business community. This article shares information about the five required Pre-Employment Transition Services that schools and vocational rehabilitation agencies must provide students with disabilities 14-21. Attainment Company developed "Pre-ETS Solution" to provide schools a curriculum that will meet all required activities per WIOA.



This article will share information about the implementation of Workforce Innovation and Opportunity Act (WIOA) legislation as it pertains to the Pre-Employment Transition Services (Pre-ETS) for schools, adult service providers and vocational rehabilitation agencies.

The partnership between schools and the state Vocational Rehabilitation agencies has existed since the Vocational Rehabilitation Act of 1973 and Individuals with Disabilities Education Act (IDEA) of 1990. Transition to employment for students with disabilities has been a priority for many years and both Vocational Rehabilitation and the school's transition programs have

worked together for student employment outcomes. But the WIOA legislation requires a stronger transition partnership and collaboration with schools and Vocational Rehabilitation, providing additional services and supports to increase employment outcomes for students with disabilities and expanding those services for younger school age students. The Vocational Rehabilitation state agency is required to spend 15 percent of their annual budget on Pre-Employment Transition Services. For most Vocational Rehabilitation agencies, this is significantly more funds than they have spent in the past for students with disabilities.



JANET ESTERVIG, MS, RN, Janet has degrees in Special Education, Vocational Rehabilitation Counseling, and is a Registered Nurse. She taught High School special education and established a supported employment program where she was the Executive Director for 25 years providing integrated employment services for individuals with disabilities. Janet was also the Director of an agency providing personal care and home services for over 1,000 people with disabilities and elders. Janet worked at the Department of Health Services, Division of Long Term Care for the last four years, and was integral in the state department's implementation of the new federal mandates under Workforce Innovation and Opportunity Act and Home and Community Based Services final settings rule.

Janet joined Attainment Company in May 2017 to develop Pre-Employment Transition Services curricula to meet the WIOA regulations for school districts. She is also working on Professional Development and Training for Educators, Paraprofessionals, Employment and Direct Services staff, and others to support integrated employment and community inclusion. janet@attainmentcompany.com



WIOA supports students with disabilities in the workforce.

The WIOA and Pre-ETS impacts all students who have an Individual Education Plan (IEP), a 504 plan and students who are “potentially eligible” for Vocational Rehabilitation services. It involves a focus on employer engagement and preparing for and providing on-the-job training for students with a variety of abilities.

The WIOA definition of competitive integrated employment is full or part-time work at minimum wage or higher, with wages and benefits similar to those without disabilities performing the same work, and fully integrated with co-workers without disabilities.

Sections 397.20 and 397.30 requires the Vocational Rehabilitation agency, in collaboration with schools or local educational authorities, provide a specified set of transition services to students with disabilities ages 14-21. Here is the list of the five required Pre-ETS activities as defined by WIOA:

Pre-ETS Required Activities include:

1. Job exploration counseling,
2. Work-based learning experiences (which may include in-school or after school opportunities and experiences outside the traditional school setting, including internships, that are provided in an integrated work environment),
3. Counseling on opportunities to transition or enroll in postsecondary edu-

cation and training programs,

4. Workplace readiness training to develop social and independent living skills, and
5. Instruction in self-advocacy, which can include peer mentoring.

There are also nine Authorized Activities as part of Pre-ETS. The list of the five required and nine Authorized services under WIOA can be found on the Department of Education website:

<https://www2.ed.gov/policy/spced/guid/rsa/supporting/rsa-vr-1-pre-employment-transition-services.pdf>

Attainment Company developed a curriculum with experts that meets these five required and nine authorized Pre-ETS activities called “Pre-ETS Solution.” This program includes an instructor’s guide with scripted lessons, vocabulary, leveled instruction, collaborative resources, PowerPoints, 13 additional Attainment transition products that link directly to each lesson, professional development activities, apps, pre- and post-assessments, communication overlays and IEP and WIOA goals. This resource provides students with lessons that will help prepare them for the world of work. Pre-ETS Solution offers a complete package that can be used in the classroom or off-site by job coaches or vocational rehabilitation providers to meet the goal of community integrated employment for students with

disabilities as they leave school. Vocational Rehabilitation’s requirement of spending 15 percent of their annual budget on Pre-Employment Transition Services prioritizes the expectation of employment and post-secondary education and credentialing to meet an employment goal. WIOA is clear that this is the trajectory for all students with disabilities.

You can view your state plan under WIOA on this website. It will reflect your state’s implementation plan, priorities and state entities that will be following through on the goals established by your state.

- <https://www2.ed.gov/about/offices/list/osers/rsa/wioa/state-plans/index.html>

Another important resource to learn more about WIOA and Pre-ETS can be found on the WINTAC website, the authorized technical assistance center to provide training and information on the implementation of WIOA. You can find them at:

<http://www.wintac.org/> ■

Closing The Gap 2018 36th ANN

Assistive Technology in Special Education, Rehabilitation and

24 PRECONFERENCE WORKSHOPS ANNOUNCED

MONDAY AND TUESDAY, SEPTEMBER 24 - 25 8:00 AM - 4:30 PM

PC-1 Two-Day Introductory PODD Course (Official PODD Course)

Linda J. Burkhart, Dale Gardner Fox

MONDAY, SEPTEMBER 24 8:00 AM - 4:30 PM

PC-2 Pragmatic Organization Dynamic Display (PODD) Alternative Access Workshop

Kelly Fonner, Laura Taylor, Debbie Reinhartsen

PC-3 The Accessible School: How the iPad Empowers All Learners

Mark Coppin, Nancy Kawaja

PC-4 Expanding Environments with AT and AAC (including iPads & Tecla) Using Access, Integration of Systems, Navigation Through Systems to Support Students in the Classroom *Karen M. Kangas*

PC-5 Core Vocabulary Quick Start: Everything You Need To Provide Core Vocabulary Intervention Next Week *Kelly Key, Deidre Dobbels*

PC-6 Embrace the Future: Tech Trends and AT *Kirk Behnke, Mike Marotta*

PC-7 "Now What?" - Strategies to Support School Teams in AT Implementation

Keri Huddleston, Elizabeth Echebarria, Robin Dunn

PC-8 Teaching AAC! The Balance of Conversation and Generative Language - Make and Take *Pati King DeBaun*

PC-9 Creating Assistive Technology Solutions in Minutes, Part III: A Make and Take Workshop *Therese Willkomm*

PC-10 Using Technology as Evidence-Based Practice! Developing Appropriate Programming to Meet the Learning and Behavioral Needs of Students with ASD *Susan K. Lewis Stokes*

PC-11 Digital Storytelling and Adapted Books: Creating Materials By, With, and For Students *Caroline Musselwhite, Deanna Wagner, Gretchen Hanser, Laurel Richardson Buell, Jeanmarie Jacoby*

PC-12 Skills for Life: Revamping Language and Literacy Instruction for our Most Complex Learners *Lauren Enders, Kate Ahern*

TUESDAY, SEPTEMBER 25 8:00 AM - 4:30 PM

PC-13 Breaking Out the AT Toolkit

Lindsey Huntley, Maricris Formoso-Santos, Mylene Matro, Loreto Dumitrescu

PC-14 Model Magic: Become the Next Top Modeler *Kelly Key, Deidre Dobbels*

PC-15 "Oh EYE understand it now!" Visual Supports for Those With Autism and Other Disabilities *Mo Buti*

PC-16 Teaching, NOT Testing, How to Find and Support Access to AT and AAC for Students with Complex Bodies *Karen M. Kangas*

PC-17 Choose Your Words: Teaching Language, Literacy and AAC in the Classroom *David Niemeijer, Jennifer Marden, Erin Sheldon*

PC-18 The SETT Framework: More Relevant Today than Ever! *Joy Smiley Zabala, Diana Carl, Kirk Behnke*

PC-19 Roadside Assistance for AAC, Anxiety and Apraxia *Kate Ahern, Jeanne Tuthill, Tanya Scott*

REGISTRATION OPTIONS AND FEES

Conference - Wednesday, Thursday, Friday, September 26-28, 2018			
Includes Preview of Exhibits – Tuesday, September 25, 5:30 pm - 7:30 pm and Continental Breakfast Wednesday and Thursday, September 26 & 27			
Registration Received	On or Before June 30	July 1 - September 13	September 14 - Onsite
Standard Rate	\$475	\$550	\$575
Group Discount - 5 or more	Groups 5+ Deduct \$30	Groups 5+ Deduct \$30	Groups 5+ Deduct \$30
Group Discount - 8 or more	Groups 8+ Deduct \$50	Groups 8+ Deduct \$50	Groups 8+ Deduct \$50
Group Discount - 20 or more	Groups 20+ Deduct \$70	Groups 20+ Deduct \$70	Groups 20+ Deduct \$70
<i>All group registrations must be received at the same time.</i>			
Parent Rate (A letter describing your child's disability must accompany registration.)			\$295
Full-time Student Rate (Proof of full-time student status must accompany registration.)			\$320
Presenter / Exhibitor Rate		\$375	\$500
Single Day Registration			Price
Thursday Only - September 27			\$300
Friday Only - September 28			\$130
Preconference Workshops (Includes Preview of Exhibits – Tuesday, September 25, 5:30 pm - 7:30 pm)			Price
Monday, September 24 or Tuesday, September 25* (PC-1 through PC-22)			\$290 per day
BUNDLED PRICING! Monday and Tuesday Bundle - \$80 savings			\$500
Sponsored, Half-Day Preconference Workshops** (PC-23 & PC-24, Tuesday, September 25)			\$99
Exhibit Hall Only (Includes Preview of Exhibits – Tuesday evening, September 25, through 1:30 pm, Friday, September 28)			FREE

* Some preconference workshops carry an additional fee for materials. ** Bundled pricing not applicable to sponsored, half-day workshops.

ANNUAL CONFERENCE

and Everyday Living **PRIOR LAKE, MINNESOTA**

PRESENTATION & HANDS-ON LAB HOURS

PC-20 Chrome Literacy Support Lab

Mike Marotta, Kelly Fonner

PC-21 Teaching Students with Significant Disabilities to

Use Switches: Ready-Set-Click! Gretchen Hanser, Deanna

Wagner, Laurel Richardson Buell, Leon Kirschner, Stephanie

Hui

PC-22 COMMUNICATION CIRCLES: With a Little Help

From My Friends

Caroline Musselwhite, Jane Odom, Beth Waite-Lafever, Kim

Daswick, Sidney Daswick

SPONSORED HALF-DAY WORKSHOPS

TUESDAY, SEPTEMBER 25

(Sponsored by Attainment Company, Inc.)

PC-23 Half-Day Workshop - Proven Collaborative

Special Education Program Improvement

8:00 am - 12:00 pm

Ann Meyer, Robert C. Pennington

PC-24 Half-Day Workshop - Results Focused PRE-ETS

(Pre-Employment Transition Services)

12:30 pm - 4:30 pm

Janet Estervig

Presentations will showcase practical and sound assistive technology implementation strategies. Connect and learn from the best and brightest minds in assistive technology, and create a professional development path that covers what's important to you.

Presentations will be announced July 15.

In addition, some of the industry's most innovative manufacturers will offer unique learning opportunities, showcasing accessibility features across their respective platforms.

First-hand Learning From Global Educators

Experience hands-on activities with Apple Distinguished Educators (ADEs) in the 2018 **Apple Accessibility School**, where attendees will create content and design engaging learning experiences. In addition, attendees may participate in dedicated ADE presentations to get a deeper understanding of how Apple products are creating new opportunities for teaching and learning.

Visit with Microsoft Education Experts

Learn from the experts in the Microsoft Education Booth, where attendees can partake in the Microsoft Education Short Talks on various topics. Attendees can further their participation with Microsoft by attending the presentations that take a closer look at how to implement Microsoft into everyday activities.

PROFESSIONAL DEVELOPMENT

RESNA ATP Fundamentals Course and Exam	Price
2-day, ATP Fundamentals Course Sunday - Monday, September 23-24, 8:00 am – 4:30 pm	\$600
ATP Fundamentals Exam Tuesday, September 25, 8:00 am - 12:00 pm	\$500

IACET CEUS

As a co-sponsor, AAC Institute will again provide CEUs for both the conference and pre-conference workshops. AAC Institute has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). CEUs will be offered for all sessions without charge. CEUs that relate to the practice of speech-language pathology and audiology can be used for ASHA certification maintenance. RESNA accepts IACET CEUs for ATP/ATS credential maintenance. Most state licensure systems accept IACET CEUs or other forms of self-reporting. Preconference workshops are offered for up to 1.4 CEUs. The conference is offered for up to 2.0 CEUs. For additional information visit www.aac institute.org/ CEUs.

ACADEMIC CREDIT

Graduate-level academic credit from Hamline University is available for a variety of levels of conference attendance. One full semester credit Cost: \$190

Requirements:

- 12 contact hours
- An outside assignment (12 contact hours requires one preconference workshop and conference participation; two preconference workshops; OR conference participation only.)

CERTIFICATES OF PARTICIPATION

Closing The Gap-issued Certificates of Attendance for conference participation will be available upon request at no additional fee. All preconference workshop participants will receive a Closing The Gap-issued, presenter-signed Certificate of Preconference Workshop Attendance.

Mystic Lake Center and Casino Hotel

Guests will experience luxury, modern amenities and sweeping west-facing golf course views as one of the first guests in the newly constructed Promenade Tower—adjacent to the new Mystic Lake Center and everything Mystic Lake has to offer. It's all just steps away from restaurants, bars and nonstop entertainment.

Get Active

All hotel guests also receive complimentary access to Dakota! Sport and Fitness during your stay. Dakota! Is a full-service fitness club, featuring an aquatic center with waterslide, cardio room, gymnasium, ice center, running/walking track, strength training area, and small bowling alley.

Gaming Action

Play slots, blackjack, bingo and pulltabs at the largest casino in Minnesota.

Dining, Drinks and Entertainment

Mystic Lake's seven restaurants offers something for every taste and budget. Plus, visit one of the three lively bars all close to the action!



DISKoveries

SMART TOYS

Whether we choose to call it STEM, STEAM or STREAM (Science, Technology, Robotics, Engineering, Arts and Math), this current educational emphasis is bringing us a whole new group of toys, for preschoolers and older children, that also encourage language, reasoning and thinking, motor skills and creative play. Following are reviews of some of the best available toys for learning to code and for more new ways to play and learn with the iPad.

LEARNING TO CODE

Code (or computer programs) are sets of precise instructions given to a computer to complete a task. Coding (or programming) is writing those step by step instructions in an exacting way so that the computer can follow them. These instructions must be broken down into small chunks so they are easy to follow and include details of all moves.

Pre-coding and beginning coding skills involve many early directional and spatial concepts (forward, back, right, left, stop/pause, go, repeat, etc.), as well as sequencing skills, following directions and language skills such as formulating directions and instructions. All these fit very well into the learning curriculum of young children with special needs.

FISHER-PRICE THINK & LEARN CODE-A-PILLAR (WWW.FISHER-PRICE.COM)

The Fisher-Price Think & Learn Code-a-pillar is an excellent way to introduce preschoolers and kindergarteners to beginning coding concepts. Previously reviewed in detail in DISKoveries in the April/May 2017 issue of Closing The Gap Solutions, this preschool toy contains a head and control button segment and eight additional segments, each with a color and signal light that tells you the direction or sound it will take- forward, left turn, right turn and sound segments. Segments pull apart and snap together easily with USB-type connectors. Children connect any way they like and press the button and the code-a-pillar reviews its program (each segment lights up in turn) and then it begins



The Fisher-Price Think & Learn Code-a-pillar:
(www.fisher-price.com)

its route. The segment being played flashes; when it completes, it stops flashing and the next one begins flashing. You can use a few segments, all segments, or add additional segments from expansion packs. There are many ways to encourage children to play creatively as well as learn. First step for the youngest learners is just pressing the button to start the Code-a-pillar on



Video link for Code-a-pillar

<https://www.youtube.com/watch?v=4gN9nPB7Llw>



Video link for Code-a-pillar App

<https://www.youtube.com/watch?v=RdgMWSbJ0gl>

its journey. Then, they can learn to pull apart and put together the pieces, in any order they want. As they do this, they will observe (and can be taught to observe) the differences in the routes—Did it go straight? Did it turn? How far did it go?, etc. Then they will begin to observe the visual directions on each segment and begin to understand its symbolic meaning. As they rearrange and program different combinations, they can learn to plan and sequence a path, and learn to get wherever they want—from start to finish, under a table, around a chair, on and on. And as they do this, they develop problem solving skills, critical and analytical thinking, sequencing, beginning coding and more, playing alone or together with others. In a preschool or kindergarten classroom, Code-a-pillar makes an interesting center for two to four children working together to send the Code-a-pillar on a trip— from errorless play to creating a set of directions. At home, it is a toy that presents appropriate play for sibling over a wide range of ages and skill levels.

A Code-a-pillar app is available for Apple and Android. **Think & Learn Code-a-pillar** : This free app contains maze and number coding games featuring a digital Code-a-pillar, and containing drag and drop command segments, along with rewards, sound effects and animations. Content levels up as you play, with each level introducing and reinforcing a new concept. The app lays out a path in front of the Code-a-pillar and players drag and drop command segments to guide him. Press his head (just like the Smart Toy) and he will try it out and if he gets stuck, players are guided with helpful explanations. The more they play, the more they learn!!



Bee-Bot: (Terrapin:www.bee-bot.us)

BEE-BOT AND BLUE-BOT (TERRAPIN: WWW.BEE-BOT.US)

Bee-Bot is a smiling, yellow and black rechargeable floor robot, specifically designed for young children. It can be directed (programmed) to move forward, back, left and right using four directional keys, a “pause” key and a “go” button located on its top surface. Individual directions or a sequence of directions can be given. When given a sequence, it can be followed step-by-step as Bee-Bot blinks and beeps at the end of each command. At the end of the complete sequence, the unit will stop and play a sound (which can be turned off, if desired). Each forward or backward command moves the unit approximately 5.9 inches (150 mm), and the turn command causes the unit to rotate 90 degrees. A clear button is used to clear the sequence and make Bee-Bot ready for a new series of directions. Easy to use, with simple, clear directional buttons, Bee-Bot is great for teaching sequencing, estimation, problem-solving and direc-



Command Cards
(Terrapin:www.bee-bot.us)

tionalty alone or within contexts of literacy, math, art and social studies and others. Once these basic concepts are understood, Bee-Bot can be used with an amazing collection of accessory mats to teach and reinforce many other subjects. Bee-Bot can be purchased individually or in bundles with multiple Bee-Bots and accessories for classes or schools. Bee-Bot is an excellent learning toy for ages four and up, for both home and school use. Great fun while also learning the basics of programming and coding and then applying them to a variety of learning material.

Command Cards: Each set contains 44 brightly colored laminated cards, each one (4.25" x 5.5") picturing an image of a Bee-Bot command (forward, reverse, left turn, right turn, pause, go and clear) on one side and an image of a Bee-Bot with the same key highlighted on the other. Children can use the cards to create their command sequences, or teachers can use them to reinforce the symbols, create sequences for children to follow and to create games and other challenges for young learners. The length of each card is equal to the distance the Bee-Bot travels in each single movement. These cards are a great way



Bee-Bot Accessory Mats
(Terrapin:www.bee-bot.us)

to plan and follow your Bee-Bot's route. Two sets are included, providing excellent visual support for learning at all levels.

Bee-Bot Lessons: This book contains 100 detailed lesson plans for using Bee-Bot in the K-2 curriculum. Each lesson contains objectives and instruction for implementation, suggestions for adapting lessons for struggling and advanced students and standards it achieves. This manual comes with a CD containing nearly 1,000 images, matched to the lessons. They can be printed out and used with the Bee-Bot mats, and with suggested lessons for math, science, social studies, reading and art, helping to incorporate technology across the curriculum.

Bee-Bot Accessory Mats really expand the learning potential of the Bee-Bot. For example, the **Alphabet Mat** contains the lower case letters of the alphabet on a washable vinyl mat measuring 33" by 40" (75 cm. by 90 cm.) There are six rows of five letters each, each box measuring about 6 ½ inches square. Navigating Bee-Bot around the mat helps students practice their letter recognition, while at the same time working on sequencing and math skills. **The Shapes, Colors and Size Mat** has 16 squares, four shapes in different sizes and shapes, each shape a Bee-Bot step away from the next; children learn colors, shapes and sizes while also planning and counting. Other Mats have CVC Words, U.S. Coins, Maps, a Number Line, etc. **The Dry Erase Mat**, which comes with pens and a cleaning cloth, lets you create your own mat that Bee-Bot can explore, as it follows





Video link for Bee-Bot and Alphabet Mat
<https://www.youtube.com/watch?v=ZJaSQgsDQ1w>



Video link for Bee-Bot App
<https://www.youtube.com/watch?v=b79EbDcGJdE>

student directions. The mat is smooth, easy to write on and erases cleanly. **The Card Mat** is a white vinyl 36" by 36" grid covered with a clear plastic sheet that can be lifted up. Teachers or students can put images on the grid anywhere they choose and then cover them up with the attached clear plastic sheet. Click this link to see mats in action in the Bee-Bot emulator in your browser: <https://www.bee-bot.us/emu/beebot.html?community-mat>.

A **Bee-Bot App** is available for Apple and Android. Bee-Bot: This free app is a game based on Bee-Bot and can be used to introduce basic programming to children. The game replicates the Bee-Bot control buttons and allows children to become familiar with the concepts of directionality in a step by step manner. There are 12 levels of play with increasing complexity at each new level. Children unlock doors, collect treasure and out-smart the mummies as they go along. They learn to move their on-screen Bee-Bot by giving it a set of sequential



Blue-Bot and TacTile Reader
(Terrapin:www.bee-bot.us)

commands that they program in by pressing the on-screen arrow keys (which match the buttons on the Bee-Bot robot.)

Blue-Bot takes Bee-Bot to the next level. Blue-Bot has a Bluetooth connection so you can program it from your iPad, iPhone, Android tablet, from a Windows and Mac computer or from a TacTile Reader, in addition to just using the on-board keys. Create a program, send it via Bluetooth and watch Blue-Bot follow the program. The Blue-Bot app (see below) adds additional capability for 45-degree turns and repeating commands which expands the programming experience. With sturdy construction and a clear shell, Blue-Bot shows its components and inner workings. If you are using Blue-Bot, the above Command Cards and Accessory Mats work well with it.

Blue-Bot TacTile Reader is a rechargeable programming device used to control Blue-Bot. After pairing the Blue-Bot with the TacTile Reader, individual tiles, each representing a Blue-Bot command, are placed on the reader. It holds up to 10 tiles and up to three TacTile Readers can be connected, so students can build programs of up to 30 steps. When the "go" button is pressed, the Blue-Bot will move step-by-step through the program while the TacTile Reader lights up each command as Blue-Bot performs it. To change a program, just switch the order of the tiles. There are 25 Blue-Bot command tiles included, and supplemental packs are available. This can be used to introduce remote programming without the use of apps and tables and makes learning to code a more direct experience.

Make sure to visit the **Bee-Bot Download Center** (<https://www.bee-bot.us/downloads.html>) for extensive support and downloads of all kinds of documentation, tutorials and specific information and applications.

Blue-Bot free apps are available for Apple and Android **Blue-Bot Remote:** This app turns your tablet or phone into a step-by-step remote control for your Blue-Bot. Buttons can be enabled or disabled, and sounds can be recorded and played as the buttons are used. Excellent way for the youngest user to learn the relationship of the arrows to the directions. **BlueBot:** This app lets users send directions via Bluetooth and Blue-Bot (on the floor and on the iPad/tablet) will then follow them. In Explore mode, there is (1) Step-by-Step Programming – press a





Video link for blue-bot and tactile reader
<https://www.youtube.com/watch?v=T6SyP7lmygs>



Video link Code & Go Programmable Robot Mouse
<https://www.youtube.com/watch?v=vmNf7X5Z6SY>

command and the Blue-Bot follows the direction, one step at a time. (2) Drag and Drop programming – drag and drop of series of commands, press “go” to see whole program. (3) Repeat – teaches user to give repeat commands- i.e., up arrow x 3 instead of having to put three up arrows. In Challenge mode, there are games to get from A to B, get from A to B while avoiding obstacles, get to goal using only the buttons provided and following random directions. Users can select any on-screen grid to play on. Digital Accessory Mat grids are included and you can create your own grid using the devices camera.

Code & Go Robot Mouse is a purple programmable robot mouse that follows commands to help children ages four and up learn about coding concepts. It has color-coded directional buttons and runs on three AAA batteries with two speeds. Individual directions or sequences can be given. When following a sequence, a beginning sound is heard and the mouse pauses between each command. At the end the eyes blink. Each command moves the mouse approximately five inches. You can program up to 40 steps. Colorful coding cards (2" by 2") are included. Each has a direction that matches the buttons on the mouse. The front side shows the directional arrow command and the reverse shows the position of the mouse next to the command. These can be used to help children understand and follow the sequence.

CODE & GO ROBOT MOUSE AND BOTLEY
(LEARNING RESOURCES:
WWW.LEARNINGRESOURCES.COM)



Code & Go Robot Mouse
(Learning Resources: www.learningresources.com)



Code & Go Robot Mouse Math Pack
(Learning Resources: www.learningresources.com)



Code & Go Robot Mouse Activity Set
(Learning Resources: www.learningresources.com)

Code & Go Robot Mouse Math Pack works together with the Code & Go Robot Mouse and includes number cubes (0-4), an operations cube (plus and minus), 11 double-sided number cards (0-10), a foam ruler and a double-sided number board (1-10). The number board is sized to its movements. The manual included gives examples of the kinds of math activities that can be done along with the robot. For example, one side of the number board has shapes. Students can program the mouse to land on a given shape. They can be instructed to program the mouse to go from the blue triangle to the green triangle. Using the Numbers and Counting Board, students can program the mouse to land on specific numbers, or to the answers to math problems (i.e., have the mouse move to the answer to an equations such as $5-3$). The number cubes and the operation cube can be used to create equations which can then be solved by moving the mouse to the correct squares. Many other math games are suggested and you can create your own.

Code & Go Robot Mouse Activity Set : This activity set includes Colby, a fully programmable robot mouse, similar in design to the Code & Go Robot. Colby is blue but all the color coded directional buttons are the same as the other. All Learning Resources activities can be done with either robot. Colby also uses three AAA batteries and has two speeds. Included in this activity set are a complete set of 22 Maze walls and 16 Maze grid pieces that connect to form a large board or into any configuration you can imagine. These will allow you to create mazes so that Colby can be programmed to maneuver through the maze and to the cheese (also included)! A set of coding cards (same as those included in Code & Go Robot Mouse) will help children track the



Video link for Code & Go™ Robot Mouse Activity Set
<https://www.youtube.com/watch?v=CYYaZfDk08>



Video link - How to Use Your Code & Go Robot Mouse Activity Set
<https://www.youtube.com/watch?v=U4ktPBNNw60>

steps in the sequence. They are color-coordinated to match the buttons on the mouse. This set also includes 10 double-sided activity cards featuring 20 mazes. Card 1 teaches the basics and each new card adds to the logic and critical thinking skills. The goal is to program your robot mouse to reach the cheese.

Botley The Coding Robot Activity Set: Botley, the Coding robot, is a little blue robot that gets programmed using the enclosed Remote Programmer. It's designed to teach more advanced coding skills. Instead of having arrows on the robot, the Remote Programmer has the familiar color-coded arrow and turn keys and stop and go, with the addition of some more advanced commands. There's an "object detection" button, a "loop" button (lets you repeat a step or sequence of steps), a "sound" button and a "transmit" button. The "object detection" button will instruct Botley to use if/then behavior—IF Botley senses an object in his path, THEN he will perform the alternate



Note: All Learning Resources Robot Mouse and Coding Robot products use AAA batteries and are not rechargeable. There are no apps and no computer or tablet is needed.

CODING WITH OSMO (OSMO: WWW.PLAYOSMO.COM)

Osmo is an award-winning game system that's created new ways children can play, learn and interact with the iPad. Reviews of Osmo have appeared in DISKoveries in two previous articles- in the August, 2015 DISKoveries, the basic system and first four games (**Tangram, Words, Masterpiece, and Newton**) were reviewed, and in DISKoveries in April, 2016, **Numbers** was reviewed.

Osmo is a gaming accessory for the iPad version 2 or higher, iPad Mini and iPad Pro that is designed for ages five and up. The Osmo system comes with a reflective mirror for the iPad camera, a white iPad stand and sets of game pieces. The reflective mirror is a red attachable piece that lets the iPad see the environment below and in front of it and translates movements to the iPad.

Osmo iPhone Base: There is now a new base available for Osmo. In addition to playing Osmo with your iPad, you can now play with an iPhone. It works with iPhone 6 and higher. Just stand your iPhone in the base and clip on the reflector. It comes with a canvas drawstring bag and two games to play right away: Masterpiece and Newton. Just download the free apps. Additional Osmo games that you purchase will work on this same system.



Osmo iPhone Base (Osmo: www.playosmo.com)



Botley The Coding Robot Activity Set
(Learning Resources: www.learningresources.com)



Video link for Botley -
<https://www.youtube.com/watch?v=mHgtD7ZGpr8>

sequence. He will then finish the original sequence. When you enter your sequence and transmit your code to Botley, it will be executed with all the steps in order. The lights on the top of Botley will light up at the beginning of each step, and Botley will stop and make a sound when the code is completed. Other things included in this activity kit, include the Detachable Robot Arms. These allow Botley to move objects like balls and blocks, also included in this set. Users can set up mazes and build code to direct Botley to move an object from one place to another. Also included are coding cards, boards for black line following and other objects. A manual including coding hints and coding challenges is also included.



Video of Osmo iPhone Base-
<https://www.youtube.com/watch?v=EExLyKwHsK8>



Video for Osmo Coding Awbie:-
https://www.youtube.com/watch?time_continue=1&v=I9Qm18it47A



Osmo Coding Awbie (Osmo: www.playosmo.com)

Osmo Coding Awbie is one of Osmo's two coding games. For ages six and up, Osmo Coding uses physical blocks to give instructions to a playful character named Awbie who loves strawberries and loves to explore his world, play games, jump on the trampoline, search for critters, explore islands and so much more. The coding blocks have clear visual directions such as walk, jump and grab; an arrow key that rotates to give spatial direction to go and numbers to indicate how many times. Another block can be used to repeat a whole string of instructions. This is an easy and clear way to visually enhance early coding for children. Awbie's adventures contain many locations, critters, collectable items, missions, different levels and lots of fun and laughs. By trial and error, cognitive planning, problem solving and reasoning



Osmo Coding Jam (Osmo: www.playosmo.com)

and thinking, users begin to see that their single instructions repeated over and over can be combined into more complex strings and sequences, with loops, conditionals, etc. Awbie's adventures are motivating and appealing to young children. Excellent for both independent and interactive play with others, and a great follow-up to Mouse Robots, it shows the relationship of the computer and tablets, the instructions, commands and the coding process.

Osmo Coding Jam is the second and newest of Osmo's coding games, great for kids who are interested in music and designed for ages six and up. It provides some of the early concepts of coding which can be learned through fun tutorials.





Video for Coding Jam:

<https://www.youtube.com/watch?v=jn56Dm6Ozbg>

These tutorials also give players extra points, new characters and instruments. Coding Jam comes with 23 blocks (which can also be shared across games.) Musical characters have their own instruments; Osmo players code sounds from these different character worlds to create their own unique compositions. Combining coding and music leads to double fun - the fun of music while learning and understanding coding concepts. As with other Osmo games, you can have multiple profiles using the app, they even get to pick a username of "stage name." Once they've composed a jam, they can safely share it with friends, family and the jam community. Included with the game is a custom plastic storage box with a lid for all the pieces- no loose pieces to try and find when they want to play.

IF YOU ARE INTERESTED IN OTHER CODING RESOURCES:

Hour of Code Activities: <https://code.org/learn> - visit this website for all kinds of self-guided coding games that introduce kids 4+ to programming basics. Having a teacher or parent nearby is optimal, but not necessary.

Today at Apple: (<https://www.apple.com/today/>) Visit Apple Today online and see what coding hours are available at an Apple store near you. You can make an appointment online- all courses are free. They are available for children, teachers, and parents including How To Get Started with Coding, Coding with Swift Playgrounds, and Hour of Code for Teachers.

Apple Brings Coding to Schools for Children with Special Needs: Apple is teaming up with educators across the country who work in schools supporting students with vision and hearing impairments and other special needs, to bring accessible coding to their schools. They are using the **Everyone Can Code** curricula for Swift, a programming language developed by Apple

for iOS, macOS, watchOS, tvOS and Linux. Tim Cook, Apple's CEO, has expressed his belief that all students deserve an opportunity to learn the language of technology.

The **Everyone Can Code** curricula is compatible with Apple's VoiceOver accessibility technology. VoiceOver is a screen reader that describes nearly everything happening on the screen. Other Apple accessibility options include FaceTime for capturing gestures, signing and facial expression, Type to Siri, closed captions, Mono Audio and Made for iPhone hearing aids. Students with physical and motor disabilities can use Apple's built in Switch Control, which enables switches, joysticks and other adaptive devices to control what is on the screen. For more information on iOS 11 and Accessibility options, see DISKOVeries in the February/March 2018 issue of Solutions.

MORE NEW WAYS TO PLAY AND LEARN WITH THE IPAD

This is another update on new products that help children of all ages interact with their iPads, individually and together with others, by using and manipulating related physical objects- this time race cars, pizza toppings, money, letters, crayons and flash-cards- providing new opportunities for learning and fun.

Osmo Hot Wheels MindRacer (www.playosmo.com) : This fun action game from Osmo comes with a race track that attaches to the Osmo stand, allowing players to race with two of the six included Hot Wheels cars. It's designed for boys and girls, ages seven and up. Pick your cars, place them on the track and press the button - the cars zoom up the 12" track and as they reach the iPad, they enter a digital racetrack and appear on screen. The racing begins immediately. Each of the six cars have their own unique personalities, unique tracks and super automotive powers. Players control the action on screen with a group of 16 tokens that they get. There are five actions: Boost (gives your car a jolt of speed and also lets you blast through different hazards), Spin (defends you and blocks your rival from passing), Attack (slows down your opponent) and Star (has other special powers.) As you watch the cars racing on screen, you throw your token on the designated area of the track and influence the race. You need to plan, and use strategies in this fast action racing game. There are lots of sound effects and great visual effects on the iPad screen as you plan and watch the actions of your token on your unique cars. In addition to the two-player mode, there is a cooperative mode (work together to win challenges) and you can also race solo against built-in competition. MindRacer is a lot of fun and a great way to use the iPad as an interactive toy. The game also includes a stackable storage box for the cars and tokens.

Osmo Pizza Co. (Osmo: www.playosmo.com) is an outstanding Osmo game. The object is to run your own pizza shop, take orders from customers, make pizzas as ordered, collect money and give change to the customers. Users can also invest their profits, and upgrade the shop. Designed for ages 5-12, the game has many options to customize for individual



Osmo Hot Wheels MindRacer (Osmo: www.playosmo.com)



Osmo Pizza Co. (Osmo: www.playosmo.com)



Video link for Osmo Hot Wheels MindRacer:
<https://www.youtube.com/watch?v=dDTMhP0wvdA>



Video link for Pizza Co.:
<https://www.youtube.com/watch?v=JwTDIARIEOU>

users' needs. After purchasing the game, users download the iPad app and then use the included Pizza board, tray with 48 topping tiles (mushroom, sausage, anchovy, pepper, olives and pineapple), and another tray with 40 money tiles (\$1, \$2, \$5, \$10 bills, and coins for 1, 5, 10 and 25 cents). In Junior Mode, you can fill pizza orders only (without any payment involved) or you can fill orders and then just use bills only to give change (no coins-making the math task simple one or two digit subtraction). To fill a pizza order, players look at the pictures on screen, and place matching tiles on the pizza board. To make the game more difficult, use bills and all coins, add fractions and a timer. You can also select Word Problems which uses words and reading instead of symbols for orders (i.e., I only want meat on my pizza.) Another exciting feature shows players how to make sure the pizza is perfect by paying attention to the customer's reaction and the happy/sad face emojis. A fun way to have two users playing together (even with diverse skills), is to have one make the pizza

and the other take the payment. If multiple players use Osmo, you can create accounts for each user. Their individual progress is then saved, and progress can be shared across multiple devices, and you can track progress with the parent dashboard. Very well done game, which is motivating for children, playing alone or together, at home or at school.

Smart Letters (Marbotic: www.Marbotic.com) Marbotic's Smart Letters is an excellent set of 26 high quality wooden upper case letters that work together with free apps and with the iPad2 and later, and with some Samsung tablets (See website for a complete list of tablets that work.) The front of each letter has a metal handle that makes it easy for children to grasp and press the letters. The back of each has three small rubber-like "feet," all in varied spots that identify them as particular letters when they are placed on the screen. Children grasp the handle and stamp





Lil Reader and Smart Numbers (Marbotic: www.marbotic.com)



Video link for Lil Reader:
<https://www.youtube.com/watch?v=wM99yddyz4>

the letter on the touchscreen. A full review of Smart Letters and Smart Numbers appeared in DISKoveries in the April/May 2017 issue of Closing The Gap Solutions magazine. They have now published an excellent new (free) app for literacy.

Lil Reader (Marbotic: www.marbotic.com) requires Smart Letters and is a free app for preschool and grades K-1, and targets phonemic awareness, reading, word building and vocabulary development. Letters and letter sounds are introduced, practiced and learned with a structured sequence of ten activities, including sound introduction, vocabulary introduction, beginning letter/sound, ending letter/sound, missing vowel, vowel training, reading/word recognition, and the introduction of related sight words. Approximately six different letters/sounds are introduced in each of the 10 groups. This helps children discover CVC words (which are animated) with short vowel sounds. After completion of each group, words are entered into an online Word Box (containing word cards). Children can visit the Word Box anytime and review their words and pictures. Parents can also download a booklet for children to read at home at the completion of each unit. This booklet can be printed out and has activities such as reading the sentences, coloring the pictures and writing the words. There is also a Teacher's Guide.



Dr. Panda Plus: Home Designer
 (Dr. Panda: www.Drpanda.com/plus)

Dr. Panda Plus: Home Designer (Dr. Panda: www.Drpanda.com/plus) is an augmented reality toy set. Augmented Reality blends digital objects with information from the environment, and lets you interact simultaneously with both. Home Designer contains a free app (downloadable from the App Store, Google Play and Amazon) and a set of cards that communicate with your iPad or Android tablet/smartphone. In the Design mode, the app presents the user with their new home, all ready to move in—but with only minimal furnishings. It's up to the users to make the house cozy and comfortable and reflective of their own personal style. There are 12 washable and erasable markers



Video link for Dr. Panda: <https://youtu.be/py-Fdld972c>

Enjoy playing and learning!

Joan Tanenhaus, M.A., CCC, Speech-Language Pathologist/Assistive Technology Specialist, is Founder and Executive Director of Technology for Language and Learning, Inc., a non-profit organization dedicated to advancing the use of computers and technology with children and adults with Special Needs. (e-mail: ForTLL@aol.com) ■

and 51 flashcards that contain pictures of household objects and eight delightful and familiar Dr. Panda characters. One side of each flashcard is colorful and complete while the other side is a black and white drawing, ready to be designed by the young artist playing the game. After the card is colored any way that pleases them, they scan it with the smartphone or tablet camera and watch the object magically appear on screen in the house—ready to be moved around, placed anywhere they like and used by the occupants (i.e., make a colorful blanket on the bed, scan the picture into the bedroom, place it where you like and put one of the characters on it to go to sleep). Pick your favorite occupants for the house, color their shirts and scan them so they can move in. If children want to change the design of the furniture, or the color of the blanket, or the shirts the play family wears – just wipe, re-draw and re-scan. The app, like the many Dr. Panda apps, is open-ended and limitless in its creative appeal. There are no rules and no directions. Home Designer can be appreciated by a wide range of developmental ages and stages – from beginning play with a parent or older sibling to independent play with creative story-telling and complex scenarios. Children can interact with the characters – give them a book to read, turn the lights on and off, open and close the curtains and so much more. Make two houses and tell a story about the neighbors. In addition, Dr. Panda has added a literacy component with letter matching, word recognition and spelling tasks. In addition to the above Design Mode, there is a Quest Mode. In this mode, children can help the characters move into their new homes. The characters ask for what they need and children find the right flash cards for them. Home Designer is a well-thought-out, highly motivating toy that encourages open-ended play, creative thinking, problem solving, language and social skills.

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Presuming Competence for Students with Severe and Multiple Disabilities

BY PATI KING DEBAUN



Recorded: March 23, 2017

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Early Childhood Assistive Technology

EARLY CHILDHOOD ASSISTIVE TECHNOLOGY

Our youngest children are in need of assistive technology (AT)! Parents and providers may be overwhelmed by the needs of a young child and the misconceptions about AT. Pacer Center’s video Myths of Assistive Technology Use with Young Children describes the common response that a child is too young for computers and tablets during a team meeting discussion about AT.

Video Link: [AT Myths Video](#)

Assistive technology includes a range of items including computers and tablets.

Items can be purchased, created or modified. It’s contingent on what the child needs.

Some examples of AT from [Simon technology Center](#): a bottle holder helps a baby grasp, the gro clock tells a child when it is okay to get out of bed, a slant board for writing, drawing, or holding a book, switch enabled toys for accessing play, computers and tablets with accessibility features, apps and programs. These are all examples of AT. Assistive technology is much more than just computers and tablets. Assistive technology represents a range of items that includes computers and tablets to meet a variety of needs for young children with disabilities.

Parents, teachers and providers may find themselves asking what is AT? Assistive technology can be thought of as any item that supports a child’s ability to participate actively in his or her home, child care program, school or other community settings. It’s a broad term that includes items ranging from something as “light tech” as a foam wedge for positioning to something as “high tech” as a power wheelchair for independent mobility. Other examples of AT for young children include items such as switch-operated toys, laminated picture boards, head pointers,

specialized drinking cups, adapted spoons, augmentative and alternative communication (AAC) devices and computers with accessibility features.

Examples of Early Childhood Assistive Technology:

Assistive devices and services can be of great value in providing infants and young children with disabilities opportunities to



Photos provided by the Center on Technology and Disability webinar series 2018



ELLIE HAMILTON, Special Education Consultant/AT Specialist, Great Prairie Area Education Agency. Ellie Hamilton is the AT Specialist for Great Prairie Area Education Agency. She is a licensed special education consultant. She currently provides Assistive Technology support to early childhood, preschool, and district teams within the Great Prairie Area Education Agency in Iowa. She received her B.A. & M.A.Ed from the University of Northern Iowa. As well as, completing a graduate certificate in Autism Spectrum Disorders from the University of St. Thomas. She currently serves on the Iowa Department of Education Preschool Specially Designed Instruction team and on the Iowa State Assistive Technology Leadership Team. She is passionate about AT, AAC, and inclusion for children who are differently-abled. She lives in southern Iowa with her husband & two sons.

learn and interact with their environment in ways that might not otherwise be possible. (Early Childhood Technical Assistance Center University of North Carolina)

The benefits of AT as described by the Early Childhood Technical Assistance Center are:

- Children can participate more actively in the family, school and community activities
- Play successfully with toys and other children
- Communicate his or her needs and ideas
- Make choices
- Move independently.

Our youngest children are in need of and can benefit from AT. Assistive Technology tools can support relationships with caregivers. [Zero to Three's](#) mission is to ensure that all babies and toddlers have a strong start in life. They provide resources about parenting, early learning, development and advocacy. Zero to Three describes the first three years of life as period of incredible growth in all areas of baby's development. Zero to three states that the earliest relationships with caregivers can promote healthy brain development. Our youngest children are in need of and can benefit from AT. Assistive Technology tools can support relationships with caregivers.

Zero to Three's age-based tip sheets can be used to consider AT for our young children. For example, if developmentally the child could be turning the pages of a book page fluffers could be added to support the child in accessing a book. If the child could be using one to two words and isn't yet, a voice output device could be implemented to support language.

Example of a page fluffer from letsparticipate.org shown in **image 1 and image 2**



Image 1: Page Fluffers created with one use contact lens cases



Image 2: Page fluffers created with pom poms.

Age-based Tips from Zero to Three

- [Birth to 3 Months](#)
- [3 to 6 Months](#)
- [6 to 9 Months](#)
- [9 to 12 Months](#)
- [12 to 15 Months](#)
- [15 to 18 Months](#)
- [18 to 24 Months](#)
- [24 to 30 Months](#)
- [30 to 36 Months](#)

Assistive technology must be considered annually for young students with disabilities and documented. During the child's Individualized Family Service Plan (for ages birth to three) or Individualized Education Plan (for ages three to five) annual meeting AT is considered. The Pacer Center Tikes program has two documents to support consideration and implementation of AT for young children.

[IFSP Flowchart](#) for ages birth to three

[IEP Flowchart](#) for ages three to five

If the Pacer Center Tikes Program flow chart was laminated and on the table at annual meetings, teams could systematically consider AT for every kid, every time. The flow chart has simple language including "yes" and "no" responses with actions to follow. The flow chart describes how to document the decisions and considerations for AT. If a family speaks another language these forms should be created in or translated in the family's language.

[Child-Centered AT Plan IFSP](#) for ages birth to three

Child-Centered AT Plan IEP for ages three to five

Pacer Center Tikes Program's Child-Centered AT Plan aligns with their flow chart. The Child-Centered AT Plan for students ages birth to three lists routines where the child may be experiencing difficulty. The chart allows the team to fill in the environment, daily routine and possible tools to consider. The Child-Centered AT Plan for ages three to five lists educational areas where the child may be experiencing difficulty. The form has similar components to the [Student, Environment, Tasks, and Tools \(SETT\)](#) form created by Joy Zabala. If a family speaks another language the forms should be created in or translated in the family's language.

For a preschool student who is having difficulty communicating verbally during circle time, instead of giving them a communication application that is already loaded on a device in the classroom, the team should look at what the task is the student needs to complete using the SETT or AT Plan documents. If the task is communicating the day's weather, the student could use a single message recordable switch. Teams need to consider the specific task then consider the AT tool. Keeping in mind an AT tool may need to be modified or created.

The [Division for Early Childhood](#) recommended practices are listed below:

E4 Practitioners work with families or other adults to identify each child's needs for **AT** to promote access to and participation in learning experiences.

E5 Practitioners work with families and other adults to acquire or create appropriate **AT** to promote each child's access to and participation in learning experiences.

Pacer Center --The Division for Early Childhood recommended practices are listed below: E4 Practitioners work with families or other adults to identify each child's needs for AT to promote access to and participation in learning experiences. E5 Practitioners work with families and other adults to acquire or create appropriate AT to promote each child's access to and participation in learning experiences.

The [Iowa Early Learning Standards](#) (IELS) serve as a framework for making informed decisions that shape how we care for and educate our youngest citizens in Iowa. The IELS section the role of technology and interactive media (pages 19-20) describes what technology means for families. The National Academy of Pediatrics and the National Association for the Education of Young Children discourage all screen media for children under the age of two years and recommend only two hours per day for children older than two years. (AAP, 2011 ; NAEYC & Fred Rogers Center for Early Learning and Children's Media, 2012)

What this means for families:

- Technology is part of our culture
- Important tool for communication and learning.
- Not a substitute for 1:1 time with family.
- intentional use can support children's development in the areas of: literacy, language, science and mathematics.

- Families should provide opportunities to use tech together.
- Families should protect children from excessive screen time.

The Creative Curriculum Gold is a comprehensive, research-based curriculum that features exploration and discovery as a way of learning, enabling children to develop confidence, creativity and lifelong critical thinking skills. Many of the preschool classrooms in Iowa use the Creative Curriculum Gold. It's designed to help educators at all levels of experience plan and implement a developmentally appropriate, content-rich program for children with diverse backgrounds and skill levels.

The state of Iowa uses a crosswalk document to align and consider the IELS, [DeCoste Writing Protocol](#) and the [Gold Developmental Continuum](#). The DeCoste Writing Protocol compares a child's performance across handwriting and keyboarding tasks to examine writing skills. Using the crosswalk document and the collecting data teams can make decisions for Assistive Technology supports. As Individualized Family Service Plan outcomes and Individualized Education Plan goals are created for our young children these documents can be used to consider AT. See the example below for a 3-4 year old child.

Iowa Early Learning Standard:

Ages: Preschool

11.3 Writing

Children engage in early writing experiences

The child:

1. Attempts to communicate with others using scribbles, shapes, pictures and/or letters in writing
2. Experiments with a variety of writing tools such as pencils, crayons, brushes, and chalk
3. Uses expressive (speaking) language to share intended meaning of drawings and writing
4. Starts to demonstrate interest in learning to write letters, especially the letters in his/her name.

GOLD OBJECTIVE

19 Demonstrates emergent writing skills

a. Writes name

- Controlled linear scribble
- Mock letters or letter-like forms
- Letter strings

b. Writes to convey meaning

- Controlled linear scribbles
- Mock letters or letter-like forms
- Letter strings

DeCoste - The Writing Protocol

- Start to verbally narrate their own stories
- Drawing linear, wavy and circular lines that represent "writing" or letter like forms



- The letter-like scribbles or letter imitations are used to convey meaning
- Children begin to demonstrate a clear understanding of the function of text
- Children make marks on paper to express ideas

If the three- to four-year old child is not yet achieving these standards and objectives then AT should be considered. The team can use the [IEP Flowchart](#), [SETT form](#) or [AT Plan](#) to begin to consider AT for the child.

Assistive Technology needs to be thoroughly considered. The team needs to look at the tasks the student is having difficulty with before tools are tried. If the classroom has access to an application or device that does not mean it's the appropriate tool for the student. Using the SETT or AT Plan, the team can record the student's environment, routine or activity, and possible tools.

Often, tools may need to be created or borrowed and may not be readily available within the classroom. Iowa has an Area Education Agency statewide system. The state of Iowa has nine Area Education Agencies. Each Area Education Agency has a lending library of AT devices. Our state and Area Education Agencies collaborate with [ICATER Iowa Center for Assistive Technology Education and Research](#) through the University of Iowa. [Easter Seals](#) is another location where Assistive Technology devices and tools can be borrowed. To find out more information about what your state offers: [Click here](#)

Assistive Technology must be considered for each child every time during annual meetings. In Iowa, for birth to three (part C) children AT is written into the family outcomes on the Individualized Family Service Plan (IFSP). For three- to five-year olds part B students, the IEP has an AT checkbox on tab B and then the items including services and trainings are documented on tab F of the child's Individualized Education Plan (IEP). The team includes: parents, teachers including daycare providers, occupational therapist, physical therapist, speech and language pathologist, advocate, AT specialist or AT team member and administrators. The team may include other experts in the area of the child's disability for example an orientation and mobility specialist. The team could include therapists or providers from the school and other settings. For the needs that are identified on the SETT or AT plan the team needs to include the experts in that area. For the preschool communication example, a speech and language pathologist should be part of the meeting to share expertise in the area of speech and language.

WHAT ARE ACCOMMODATIONS?

Accommodations allow a student to complete the same assignment, test, or activity as other students, but with a change in timing, formatting, setting, scheduling or presentation. The material is the same, but a student learns the material in a different way. DEC/NAEYC. (2009)

WHAT ARE MODIFICATIONS?

Modifications adjust an assignment, test or activity in a way that changes the standard or alters the original measurement. Modifications change what a student is taught or expected to learn.

©2016, PACER Center, Inc. | STC-37 [Link to Handout](#)

Examples from [Pacer Center](#):

Activity: Say "Hello friends" or "How are you?" during morning routine or meeting

Accommodation: Allowed extra time to greet peers

Modification: Wave to peers

Assistive technology: Use speech output device to greet peers

Activity: Sign-in by writing name on a whiteboard upon entering the classroom

Accommodation: Provide a larger whiteboard so there is more room to write

Modification: Write only the first letter of the name

Assistive technology: Use letter cards to "build" the name instead of writing it

Activity: Remain seated during snack time

Accommodation: Sit at a smaller table with just a few peers to minimize distractions

Modification: Stand at the table while eating snack

Assistive technology: Use a weighted lap blanket or "wobble seat" while sitting at the table.

Under [IDEA](#), AT can be used as an accommodation for students with disabilities. AT is defined as, "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified or customized, that is used to increase, maintain or improve functional capabilities of a child with a disability."

ASSISTIVE TECHNOLOGY TOOLS TO CONSIDER

This is not an exhaustive list of AT items for young children. I do not have a personal financial relationship with any of the companies, authors, manufacturers or publishers of the items listed below.

[WATI/Wisconsin Assistive Technology Initiative](#)

Wisconsin Assistive Technology Initiative received a grant from the Wisconsin Department of Health & Family Services to provide birth to three agencies with seven literacy kits.

Example of one of the literacy kits:

London Bridge

[Book](#)

[Board](#)

[General Book reading board](#)



Photos provided by the Center on Technology and Disability webinar series 2018

[Letter to Parents](#)

[How to use Communication Boards](#)

LAUNDRY BASKET IDEAS:

- Access to play
- Bathtime (with supervision ALWAYS)
- Stander for young toddler (flip it over and child leans on the top)
- Attach sensory items for play

CENTER ON TECHNOLOGY AND DISABILITY

[Customizing AT Support for B-3 Resource Sheet](#)

[DIY Slant board](#)

Broken Crayon idea

If you do not have access to a pencil grip. Use broken crayons for writing tasks. This can help improve grasp.

Upsee Mobility Device \$535

fireflyfriends.com/us/upsee



Upsee Mobility Device: fireflyfriends.com/us/upsee



A Guide for Increasing Young Children's Participation in Daily Activities and Routines



PACER Center's EZ AT Booklet:

[PACER Center's EZ AT Booklet](#)

[DEC Recommended Practices](#)



E6 Practitioners create environments that provide opportunities for movement and regular activity to maintain or improve fitness, wellness, and development across domains.

Physical Activity Apps

Iron kids (Developed by AAP) The app centers around nine exercises that involve the lower body, upper body and core. Videos are included to help your kids understand how they can do the exercises and how those exercises benefit them. \$2.99

Strava application that allows you to map your walks, bike rides and hikes and time each journey, so you can show your children how much they've accomplished in a certain scope of time. Free

Fitness Kids is an application designed by experts in the fields of pedagogy, physical education and health. Packed with interesting exercises for children between the ages of six and eight, this app teaches children each movement through the use of colorful, engaging videos. \$2.99

Super Stretch Yoga HD your child can start trying out poses modeled by children of their own age, letting them stretch out their limbs and show off their skills. The application includes a total of twelve different yoga poses for your child to perfect, each with its own description and accompanying video. Free

The **AAP** also recommends reducing sedentary behaviors. One way to achieve this is to have fewer TV sets in the home and to remove the TV and other media from the bedroom and the kitchen. Children who sleep less than nine hours a night are more likely to be overweight or obese; focusing on bedtime, and understanding how much sleep children need at various ages can help improve a child's overall health and well-being.

tarheelreader.org

Read books

Write your own book or social story

Use the built-in accessibility features to hear the text read aloud or change the background color.

Center on the Social and Emotional Foundations for Early Learning (CSEFEL)

- [Practical Strategies](#)
- [Solutions Toolkit](#)
- [Super Friend Social Story](#)

Social Narratives

[Carol Gray Sample Social Stories](#)

[Book Creator One](#) Free version and Pro version \$4.99



Use a rubber band for a child to leave the classroom in a power wheelchair independently.



DYI Safe walking shoes - www.ctdinstitute.org/

Access to the classroom

Use a rubber band for a child to leave the classroom in a power wheelchair independently.

www.ctdinstitute.org

DIY Safe walking shoes

Materials:

- Slippers or soft shoes
- Hot glue for skid-proof, grip bottoms

<http://www.ctdinstitute.org/>

Communication

Communication

Core word board example

High Contrast Core word Board

Direct Select ABC light tech board

Qwerty light tech board

Stay Play & Talk

Instruction planning worksheet
vanderbilt.edu

Typically developing peers are taught three component skills:

(a) stay near their partner

(b) engage with the partner

(c) talk with the partner by commenting on the play activities, and responding to their partners communicative efforts.



Stay Play & Talk: [Instruction planning worksheet](http://www.vanderbilt.edu) and [vanderbilt.edu](http://www.vanderbilt.edu)

Photo from Vanderbilt site



Dr. Willkomm's iPad stand: the iLean Atprogramnews.com

Visual Schedules

www.ocali.org

Example Board

Blank Printable Board

Dr. Willkomm's iPad stand: the iLean

Atprogramnews.com

5 Point Feeling Scale

Created by Kari Dunn-Buron a Minnesota teacher

www.5pointscale.com

Ring Around Bells by Enabling Devices

\$249.95

Choice Boards

www.ocali.org

Food 6 Panel Board

Activities 3 Panel Board

Sensory Bags

www.ctdinstitute.org

DIY

- Use Gel and colored tape
- Two Ziplock bags

Add items or colors of interest

Red & Green Choices

www.redandgreenchoices.com

Positive Behavioral Strategy

Created for Autism can be used with any child

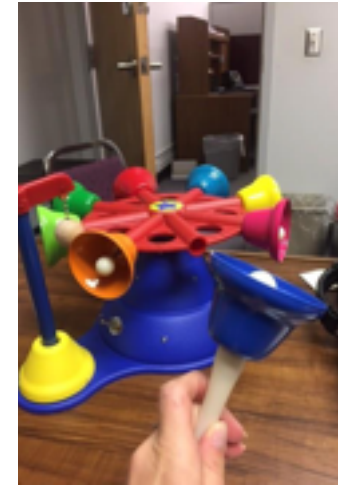
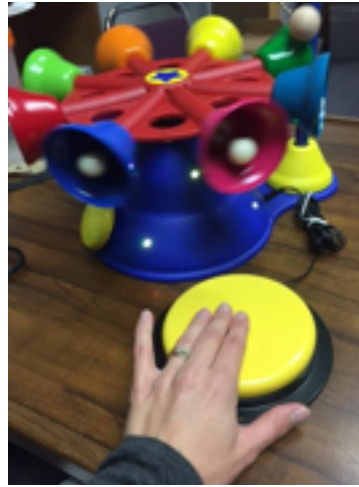
Free printables



BACK TO
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CHECK IN

5	
4	
3	
2	
1	



5 Point Feeling Scale
 Created by Kari Dunn-Buron a Minnesota teacher
www.5pointscale.com

Ring Around Bells by Enabling Devices \$249.95



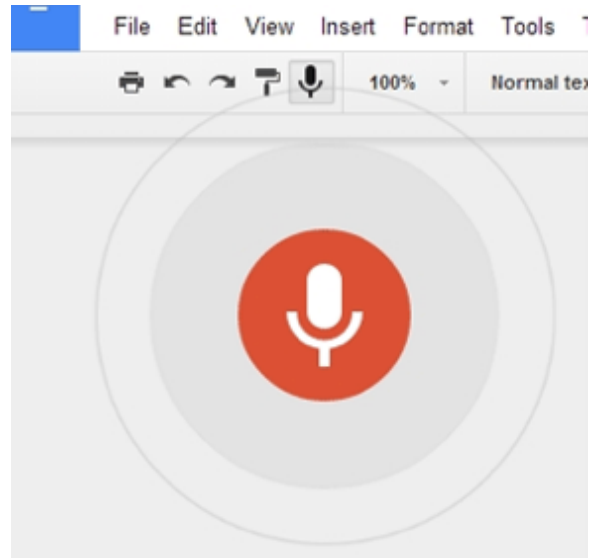
Sensory Bags: www.ctdinstitute.org - DIY, Use Gel and colored tape, and Two Ziplock bags. Add items or colors of interest



Waterproof Communication Board
 bath time, water play, or swimming!



Tiggly: https://www.youtube.com/watch?v=e30_i8rXyWk
tiggly.com



Voice Typing: Free accessibility feature on Google Docs



LED Color Changing Glow Balls

LED Color Changing Glow Balls

Ideas for use:

For students with visual impairments:

- Gaining visual attention
- Visual tracking of objects
- Eye-hand reaching

For all students:

Motor tasks for example: throwing, grasping, and rolling.

Turn taking practicing back and forth reciprocal play

- Colors
- Counting
- Joint attention

[Enabling Devices](#)

Power Cards Created by Elise Gagnon

[Ocali.org](#)

[Dolphin example](#)

[T-Rex example](#)

[Template](#)



Light Tech Communication Board:

<https://www.youtube.com/watch?v=oUFS3MGgt8Q>

Waterproof Communication Board

bath time, water play, or swimming!

- Waterproof, sealed kickboard, kneelpad
- gallon zip bag, tape
- pictures, photos, drawings

[Pacer's EZ AT Booklet](#)

Tiggly

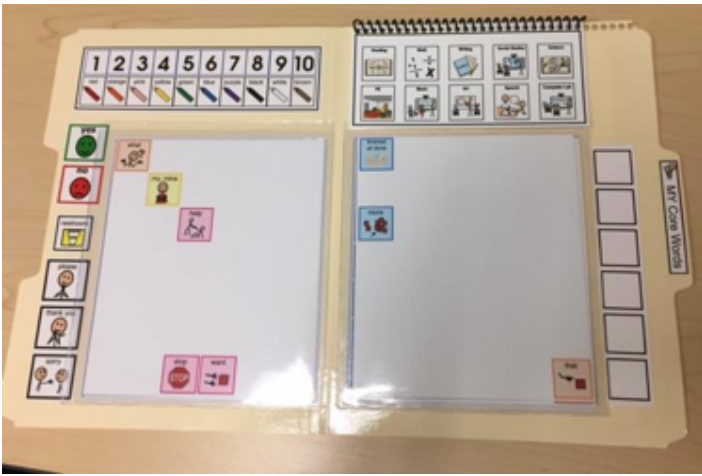
[Video](#)

Manipulative magnets for ipads

This could be used for students who have difficulty swiping or selecting.

www.tiggly.com





CVES Pre-made Core boards - [LINK](#)
[Click here for video](#)

Clips Free IOS App

Make Short videos
 Could be used for video modeling
 Add text, graphics and more!
www.apple.com/clips

Voice Typing

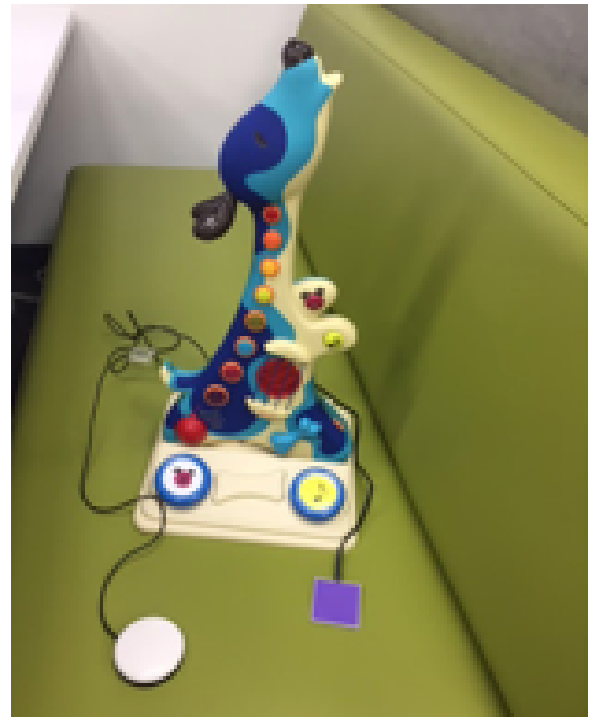
Free accessibility feature on Google Docs
 Click Tools
 Voice Typing
 Ideas for Preschool writing: Wish lists, letters, journal entries, retelling stories and more.
[Voice Typing](#)



Cara's Kit: \$25.00 [Let's Participate Link](#)



Page Fluffers and Page Turners



B Woofer Guitar

Light Tech Communication Board

[Project Core](#)

[PDF Link](#)

[Video](#)

CVES Pre-made Core boards

[Link](#)

[Video](#)

Timers!

[Free online timer](#)

[One Click Timer](#) (only on Chrome Browser)

[Time timer IOS App](#) \$2.99

[Clock App on Ipad & Iphone](#)

You can use the clock app on your iphone or ipad to go to the lock screen when the timer goes off. When you set the timer. Instead of selecting a sound scroll down to stop playing.

IFTT- If This Then That

Applets for 500 + services

[Circle](#) (\$99.00) manages content and time online

If it is sunny outside, then pause the internet. (on children's devices/TV)

B Woofer Guitar

\$132.95 with built-in switches and two switch ports to support positioning switches

Tantrums & Language

www.behaviordocor.org

*Most two-year old tantrums occur not because of the terrible twos, but due to the fact that the child's brain is further along than their language abilities.

- Create pictures of items the two-year old may want
- Laminate and attached to childproof magnets
- Stick on refrigerator at child's level
- TEACH how to take picture to parent(s)/provider(s)
- The child learns to get what they want without tantruming

[LearntheSignsFreeApp](#)

Center for Disease Control & Prevention

[Google Play Link](#)

[IOS App](#)

Track your child's development using checklists

Tips to support development

Designed for ages two months to five years old

Page Fluffers and Page Turners

Letsparticipate.org

REFERENCES

Aacintervention.com
<http://afirm.fpg.unc.edu/>
www.aap.org
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Carolgraysocialstories.com
csefel.vanderbilt.edu/https://vkc.mc.vanderbilt.edu/ebip/stay-play-talk-procedures/
www.ctdinstitute.org
www.dec-sped.org/
<http://donjohnston.com/portfolio-item/decoste-writing-protocol-2/>
Gold.teachingstrategies.com
Ectacenter.org
www.educateiowa.gov
Enablingdevices.com
<http://headstartinclusion.org/teacher-tools#visual>
www.joyzabala.com
www.letsparticipate.org
www.nationalautismresources.com
www.ocali.org
www.pacer.org
<http://practicalaac.org>
www.5pointscale.com
www.redandgreenchoices.com
<https://sites.ed.gov/idea/>
Tarheelreader.org
www.tiggly.com
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The Art of Letting Go:

LD and ASD Students Guide to Transition

So, you're off to start the next chapter in your life. You're going to a school, college or a program away from your home and your family, possibly for the first time in your life. In your heart you know that you are ready for this change, but naturally you are filled with mixed emotions.

Your parents have done much to advocate for you. They have provided you with a safe and loving environment in which you could grow. You have depended on them for many things that you will now have to do for yourself (food, shelter, clothing, budgeting and transportation, just to name a few). You may still depend on them in ways that other college students are more independent (such as emotional support, decision making and advocacy).

BREAKING THE DEPENDENCY

How do you break this dependency on them? How do you build interdependent relationships with others in order to

accomplish your goals? How do you deal with loneliness and isolation at college? How do you deal with the feelings you have about leaving home? Can you take the steps to write your feelings down? How about sitting down with your family members to share these new feelings with them? There can also be other people in your life with whom you can share, and that conversation will help you realize they go through these same feelings of separation. This is a big change, but not everything in your life will change of course.

CHANGING RELATIONSHIPS

What will change for you? The amount of time that you spend with your family members or your other friends at home will change. Your family and friends will still be there for you, you'll see. They will want to hear about any new people you choose to meet. They will be interested to learn about the classes you have cho-

sen to take. Perhaps, there are some other activities that interest you like sports or theatre that you can tell them about. Those conversations are important and will make a real difference in staying connected with your family.

This is an opportunity to create a different kind of relationship with your family, a relationship that will be long lasting and meaningful to all of you. Your family may go through "withdrawal" when getting used to not making decisions for you. If you do not rely on them, then whom do you rely on? It's important to find mentors who have good values that you can rely on for advice when you have questions about what to do.

HOW MUCH COMMUNICATION IS ENOUGH?

Remember to trust in yourself and your ability to make decisions, but do not be afraid to ask for advice from mentors, advisors, resident assistants (RAs), etc.



MICHAEL MCMANMON, Ed.D. founded the [College Internship Program \(CIP\)](#) in 1984. He received a B.A. in English from Mt. St. Mary's College in Maryland, a Masters in Counseling from Shippensburg University, a Masters in Human Development from the University of Kansas (through a grant from the National Institute of Mental Health), and a Doctorate in Special Education from the University of Nevada.

He is licensed as a Psychologist by the State of Massachusetts. Prior to Founding CIP, he worked for state, private and non-profit organizations in several states and was certified as a family teacher through the Boys Town Center in Nebraska.

During his over 40 years of experience with students with Learning Differences and Asperger's Syndrome, Dr. McManmon has worked on Curriculum Development, Staff Training, Program Evaluation, and Administering Community Based Programming. He speaks and presents at professional conferences nationally and internationally.

He has a unique perspective as he himself was diagnosed with Asperger's syndrome and grew up in a large family with several individuals on the spectrum. He has six children and 17 grandchildren, and is an avid artist, swimmer, gardener and traveler.

Dr. McManmon has books published by Jessica Kingsley Publishers: [Autism and LD: An Active Learning Teaching Toolkit](#) (2015), and ["Made for Good Purpose"](#) (2012). He is on the board of [Asperger Syndrome Training & Employment Partnership \(ASTEP\)](#), [US Autism & Asperger's Association \(USAAA\)](#), and a member of [Autism Society of America \(ASA\)](#), [Asperger's Association of New England \(AANE\)](#), [National Association of College Admissions Counseling \(NACAC\)](#), and [Learning Disabilities of America \(LDA\)](#). He also has his new job readiness workbook entitled *Mploy?* Website: cipworldwide.org/mploy-workbook



Students practice residential skills doing laundry at a local laundromat.

You wouldn't be at school if your family thought you couldn't make decisions away from them. When you do contact your family, remember to ask about their activities also. It's a good way to stay connected to your family and they would like support from you also. Just to know that you are interested in their activities will mean a lot to them.

It will also send them the message that they can back off and let you have your own life. If you don't communicate enough with them, they may constantly hover over you to make sure you are okay. They have done a lot for you your whole life, and leaving home can be just as hard for them as it is for you.

If you are the overly-dependent type, see what it would feel like for you to not contact them as much as you might be tempted to do. See if those feelings go in a different direction than you've experienced before. Is there a feeling of independence and growth for you? Is that a positive feeling? Do you now trust yourself with your decision making ability more than before? These are helpful questions to ask yourself. Know that when you do communicate with your family, that

they will be there for you and interested in you and what you are doing.

If you are calling or emailing your parents several times a day, you will not form relationships with your peers at college and your social development will suffer.

If your parents are doing this to you, you will have to be clear and advocate with them not to do this. It may help if you tell them that you will be in touch at certain times, once or twice a week.

As you become more aware of the decisions you are making everyday for yourself, you might encounter some situations where you feel the need for additional support. You might remember from interacting with savvy grownups that the ones who have positive relationships in their lives seek assistance from others. The President has a cabinet and numerous advisors to consult with on decisions. As a student, you need to know how to ask for help or guidance from those around you who are qualified to give it to you.

USING THE SUPPORTS YOU NEED

You continue to realize that yes, your family will be here for you, but this time you want to approach different kinds of

support. These various kinds of supports specialize in working with students on your campus. They are free and available to all students:

- Learning disability supports such as tutors, un-timed and additional time testing, note-takers and academic advising

- Counseling services
- Internship or Employment services

- Medical Services
- Nutritional Services
- Counseling.

Since you're already paying for these services, do not be afraid to use them. If you're too proud or think that you can handle everything yourself, you may end up suffering the consequences. Realistic consequences include getting your parents involved again in "running your life," academic probation or worst case having to leave college.

THE STEEL UMBILICAL CORD

Your parents have had to take a more involved role with you than most parents do. They have been involved in advocating for you with school officials and teachers. They have acted like social workers and activity directors for you all along the way. It's almost like there is a "Steel Umbilical Cord" between you and your parents. This has to be cut from both sides (both you and them) and you have to use a diamond blade!

They've had more to say about your life than the average student's parents. Until this point, this has been beneficial to you. After high school this type of dependency actually has a negative effect and will hinder your progress and stifle your personal growth. Depending too much on a parent, even just for emotional support, can be damaging to your development.

You may have developed a very close relationship with one of your parents and it almost feels like it is "symbiotic" (like you have the same thoughts or mind). This relationship will take some time to alter into a healthier one. They may hold on and want to direct your life on a daily

basis. Now you will have to take this role over for yourself.

You can help yourself make the break from your parents by seeking assistance from others available to you at the college and using mentors that you advocate for yourself. This process of “individuation” is vital for you to feel like you have control over your life and can make decisions for yourself. Just keep in mind that you cannot go “cold turkey” from your parents. You need to surround yourself with other advisors and pro-social mentors who can provide you with the feedback and guidance to make really good decisions for yourself.

USING THE DONKEY RULE

The Donkey Rule is a simple rule which can help you to make good decisions for yourself and separate from your family in a healthy manner. If you have a decision to make then you can take a poll of four or five people you respect and know will steer you right (you may want to use one of your parents or siblings depending on the type of decision you are making). The poll will indicate to you what other people you respect think you should do. Basically, if five people think it is a donkey and you are still thinking it is a horse, then you should probably just do what they say to be successful.

The critical element here is having good, honest social mentors and advisors whom you trust to ask the questions to, so that you can trust the opinions they give you. Sometimes there is a lot of rigidity associated with Asperger’s and nonverbal communication disorder and we often try to “go it alone” in decision making, and get ourselves in lots of problem situations. Using the Donkey Rule can assist us in making good decisions for ourselves.

ALL QUESTIONS AND ANSWERS ARE INTELLIGENT

You may have been a quiet intelligent student who had difficulty speaking up for yourself. You may have gotten by because people knew you at school or teachers advocated for you. Your parents



CIP interns learn to mix and measure ingredients in a chemical lab.

may have felt the need to speak up for you to answer questions. You may have become comfortable with this and have formed a dependency of sorts.

You may be fearful of asking a question or answering one due to past mistakes or a fear of not having the right answer. Maybe you have a need to be precise or perfect and can hardly tolerate partial correctness. This can be a feature of your learning difference that you will have to learn to deal with to be successful.

Asking or answering any question leads you closer to the correct answer and thus makes you smarter in the end.

Edison did not succeed at making the light bulb the first time. He had to ask and answer many questions until he could figure out the right combination of materials to have it work. There are no mistakes, just approximations to the right answer.

Each question you ask, will get you closer to an understanding of the solution and each answer you try to give, you will do the same. Everything in life is a question and answer game and a conversation. If you want to move forward you need to get comfortable with participating in it.

Students can be successful if they have the willingness to ask questions to professors or other students and if they have the willingness to go to an advisor and tutor and talk to them and figure it all out. This

is the single most important thing that you need to learn to do to be successful in college and in life thereafter.

RESIDENTIAL LIFE

You probably have met your resident advisor when you first moved into the dorm or you most likely have an academic advisor that would like to hear from you. There is also the health center on campus that has counselors for any student interested in speaking with someone professionally trained and then there is always the school chaplain to talk with, for students from any religion.

Any of these choices are available to you at school and although they are not your family, you will find that they can offer you a special kind of support that will apply to your specific school experiences. This will be part of the process for your problem solving skills that you are learning to develop all the time as you live away from your family. You are learning to take responsibility for your own needs but, at the same time understanding that there are supportive people in your life.

Balancing Nutrition, Sleep and Exercise

The foods you have to eat, the amount of sleep you get nightly and the clothes you choose daily may all seem repetitive. But you’re making those choices and decisions on your own. Remember to look and feel your best through healthy food



choices and grooming habits. Eating a good variety of foods and mixing in vegetables and fruits with good proteins will help you to stay alert and keep you from getting overweight.

Be mindful of showering daily and changing your clothing as your roommate may not appreciate a lot of odor coming from your side of the room. Also, if your dirty laundry accumulates, it will also cause a stench that may be offensive to your roommate. Your mom may have been the one who did all of this for you at home and now you will need to do this for yourself. You have the power to determine how you take care of your body, but remember to smell good and look good so that others will want to be around you.

Remember that others around you might be making other choices that do not seem right for you. You know how you feel if you don't get enough sleep or if you eat too much sugar or junk food. Treating your body well is the most important tool you have to help you to do well in all the other areas. By going for a walk with friends or by taking a swim in the campus pool will also help your mind function more clearly. These are all choices that you as an individual have to make.

Regulating your emotions by having good physical outlets will lessen your stress (anything from taking a jog to a game of pick up basketball). Using the student fitness center to work out a couple times a week can improve your adjustment and ability to concentrate on your studies. You may also find some friends to hang out with. You will come to recognize when you make the right choices for yourself, you will continue to develop those skills for ultimately needed for independent living. Remember to share the ways in which you are making those choices with your family. They will be eager and interested to hear about your new sense of independence and it will help foster new growth and communication for you and your family.



CIP students deliver a presentation at the CIP Berkshire Convocation ceremony.

GETTING THE LAY OF THE LAND AND BEING SAFE

The school campus is generally a safe place to explore but, using smart ways to navigate through these new places and experiences will make for smoother sailing. The campus is a smaller version of the larger world around us all. On campus safety concerns are an excellent practice for those lifetime skills of awareness and decision making. You may have heard

this before from your family or from other people who care about you, but don't stop reading just because it sounds familiar.

Your new surroundings make it necessary for you to use some familiar skills and to also introduce some new ones. Getting a campus map and taking a walk or a hike is a wonderful way to get some outdoor time and exercise at the same time as familiarizing yourself with the physical

plant. Please keep in mind that venturing out into unknown, isolated places by yourself is not always the wisest of practices. By asking a friend to join you there is always strength in numbers and it's a good opportunity to share an adventure with a friend who may have similar interests.

There are also indoor places on campus that can sometimes be considered somewhat isolated like student lounges at night, where in the day they might be bustling with activity or the lower levels in the building where sometimes the laundry is located. Why not consider doing laundry as a group activity and plan ahead for it with some people who live on the same dorm floor as you? If you have to walk between buildings that are more than a ten minute walk or so at night, consider asking a friend or fellow classmate to walk together, especially if they are in your class or going in your direction. Always keep your cell phone charged and bring it with you when you go out. It is a good idea to program emergency numbers in it as well.

There are other kinds of awareness skills that you can build and apply for your own safety both on campus and off, wherever you live. When you leave, a locked door is safer than an unlocked

door. Do not invite unwanted people into your dorm room when you are not there. You also house some important and valuable items in your room that might be of interest to others without your noticing. For example, leaving your laptop on your desk while going down the hallway might be a reason to lock your door. You will have to get to know the dorm environment in which you live. Remember to also trust your own inner guide that will help you to determine the best practices you choose to follow. You cannot trust everyone with your personal belongings and they need to prove their honesty to you over time.

COMMUNITY INVOLVEMENT

In many cases, your parents were your activities director and have prodded you to join a certain organization in high school or in the community. Now you have to find your own way and you must develop the willingness to try new things and make new choices. Developing choices that will help you to feel in charge of your own life will come when you use your skills to enhance your community involvement.

When you become involved in activities on campus that include other people who share your own special interests,

you will find a sense of belonging to the bigger picture. Try to find something on campus for yourself that matches an interest of yours or something that you've been interested in learning more about. By joining something you automatically become a part of a larger group. This experience will last a lifetime because you will know that wherever you go there will be similar organizations and people who are attracted to the same things that you.

Open yourself to the world by choosing something that has meaning and interest to you. You will learn to do your academic work and stay involved with your interest as well. You may have been told that you are really good at something or your family has praised you for a certain talent, but this is the time for you to expand your horizons and try new areas that you think you may like. Don't be afraid to try something new, you will not lose your other special interests, but you may become more open to the world and all it has to offer.

Share with your family your new interests and that you have joined this new activity. Speak with them in a positive sounding way to let them know that you can in fact get your academic work done and be active in this new activity at the same time. Be careful to not get caught up in your new activity/friendship so much that you do not spend adequate time on your studies. You want your family to be supportive about your having joined this group or have this new friendship and they need to hear it from you that you can balance doing both.

We all have different ways of balancing work and other activities in our lives. This is a good place for you to begin because there is a built in support team for you on campus. Try to remain kind and patient with yourself as you find your way through these new experiences. All of us stumble and fall through these new waters. We all just need to keep on swimming even when the current gets a little choppy.

As you start to become involved in activities besides your academic classes,



Students perform cake cutting duties during a convocation ceremony at CIP Long Beach.

you will notice your feelings of belonging to your school become stronger. You will naturally look forward to making a difference in small ways when you contribute to the group, sport or organization you have chosen for yourself. Look for notices on bulletin boards around campus for opportunities, talk with your resident advisor or perhaps look on the school website where there will be listings.

There will be other choices for you to make and you can take your time deciding in which direction you will turn. Communication will be one of the most important areas for you to practice and to use everyday. Making those contacts with mentors, advisors, etc., for your communication needs will be important to keep balance and be successful. Using the skills that you have learned will help you to find your way in new situations.

RELATIONSHIPS

Some of us find this a lot harder than others. A lot of us had little or no experience in high school with relationships. We may have had some experiences with dates set up by our parents or a friend down the street to have over once in a while. Or, at the other extreme we got desperate and hooked up with the wrong crowd to be accepted. Generally group activities are safer for starters. Inviting someone to go to the football game with you or study at the library may be a good start.

If you have been sheltered at home, you may feel the need to make up for lost time. Be careful not to get absorbed in someone's attention and over commit without taking the steps in building an honest relationship. Heed the warnings you have heard from your family—go slow! At the same time, do not isolate and be afraid (even if rejected several times). Keep reaching out. The best relationships seem to develop from friendships built around common interests that you share. Do some community service that you care about and meet friends there. Most of all, be yourself and do not be ashamed of who you are. Remember: the genuine



Mastering cooking skills during a CIP residential module.

evokes the genuine. You will attract to you, someone who is similar to you.

There are now several really good books out which can be very helpful in understanding how your learning differences interact in the process of trying to form intimate relationships. The Asperger Love Guide, written by Genevieve Edmonds and Dean Worten can be very helpful.

DEALING WITH ALCOHOL AND DRUGS

One area that will need your particular attention will be where alcohol or drugs may present themselves in new situations at school. You will need to use your built in radar to detect the best way for you to stay healthy, alert and safe. Remember that what is a good and smart choice for you may not be the next person's choice. If it feels uncomfortable to you, leave the situation. You can always follow up with a conversation with one of the advisors or counselors that you have already connected with on campus. Making those connections early on in school life will lay the foundation at a later time when you might really need someone to talk with about a particular experience that you have had. There are other choices for your safety that will remain important and helpful to you all along the way.

TOLERANCE AND DIVERSITY

Whether you have a roommate or not, your new school environment will be filled with people who are your age. You will be living in a community where more people are students than not. That will be the basis for sharing things in common, but there will also be many differences that you will come to recognize and hopefully appreciate and embrace. There are many opportunities to learn about the larger world by taking the time to find those differences and nurture those interests around them. Students from other countries may feel far from home and just a question about their homeland may strike a friendly conversation there.

You might be in a class where the discussion turns to religion. You might be surprised to find that there are students who practice different religions from your own. Or that you have never practiced a religion and that you have a new interest in the subject. Accepting others views on religion does not diminish our own values or beliefs. With today's various political viewpoints, you are sure to come across students who are on the other end of the spectrum politically from one another. Don't be afraid to express your viewpoint, just make sure that you give the other person the time that they need to express theirs too. Varying perspectives on a range of topics can make for eye opening

experiences and lead to consensus and growth.

This is your time to recognize and embrace diversity. The more able you are to become a tolerant person the more people's differences will become acceptable to you in a peaceful way. This acceptance and tolerance is also called growth. Your willingness and ability to accept tolerance will become a lifetime practice for your own evolution as an individual.

HANDLING YOUR OWN FINANCES

You've had some experience with money matters, but this may be your first time handling money on a daily basis. Before you go off to school suggest to your parents that you sit down with them to get an understanding of what your budget will be. Work with them to create a budget plan for yourself, so you can be a part of that initial step. See if there is something that you can offer to pay for like your books or food for nights out with friends. When you take the step to be a part of your own finances, you will gain an understanding of how making your own decisions will impact your life in a positive way. This can also be a gradual process that will occur throughout the year.

If you have your own credit card, it may be the time to discuss with your parents how placing limits will work for all of you. Don't wait to have that conversation when you have already used the credit card too much. You may also receive applications for you to apply for other credit cards in the mail. Credit cards companies sometimes prey on students. Do not go ahead and apply for new credit cards without first checking with your parents. Nowadays there seems to be ATM machines at every corner. If you have relied on the use of ATM machines in the past, remember that you now have a firm budget. Use the ATM with discretion and try to hold out as long as you can before you return there for more funds. Using this machine can quickly become a habit, like anything else. Except here, you are the one to control your visits to the machine. See if you can only go once a week and stick to your

plan, just remember to be realistic and don't place unrealistic expectations upon yourself.

Once you have established a comfortable level of financial stability for yourself it might also be helpful to see how you can become more effective in your own role. Is there an office on campus where you can get information on financial aid or scholarships? Once you have the information, this may become part of a future plan for another semester. Share the research you have done in this area with your parents They will no doubt be surprised and happy that you took the initiative to lay the groundwork for this financial piece in your own life. Money matters at school are filled with steps along the way to prepare you for the inevitable role that money will play in your adult life.

HANDLING SCHOOL BREAKS

Once you are settled at school and you have gained a sense of independence, vacation time will be right around the corner. Your return home during vacation will be filled with the prospect of combining the new vision of yourself with being under your parents' roof again. At school you have become accustomed to making

decisions without the approval of your parents. You have also developed a different schedule for yourself based upon the classes that you take and how you spend your free time with your friends.

Once you are back at home, your parents will most likely expect you to revert back to some of your old behaviors and schedules. The most helpful thing that you can do is to ask them to meet with you and talk about their expectations and your own. Both parties need to be sensitive to each other's point of view without getting discouraged. All of this is new terrain to navigate and both of you are coming at it from different vantage points.

Explain to your parents how you hope to be treated by them. Let them know that they need to trust the decisions that you make especially when you are at home now. Let them know that if a concern arises that you are capable of sitting down with them to address the situation. Don't wait for the inevitable to arise either. Make a list of the possible scenarios that could develop between you and your parents, such as coming home later than they want you to or spending too much time with your friends or having different food preferences than you did before you



Student works as an office assistance learning pre-employment skills.

went to school. Let them know that you have thought about possible solutions to these repeat episodes.

Your parents need to be treated with respect and kindness, after all they were the ones that helped make it possible for you to go to school in the first place. You may recognize that you have grown and evolved and they seem to have stayed the same. Well guess what, nothing stays the same, life is always about change. You just need to take the time to see the changes in your parents as well. Perhaps even comment about some of the more positive changes you see in them, even if you have to finesse the situation a bit.

The more communication you have with your parents the more you'll end up on the same wavelength together. The more space you put in between "you and them," the more it will end up looking like "you and them" rather than a family. Take the time to let your parents know how much you've grown but, that you still need them. Actually you need each other and always will, just in different ways that have never before presented themselves to either of you.

When you return to school after vacation, be prepared to revisit some of the same feelings from when you first came onto campus. In some ways you will feel a sense of familiarity and that will be reassuring like where things are; recognizing people and places; returning to the community activities that you joined; knowing how to budget your finances; remembering the communication you established with your parents and knowing who is available to you for your assistance and the support you may need. Give yourself a chance to resettle back into your school environment and use the resources that you worked hard to develop earlier in the year. ■

Partner Assisted Scanning to Two Switch Step Scanning: Our Experience Working with A Student Who Is Blind, Nonverbal And Has Autism

As special educators, we are adept at adapting and modifying curriculum and customizing annual goals for individual students. We know that one size typically does not fit all. When working with students who have complex communication needs, a team approach is essential. Collaboration with all teachers, specialists, the families and with the individuals is crucial for student success. This is especially true when it comes to working with students with multiple disabilities. Students who have needs in multiple areas such as cognitive, vision, sensory, language and motor need an integrated experience in the classroom environment. It can be difficult for a team to know where to begin and have a "big picture" plan, particularly in the area of assistive technology. Our roles as assistive technology specialists are to help school teams identify and implement assistive technology tools and strategies with students ages 5 to 21 who are experiencing barriers with communication, demonstrating their knowledge, accessing the curriculum and developing skills to be independent adults.

Often school teams request our support for individual students who are struggling to make progress in the school setting despite accommodations and modifications. One team in particular requested our support for a student in the area of communication. We had the pleasure of working with this young man and his school teams from 2012-2017. At the time we began working with him, he did not have a functional communication system. He was experiencing limited success in all areas despite the expertise and extensive effort of all staff members working with him. The team was unsure where to begin in developing a long-range communication plan for him that would impact all areas of learning.

MEET PETER

Peter has a medical diagnosis of Microphthalmia, a developmental disorder of the eye which can cause abnormally small eyes, or as in Peter's case, cause the eyes not to develop. Peter also has a diagnosis of Autism and is nonverbal. We began



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JULIE OSHEROW, M.Ed. has been a special education teacher since 1998 with students with various special needs in both self-contained and inclusive settings. She is currently an Assistive Technology Specialist at Special School District of St. Louis County (SSD), supporting students with assistive technology and providing professional development to staff in the form of workshops and hands-on technology trainings. In addition to her role at SSD, Julie serves as an adjunct faculty member at Webster University, and presents at the local and national level in the field of assistive technology.



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working with his team in 2012 when Peter was nine years old. His method of communication at that time included a consistent and reliable “yes” response with a sign approximation, an inconsistent “no” response (shaking his head), vocalizing when distressed and eight sign approximations that were understood by familiar adults. Peter could also identify tangible objects by touch (e.g. shoe, spoon, fork) from a field of three.

One of Peter’s main strengths is his auditory skills; he can follow one-step directions in the school setting and receptively understand most of the concrete information that is spoken to him. Additionally, staff observed that he often laughed from across the room at jokes they told to one another! Peter could work one-on-one with staff for up to 15 minutes at a time when rewarded with specific food items (e.g. chips, candy, crackers) or the opportunity to jump/spin on his favorite mat in the classroom. Peter is ambulatory and uses a cane with adult assistance to navigate his school environment.

In 2012, Peter’s sign approximations were decreasing. His frustration appeared to be increasing which resulted in frequent behaviors in the classroom including removing his shoes, dropping to the floor, attempting to bang his head on the floor and slapping the table while crying. The team knew that Peter could comprehend and communicate much more than he demonstrated at school. **(See Video 1)**

AT CONSULTATION

In our district, we use the SETT Process (Student, Environment, Tasks, Tools), (Zabala, 1995) to feature match tools and strategies for students. During the consultation, the team indicated that they incorporated objects, tactile symbols and signs throughout Peter’s day. Using real objects with Peter was not always successful due to inconsistent implementation and lack of portability. In addition, the team did not explore expanding objects for other communicative functions beyond requests,



Video 1 - In this video, Peter finishes a work task, earns a food reward, and takes his break on his favorite mat.

https://youtu.be/yvdwz1q_wxl

primarily due to Peter’s behaviors.

The team also attempted sign language as another strategy, which was first introduced to Peter in early childhood. Peter’s sign approximations could be interpreted by familiar staff; however, many signs were not recognized by unfamiliar people.

Peter was making limited progress and the team was unsure what to do next. As a result of the information shared at the AT consultation, we targeted strategies that would involve his area of strength-his auditory channel. Due to his unique skills and abilities, we knew we needed to customize and develop our own teaching and implementation process. Our primary goal was to help build a functional communication system that could grow with Peter over time.

OUR PROCESS

Peter needed a tool/strategy that was easily transportable, required no set up and could be implemented anytime and in any environment. We decided to begin with Partner Assisted Auditory Scanning, which is an augmentative and alternative communication technique used with individuals who are unable to use direct access (e.g. pointing to symbols, pictures or text), or used as a communication system when these are not available. Auditory scanning is a way for communication partners to “assist” students by listing or “scanning” through possible choices until the user hears what he or she wants to say. The user verifies, in some way, his/her choice and it’s selected or acknowledged. This could be a head nod for “yes,” consistent body part movement or consistent vocalization. Partner assisted scanning can be a visual scan, an auditory scan or simultaneous visual and auditory scan. Due to Peter’s blindness, we taught auditory scanning. We chose “Teaching Visual and Auditory Scanning to Individuals Requiring Switch Access for Augmentative Communication and Computer Access” (Bunn, 2007) as our framework. Using this table as a starting point we developed our own hierarchy for Peter. The “big picture” was for Peter to develop the skills to use switch scanning with a dynamic voice output system. There were several levels that we modified to meet his individual needs. **(See Table 1)** We did not know how long it would take Peter to move from one level to the next. As a result, the team met every four-to-six weeks to discuss data, review progress and barriers and adjust our process. We stressed the need for a long-term commitment, patience and flexibility.

LEVEL 1

In level one of the process, team members followed a verbal script to auditorily present three choices. In addition, they began teaching Peter the concept of “something else” if he did not want any of the items presented. We generated this verbal script for the staff to follow consistently. (See Table 1) We trained all staff members and developed expected outcomes for each level. **(See Video 2)**

Peter often chose the first option without waiting to hear all

Our Process for Peter

Levels	Process	Instruction/Notes/Script	Expected Outcome
<p>Level 1</p> <p>The team would teach Partner-Assisted Auditory Scanning with a person's voice. This could be done w/everyone & anything "on the fly" & does not require set up.</p>	<p>First, he would be presented with three choices in the same order each time for structure and predictability.</p> <p>The following order was used: one preferred item one non-preferred item and "something else"</p> <p>"Something else" was to teach him there are more options if item presented was not what he desired.</p>	<p>The team would get his attention; "Peter, I am going to give you 3 choices. Listen carefully to all 3 choices first. Then, after I say them again, Sign YES when you hear the one you want."</p> <p>Hula hoop PAUSE (three seconds) Glue PAUSE (three seconds) Something else</p> <p>"I am going to say the choices again."</p> <p>List the three choices in the same order as before, pausing between each choice.</p> <p>Wait for him to sign YES If he indicates something else then have an additional preferred choices ready to present.</p> <p>If Peter does not indicate anything, start back at the beginning.</p>	<p>Peter would confirm a choice with a consistent yes with at least 3 people, and at least 3 preferred activities</p> <p>The team would meet in 4 weeks to discuss outcomes.</p>
<p>Level 2</p> <p>Same as Level 1</p>	<p>Peter would be presented with four choices presented in the same order each time.</p> <p>The following order was used: two preferred items one non-preferred and "something else"</p>	<p>Same as above</p>	<p>The team will change up activity so that it is not always the same one (i.e.) not always at snack time.</p> <p>Peter would confirm a choice with a consistent yes with at least 3 people, and at least 3 preferred activities</p> <p>The team would meet in 4 weeks to discuss outcomes.</p>
<p>Level 3</p> <p>Same as above by making choices between 2-5 items</p> <p>In addition, the team would begin teaching Peter categories in one-one instruction.</p>	<p>Five choices: (presented in the same order each time):</p> <p>The following order was used : three to four preferred items and "something else"</p> <p>Eliminate non-preferred item</p>	<p>Same as above.</p> <p>While team was adding to the number of choices and following the same script, there were additional times built in to introduce switches and customized switch accessible activities as well as changing verbal scripts and building in times to team category instruction</p>	<p>Confirmation of choices same as above</p> <p>See Stepping Stones to 2 switch Step Scanning for outcomes (Table 2)</p> <p>The team would meet in 4 weeks to discuss outcomes.</p>

Table 1 - (Continues to next page)



<p>Level 4 Move to a dynamic voice output device with switch capabilities and category selection.</p> <p>Note: This is an advanced skill and Peter may be learning in this level for a long period of time.</p>	<p>Using the device-begin scanning categories when choosing desired /specified items in a category.</p>	<p>Remind Peter that this Ipad and switch is new. You are now merging both the verbal scripts, to be spoken through voice output on an Ipad and accessed using a Blue 2 Switch. See photo</p> <p>Let him explore the Ipad with his hands.</p> <p><i>“There are two buttons in front of you. The button on the left is smooth. The button on the right is bumpy,”</i></p> <p><i>“Peter, I am going to give you three choices. To hear the choices, touch the smooth button. When you hear the one you want move your hand to press the bumpy button. ”</i></p> <p>Have Peter’s hand lightly touch the smooth button when you say smooth (do not activate) and slightly touch the bumpy button when you say bumpy.</p> <p>Take Peter’s hand and go through the categories with his hand one time. <i>“When you hear the one you want touch the bumpy button.”</i> Demonstrate and select a category.</p> <p>Take his hand and go through the choices slowly . ex. work, toys, food, something else. <i>When you hear the one you want touch the bumpy button.</i></p> <p>When he touch the bumpy button to indicate a choice, the staff verbally says “you picked _____. If he signs YES to confirm, give him the item. If he signs NO, go back to the beginning and start with the categories again.</p> <div> </div> <p><i>-if he says yes to “something else” it must be presented as an entire category.</i></p>	<p>Peter will choose a category from a field of four and select an item within the category from a field a four. Continue to offer “something else” as a category choice but remove this option from within each category</p> <p>The team would meet in 4 weeks to discuss outcomes.</p>
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Adapted by T. Huff and J. Osherow from: “Teaching Visual and Auditory Scanning to Individuals Requiring Switch Access for Augmentative Communication and Computer Access: Steps for Training Auditory Visual Scanning” from Georgia Project for Assisted Technology- Deidra L. Bunn., MMSC, CCC-SP Permission to reproduce is granted, as long as credit is retained.

Table 1





Video 2 - In this video, Peter's teacher is providing choices using partner assisted scanning.
https://youtu.be/4r2ILVn_Hkk



Video 3 - In this video, Peter is presented with 4 choices and he chooses "something else."
<https://www.youtube.com/watch?v=mrHHulm4ES8>

three choices. In an effort to reduce the frequency with which he chose the first option, the team presented a neutral or non-food item to encourage him to listen to all of the options. If he signed "yes" before hearing all the choices, staff would acknowledge his choice and verbalize "you need to listen to all the choices." Staff members were instructed to tell Peter all of the available options prior to beginning the script. For example, "Peter, I have ball, chips and something else." Although Peter was able to choose items by indicating a consistent "yes" with three staff in three different settings, the team agreed that he needed more opportunities to learn "something else" prior to moving to level two. The team continued at this level for at least five months.

LEVEL 2

Team members now followed the verbal script to present four choices. They increased the number of preferred and non-preferred choices. Peter was able to listen to choices of preferred options and purposefully choose "something else." He could now work for up to 45 minutes without a break. Peter understood that he had more control over his choices, evidenced by his ability to listen to four rounds of options to get to a preferred item. After two short months, the team felt he was ready to move to the next level of our process, which included increasing the number of choices, introducing switch use and teaching categories. Peter continued to surprise us with the progress he demonstrated. (See Video 3)

LEVEL 3

Seven months into the process, we began level three. We knew that we would be in this level for an extended period of time since we would be simultaneously working on several different skills. (See Table 1) This included Partner Assist-



Photo 1

ed Auditory Scanning, which was well-established, the introduction of switches and teaching the concept of categories. Peter could now listen to five choices presented to him with the script. The non-preferred items were eliminated at this time.

Peter needed to learn how to access the hardware that he eventually may use to access a dynamic voice output device. Based on a feature match we chose a textured saucer switch placed in a static location on the table as his access method. (see Photo 1) We used "Two Switches to Success: Access for Children with Severe Physical and/or Multiple Challenges" (Burkhart, 2004) as an overall guide. Since Peter is blind, we modified his path through the Stepping Stones. (See Table 2)

We began on Step 1: Single Switch: Cause and Effect. Peter understood cause and effect, however, he never encountered a switch before. We introduced the switch activation so he could make a connection between his movement of activating the switch with his hand, and something happening in his environment. The team chose to call the switch a "button" to make it more concrete. Peter's only preferred leisure activity at this time was to spin in circles on the mat. The team agreed that listening to music could be a potential leisure activity for him if his independent access to music increased. Our goal at this step was for Peter to play/stop music independently.

The technology chosen and trialed in 2012 included free music genre clips from Freeplaymusic.com on an iPad, a Pre-torian interface and a textured saucer switch by Enabling Devices. (See Product Information) Peter would start the music by activating the switch with his hand. Each time he activated the switch, a music clip would play for approximately 15 sec-



STEP 1: SINGLE SWITCH: CAUSE & EFFECT



STEP 2: SINGLE SWITCH: MULTIPLE LOCATIONS AND MULTIPLE FUNCTIONS



STEP 3: TWO SWITCHES – TWO FUNCTIONS



STEP 4: LEARNING TO TWO SWITCH STEP SCAN (move, move, get)



STEP 4 A: SIDE STEP: SINGLE SWITCH SCANNING



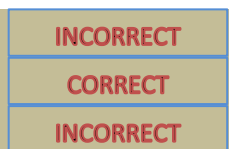
STEP 5: TWO SWITCH STEP SCANNING: ERRORLESS LEARNING



STEP 6: TWO SWITCH STEP SCANNING TO A TARGET



STEP 7: TWO SWITCH STEP SCANNING FOR ACCURACY



STEP 8: TWO SWITCH STEP SCANNING: REDUCING TIME FOR SUCCESS AND DEMONSTRATION OF KNOWLEDGE



*Please note these steps are intended to be followed in a sequential manner, although not necessarily in a rigid way. A student may be in more than one step at the same time or within the same session/day.

Table 2

- Free music clips - available from <http://www.freeplaymusic.com>
- "APPLICATOR" Bluetooth switch interface for iDevices by Pretorian (\$165) available from <http://www.inclusivetlc.com>
- Textured Saucer Switches by Enabling Devices (set of 3 \$159.95) available from <https://www.enablingdevices.com>
- Blue2 Bluetooth Switch (\$185) available from <http://www.ablenetinc.com>
- GoTalk Now iOS App by Attainment Company (\$79.99) <https://itunes.apple.com/us/app/gotalk-now/id454176457?mt=8>
- Bump Dots - Medium Round self adhesive (30pk \$3.29) available from <https://www.maxiaids.com>
- Classroom Suite Software version 4- Discontinued, Previously sold by Intellitools
- Intellikeys Keyboard - Discontinued, Previously sold by Intellitools

Product Information

onds. The switch was always placed on the table in front of him.

Our first activities were designed to find out what kind of music he liked while teaching him the purpose of the switch. As we expected, Peter liked listening to music and he quickly understood the outcome of his intentional movement/switch activation. Data showed that he liked hard rock the most and jazz the least. **(See Video 4)**

Two months after introducing switch use, Peter was ready to move on. We skipped Step 2 of the Stepping Stones which calls for multiple locations and multiple functions; since Peter is blind, he needed the switch to always remain in the same location on the table in front of him. No timing demands were placed on him throughout these activities. We moved into Step 3: Two switches - Two Functions, to help Peter develop an understanding that each switch has a different purpose. The goal was for Peter to "find the music." One switch would access music, the other would access random sounds, such as a car horn or the sound of people clapping. We used a custom activity in Classroom Suite software, an Intellikeys Keyboard used as the interface, two textured saucer switches, music clips, and sounds from Freeplaymusic.com. **(See Photo 2)**

Peter engaged with these activities for nine months, at which time the data showed that he understood each switch served a different purpose. He did not know his right from his left which prompted us to change our vocabulary. The team expanded his opportunities by embedding two switches throughout the school day with switch accessible items, such as a fan, toys and a radio. The saucer switches were distracting to Peter; he frequently spun the top of the switch and attempted to pry off the top. The team considered trying different hardware in the next level of our process, however, chose to stay with the same switches for continuity for Peter. **(see video 5)**



Video 4 - In this video, Peter is introduced to switches for cause and effect learning as well as music preference data. <https://youtu.be/zddJWCK18Qk>

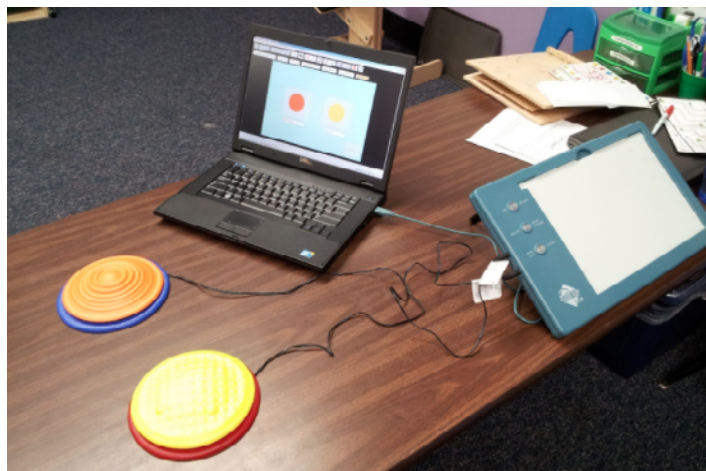


Photo 2



Video 5 - In this video, Peter is introduced to two switches two functions. <https://www.youtube.com/watch?v=XiwpQXH8Xv0>

Level 3 Teaching Categories Script

Sample Script
I am going to give you 4 toys
Listen to the 4 toys.
"Ball", "harmonica", "car", "connectors" The items were named individually and then placed on the table.
While he explored the items, the SLP would name each toy as he touched, or played with it.
SLP would say "Find _____."
Put the toys in the bin.
** Putting items in a set container or "bin" was familiar to him. Note the continued use of the word toy (category) of item

Photo 4



Photo 3

Using the Stepping Stones as our guide, we jumped to Step 5: Two Switch Step Scanning–Errorless Learning. (See Table 2) In this step, one switch moves along a path of choices by purposeful, repetitive activations and the other switch selects one of the choices (Burkhart, 2004). This activity was errorless; any choice worked for him, but he was still selecting an item based on intent. Most commercially-available switch activities are made for sighted individuals, so once again, this activity needed to be created from scratch for Peter. We continued to use the two textured saucer switches and the Intellikeys keyboard as our interface. We created a custom activity in Classroom Suite, and now used real songs based on his music genre preference data from level three of our process. The goal was for Peter to activate the left switch to move or scan through the choices, and the right switch to select to hear a song. Peter needed auditory cues to support his choice making. As he moved through the choices of songs by activating the left switch, he would hear an auditory prompt that included the name of the song as well as a short clip. Several activities with different song choices were created so Peter wouldn't get bored. (See Photo 3) Peter loved listening

to the music and within several weeks, he was independently choosing which songs he wanted to hear.

TEACHING CATEGORIES:

The team was ready to expand his vocabulary. Staff typically used specific, concrete vocabulary when working with him, such as "chips, mat, swing and ball." We understood that organization and vocabulary selection was important to consider prior to introducing any dynamic voice output system. Teaching categories seemed to be a logical next step. If he understood categories, then vocabulary expansion would be possible and the team could move from simple choice making activities to building language. He could then actively communicate with others.

With guidance from the Speech-Language Pathologist (SLP), the team selected initial categories of toys, school tools and clothing. Peter was somewhat familiar with sorting objects by touch. Using three-medium sized bins placed directly in front of Peter, objects could be grouped or categorized. It was necessary to change the language for him to understand this concept, so we created another verbal script for this new learning. (see Photo 4) Once Peter was introduced to the first two categories over a few sessions, the SLP had him identify in which category his items belonged.

Over a period of approximately five months, several meetings were held to discuss his performance and make modifications. Despite additional implementation and embedding the new vocabulary in his instruction, the data did not reflect progress. Performance was inconsistent, at times ranging anywhere from 28% to 92% accuracy. The team felt that he did not have basic understanding of categories. This appeared problematic; we assumed that Peter should demonstrate an understanding of categories as a prerequisite to introducing a dynamic display system.

Level 4: Feature match

Access:

- Portable/small
- Few or no wires
- Durable
- Textures
- Ease of use for staff



Device:

- Portable/small for staff
- Scanning settings
- Scanning voice vs. selection voice as an option
- Symbols didn't matter
- System of organization for quick selection and response
- Ease of use for staff

Photo 5



Go Talk Now App
Blue2 switch with texture

Photo 6

We consulted with a teacher from our large district who used Partner Assisted Auditory Scanning with many of her students. Her advice was simple; model what you expect of him. There is no hierarchy to follow, and no prerequisites to master. Following her advice, we moved to level four of the process, introducing a dynamic voice output device with switch capabilities and category selection.

LEVEL 4

Approximately two years into our process we were ready to put all of the skills together in level four: merging Partner Assisted Auditory Scanning, access with switches and step scanning on a dynamic display communication device. We relied heavily on the feature match process in this level. (**see Photo 5**) Based on the features Peter needed, we chose an iPad, Go Talk Now app by Attainment Company and a Blue2 switch by AbleNet with texture added to one of the switches. The iPad is lightweight and portable which was beneficial for Peter as he required this tool in multiple settings. The communication app would need auditory scanning as well as the ability to have two distinct voices, one for auditory preview and one for selection. At that time, there were limited apps that provided scanning options. The Go Talk Now communication app had the ability to use voices available in the iOS for the auditory prompt and recorded voice for selection. The symbol library was not a feature considered since Peter is blind; the text was merely provided for staff. Peter needed quick access to words to accommodate his sensory needs. We targeted categories with headings that were



Video 6 - In this video, Peter is accessing a Blue2 Bluetooth switch to engage in two switch step scanning with Go Talk Now app on iPad. <https://youtu.be/DstR4i2lfWM>

meaningful to him at home and school rather than single words for sentence generation.

Since the saucer switches had become distracting for Peter, we began a trial with the Blue2 switch by AbleNet. The “move” switch was smooth, and we added a bumpy texture on his “select” switch to mimic the texture on his original saucer switch. The team used Velcro to adhere the switch to the table to ensure it was always in the same location. After several practice sessions, Peter was able to transfer the switch scanning skills he learned with the saucer switches to the new Blue2 switch. **(See Photo 6)**

Peter quickly understood how the switch, the iPad and the language worked together. Within two months, Peter could scan through five categories and select specific options within each one. Categories included things to eat, places to go, things to play, activities to work on, break choices and the option for “something else.” Peter was able to scan through the categories, the choices within each category and make a selection. Once he made a selection, his choice was restated by the partner and confirmed by his “YES” sign. A few modifications were made regarding vocabulary and placement of the iPad and switch. We moved the iPad out of his physical range but close enough to hear both voices on the device. **(See video 6)**

REFLECTIONS

Our primary goal was to help build a functional communication system that could grow with Peter over time. When we began working with him he only had a few sign approximations and the ability to indicate “yes” or “no.” In less than three years he learned the Partner Assisted Auditory Scanning process, two switch step scanning and developed the ability to scan through vocabulary on a dynamic display augmentative communication device. We used components from various approaches to cus-

tomize our process, which was constantly modified over time based on Peter’s performance. We were impressed with the dedication and collaboration of all team members. Everyone made a significant time commitment to this process and had high expectations for Peter, who rose to every challenge.

Peter is now a 9th grade student at a new school, with a new team and new assistive technology specialists. Due to changes in technology, his environment and school programming, his staff have continued the process and made changes as needed. Overall, Peter has more control over his environment, increased participation throughout his day and more meaningful communication.

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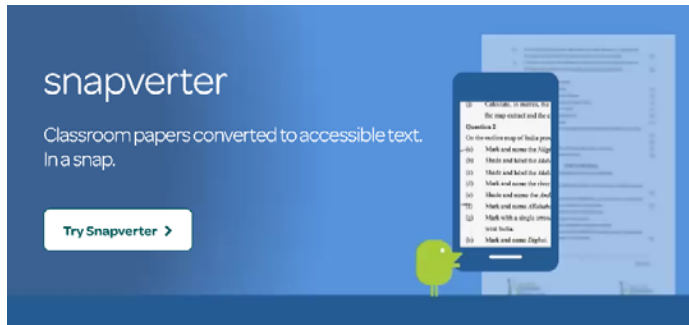
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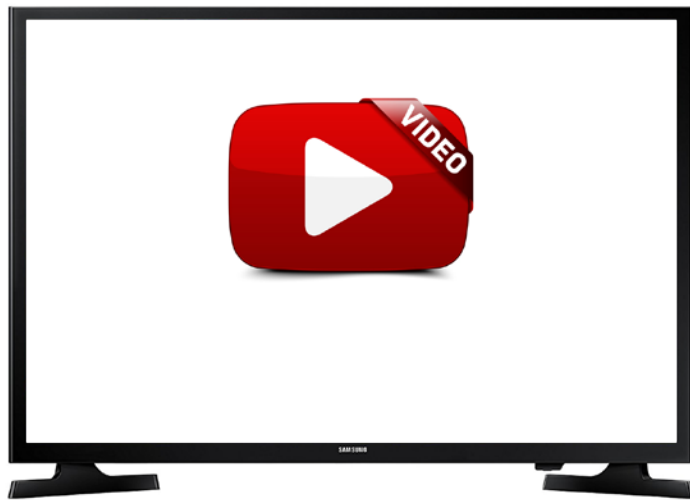
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Every Word Made Accessible



Snapverter is an easy to use add-on for Read&Write for Google Chrome™ that transforms classroom papers and files



into readable PDF documents for easy sharing and reading aloud via Google Drive. Pick any inaccessible file to convert – or just grab your smartphone and snap a photo of paper documents. Then share converted files with students and other teachers on any device – PCs, Macs, Chromebooks or tablets.

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The Mobility Device Changing People’s Lives Worldwide



Upsee is an upright mobility device designed to allow children with movement delays to stand and move with the help of an adult.

Some have been able to stand and hug their little brother or sister for the first time. Some have waved at neighbours on their first ever walk along their own street. And some crossed the playground hand-in-hand with their best friend for the very first time.

They are just little steps – but they mean the world to someone.

With your Upsee, you can begin to provide different opportunities for developing your child’s mobility, ability & participation skills using their Upsee Therapy Programme.

Of course, you can choose to simply place your child in the Upsee and move around – many families love to do this. However, the longest lasting benefits are gained by taking things a little more slowly. Letting your child take their own weight and allowing them to make the movements themselves means that they are actively learning and developing.

WHAT IS THE UPSEE?

The Upsee is a mobility device designed to allow children with movement delays to stand and move with the help of an adult.

It was invented by Debby Elnatan, a special needs mum from Israel, whose son has cerebral palsy. Many years ago,





Debby was told by health professionals that her son had no awareness of his legs. Shocked by this, Debby tried to walk him by herself – a difficult task which led to her idea for the Upsee. She searched for a company to make her product and chose Firefly by Leckey.

Firefly is a division of Leckey (www.leckey.com), a company known worldwide for making postural equipment for children with special needs. However, Firefly's unique focus is special needs family participation, which provides a perfect match for the Upsee.

The Upsee went viral online when it was launched and the response from families was amazing. Encouraged by this, we continued to listen carefully to what families had to say about the Upsee. That's why their expert Physical and Occupational Therapists devised the Upsee Therapy Programme – to promote the use of the Upsee for therapy as well as family participation.

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tecla-e is an assistive device giving people with upper-body mobility impairments the ability to fully access smart devices and technology. Users can control multiple devices to send and receive emails and text messages, browse the web, watch videos, launch and use apps, read books, turn on their TV, control their thermostat, turn the lights on or off, make (or hang up) phone calls at any time, and enter commands using Siri.

WHO IS TECLA-E FOR?

tecla-e is for anyone who can't easily use a smartphone, tablet, or computer. This includes those with limited upper-body mobility resulting from spinal cord injuries, multiple sclerosis, ALS, muscular dystrophy, cerebral palsy, brain injuries, or stroke. HOW DOES IT WORK?

tecla-e connects to ability switches or wheelchair driving controls and allows individuals to interact with their smartphones, tablets, computers and Internet-enabled appliances hands-free. This includes iPhone, iPad, iPod Touch, Android smartphones and tablets, Mac and Windows computers, Apple TV.

It works with all assistive switches on the market including buttons, sip-and-puff controllers, head arrays, joysticks and the driving controls of a wheelchair*.



HOW DOES TECLA-E HELP USERS?

tecla-e has a strong Bluetooth connection that allows users to operate their smart devices anywhere — even in bed. The device opens by simply activating the switch, which can be customized to the individual's abilities without the help of a caregiver. Moreover, tecla-e moves with users, unlike other assistive devices, providing an elevated level of independence at a reasonable price.

NOW SHIPPING IN NORTH AMERICA AND EUROPE

tecla-e is the newest version of Tecla. The cloud-connected assistive device provides users with control of their smart-devices and environment.

tecla-e is for anyone who cannot easily use a smartphone, tablet computer or household technology independently. This includes those with limited upper-body mobility resulting from spinal cord injuries, multiple sclerosis, ALS, muscular dystrophy, cerebral palsy, brain injuries, or stroke.

Whether you want to send and receive emails or text messages, browse the web, watch videos, launch and use your favourite apps, read a book, change the TV channel, adjust the room's temperature or make a phone call — tecla-e provides you with hands-free access to do it.

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BOOKSHARE OPENS UP THE WORLD OF READING FOR PEOPLE WITH PRINT DISABILITIES



**An Accessible Online Library
for people with disabilities**



BREAKING THROUGH DISABILITY BARRIERS

Brian is a student at Cornell University where he is studying industrial and labor relations and is on the dean's list. Bookshare helped him succeed in high school and college by enabling him to do schoolwork and research independently.

Brian was diagnosed with severe dyslexia at a young age. It was difficult for him to read, write, and spell. He struggled to put letters and words into sentences and lost the broader meaning of what he was reading. He could not read what he wanted on his own and relied on his parents to read aloud for him. His inability to understand what the rest of the class was reading made him feel different and excluded.

In middle school, Brian researched various sources of digital books and assistive technologies and discovered Bookshare's extensive library of accessible ebooks. He uses his computer



and iPad to see highlighted words onscreen while listening to the audio narration. Instead of putting all his energy into decoding the words, he can focus on comprehension.

Bookshare has had a huge impact on my life. Without Bookshare my grades would suffer. I can complete assignments on my own, keep up with my classmates, and really excel in school. Technology helps level the playing field for students with disabilities like me. I now attend Cornell University and help others unlock the power of Bookshare. It's my hope that all people with reading disabilities such as dyslexia are able to use Bookshare to succeed in the classroom and become life-long learners." — Brian Meersma

With help from Bookshare, he has discovered the joy of reading and is now able to explore new things. Bookshare has made such an impact on Brian's life that he has been an advocate on Capitol Hill for students with disabilities, joined the Bookshare Advisory Board, and writes an assistive technology blog. Bookshare has truly leveled the playing field for Brian and other students with learning disabilities. Now Brian is a student at Cornell University where he is studying industrial and labor relations and is on the dean's list. Bookshare helped him succeed in high school and college by enabling him to do schoolwork and research independently.

It's empowering for Brian to have so many books that he needs right at his fingertips. Without Bookshare, he wouldn't be able to take classes appropriate for his abilities and his grades would suffer. Before Brian started reading books with assistive technology, he never read for fun or really enjoyed a book. "I really don't think he would have been able to make it to college, let alone do so well in college, without having access to Bookshare," said Kathy Stratton, Brian's mother.

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INTEGRAMOUSE PLUS – THE MOUTH CONTROLLED MOUSE

GATEWAY TO THE WORLD

Email, Google, Skype, Facebook, YouTube, Twitter ... Today's life cannot be imagined without having use of a computer. With IntegraMouse Plus you can operate the computer solely by mouth. The slightest movement of your lips will control the mouthpiece and move the mouse across the computer screen. By simply sipping and puffing, you can trigger mouse clicks as with any standard mouse. IntegraMouse Plus has been developed for people with paralysis, progressive musclediseases or arm amputations. The use of IntegraMouse Plus can enhance quality of life, privacy and independence.

FEATURES OF INTEGRAMOUSE PLUS

Wireless: The IntegraMouse Plus comes as wireless. IntegraMouse Plus is a fully adequate computer mouse which can be operated with the mouth. New feature: it is wireless! Of course it still operates with USB connection.

More than a mouse device: IntegraMouse Plus has two additional operating modes. It can be used as a joystick or set to keyboard mode – ideal for gaming.

All-in-One: IntegraMouse Plus offers all the functions of a classical mouse device.

Hygienic: The disposable mouthpiece is made to the highest hygienic standard and can be replaced easily and economically.

Independent: IntegraMouse Plus can be used with all standard operating systems, which support USB.

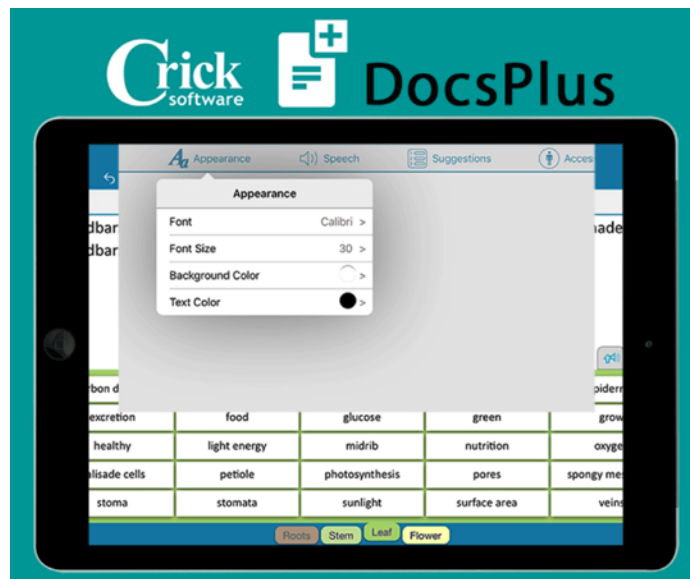
Longlife: The IntegraMouse Plus has a long battery life and built-in rechargeable batteries.

[LEARN MORE](#)

DOCSPLUS FOR IPAD

If you're looking for an iPad app that enables struggling middle and high school students to achieve writing success, look no further than DocsPlus!

- Make curriculum texts more accessible and encourage students to actively review their own work with the DocsPlus speech feedback tool.
- Speed up the writing productivity of learners who struggle to transfer their ideas to the page with intuitive word prediction.



- Offer subject-specific writing frames and word banks to support your leavers as they tackle new writing genres and try to incorporate more relevant vocabulary into their work.
- Change how the app looks and acts to meet each student's learning needs.

The DocsPlus App provides middle and high school students with a range of age-appropriate tools to support writing across the curriculum.

REVIEW WRITING WITH CLEAR SPEECH

Actively reviewing your own work is such an important part of writing, but getting students into the habit of doing this can be a real challenge! DocsPlus' speech feedback tool enables learners to listen back to their work and encourages them to find and correct errors for themselves.

INCREASE WRITING PRODUCTIVITY AND ACCURACY WITH WORD PREDICTION

The DocsPlus Predictor suggests age-appropriate vocabulary based on the context of students' writing. The Predictor encourages students to use more adventurous vocabulary, consistently reinforces the correct spellings of the words they wish to write, and really helps to speed up the writing productivity of learners who struggle to transfer their ideas to the page.

PROVIDE SUBJECT-SPECIFIC WRITING SUPPORT WITH WORDBARS

For students who experience significant literacy barriers, completing the writing tasks that are an integral part of every curriculum subject can be a real challenge. DocsPlus enables you to provide these students with curriculum 'Wordbars', giving them instant access to the specific words and phrases they need for their current assignment. It's incredibly easy for

teachers to quickly create their own Wordbars, organized with either alphabetical tabs or topic tabs.



HUNDREDS OF FREE RESOURCES AT YOUR FINGERTIPS

No time to make your own Wordbars? A professionally made, ever expanding bank of secondary-focused learning resources is just a tap away with our DocsPlus App. Select LearningGrids to access a wide range of topic-specific Wordbars created by our curriculum team – new resources are added regularly!

PERSONALIZED SUPPORT FOR EVERY STUDENT

Change how the app looks and acts to meet each student's learning needs. Available options include changing the speed and frequency at which the app speaks, customizing the word predictor level, and using high contrast color schemes.

ACCESSIBLE FOR ALL

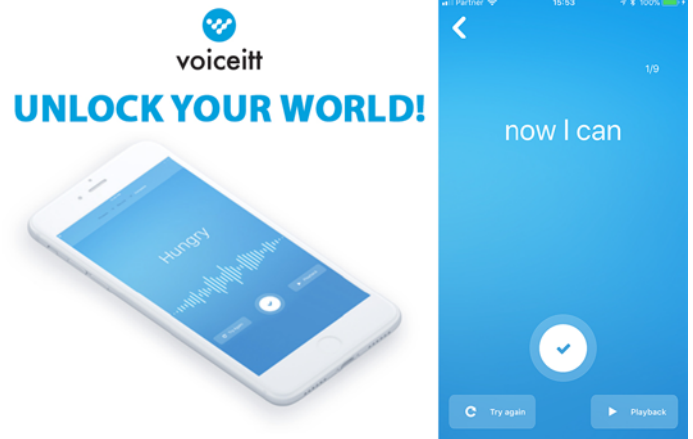
To make access easier for learners with physical challenges, the unique SuperKeys option groups the letter keys into clusters, creating just six large areas to target. Just select the cluster containing the letter you want, and then select the letter in the enlarged cluster. The predictor / spell checker has four size options too, to make words easy to select.

[LEARN MORE](#)

VOICEITT – UNLOCK YOUR WORLD

WHAT IS VOICEITT?

Voiceitt is building speech recognition technology (under development) designed to understand non-standard and dysarthric speech. Their core mobile application — already in closed beta testing — is a hands-free voice recognition



app that enables face-to-face, real-time communication with friends, family, and strangers. In addition, their technology is designed for integration into smart homes, Assistive and Augmentative Communications devices, and smart speakers.

MISSION AND VISION

Voiceitt is a company dedicated to restoring communicative abilities for individuals with speech impairments. Since 2012, they have been developing the one of the world's first voice recognition systems for individuals with non-standard and difficult-to-understand speech.

Their core innovation unlocks communications barriers with their mobile application, and their initial go-to-market software enables communication through a hands-free voice recognition app that enables face-to-face, real-time communication with friends, family, and strangers. Voiceitt technology works via a sophisticated algorithm that learns each individual's unique way to speaking. This means, that once Voiceitt is calibrated and open, the application is listening for the user's voice and can be operated hands-free.

Voiceitt's core mission is to make voice recognition technology truly accessible to everyone. Their principal aims are inclusion and independence, and they are committed to helping children and adults around the world communicate freely, spontaneously, and naturally by voice. Through a hybrid of unique statistical modeling and machine learning, Voiceitt will enable tens of millions of people to overcome communication barriers and help them connect with the world.

THE TECHNOLOGY

Voiceitt is the only solution that can use voice recognition technology to repair verbal communication breakdowns.

Through a hybrid of unique statistical modeling and machine learning, Voiceitt will enable millions of people to overcome communication barriers and help them connect with the world. Voiceitt's proprietary technology is patent protected, and harnesses the power of AI, advanced pattern matching, and Bayesian networks to analyze the unique speech patterns of each user. Voiceitt technology does not





assume a standard speech model, thus, making it the only voice recognition technology accessible to individuals with disabilities and atypical speech.

PRODUCT ROADMAP

Roughly 15% of the global population has a disability. Currently, primary caregivers for the elderly and disabled include friends, family, loved ones, and volunteers. However, what if technology could provide supplemental care when human support was not available? Individuals with motor challenges and speech disabilities might have trouble crossing a room to turn off a light. Voiceitt smart home integration will allow users with both speech and motor disabilities to perform actions in the home, like turning on the lights, unlocking the door, setting timers, and changing room temperature. Voiceitt's roadmap includes unlocking human-to-technology communication through voice commands that can control navigation on smart phones, computers, and tablets. Integration for the smart-enabled home will allow users to use speech commands to control their environments. They will be able to do this on single unified system, rather than a patchwork of devices and DIY solutions.

[LEARN MORE](#)

HEAR YOUR WAY – INTRODUCING THE NUCLEUS 7 SOUND PROCESSOR

The World's first and only Made for iPhone cochlear implant sound processor.

THE COCHLEAR NUCLEUS SOUND PROCESSORS – OPTIONS AS UNIQUE AS YOU ARE

The Cochlear™ Nucleus® Sound Processor plays a critical role in providing you access to sound. The Sound Processor



captures and processes the sound in order to pass the cleanest signal to the implant and provide you access to the sounds you're missing.

As part of their promise to help you "Hear now. And always", they design their sound processors so you will be able to upgrade to future technologies without the need for additional surgery and to help you hear your best today and into the future.

WEARING OPTIONS SO YOU HEAR THE WAY YOU WANT

They offer a choice of sound processors to fit your lifestyle and your wearing preference. These options include the behind-the-ear Nucleus® 7 Sound Processor, Nucleus 7 Sound Processor with Hybrid™ Hearing and the off-the-ear Kanso® Sound Processor. All of these sound processor options provide



proven hearing performance to help ensure you always hear your best.

FIRST AND ONLY MADE FOR IPHONE COCHLEAR IMPLANT SOUND PROCESSOR

Thanks to Made for iPhone compatibility in the Nucleus 7 Sound Processor, you can conveniently connect to the people

you love by streaming phone calls directly to your sound processor and also enjoy music and videos.

You can also take control of your hearing from the palm of your hand with the Nucleus® Smart App that allows you to:

- Adjust settings and change programs
- Access personalized hearing information with the Hearing Tracker
- Monitor battery life
- Locate a missing sound processor

If you use an Android™ device or any other smartphone, you can stream phone calls, music and more directly to your Nucleus 7 Sound Processor by using the True Wireless™ Phone Clip. You can also control the Nucleus 7 Sound Processor by using the Remote Control that is included with new systems.

THE NUCLEUS® SMART APP

Take control of your hearing journey like never before.

Designed specifically for the Cochlear™ Nucleus® 7 Sound Processor, the Nucleus Smart App allows you to adjust your sound processor settings across a range of different environments directly from a compatible iPhone® or iPod touch®.1

With the Nucleus Smart App, you can:

Control your sound processor – Quickly change between programs on your Nucleus 7 Sound Processor without carrying a separate remote control

Manage your own hearing – Easily adjust your sound processor volume, treble/bass and sensitivity settings2 and the audio mixing ratio to help you focus on the sounds you want to hear

Find a lost processor – Get help locating a misplaced Nucleus 7 Sound Processor with the ‘Find My Processor’ function

Enjoy True Wireless™ freedom – Start and stop streaming from your Cochlear True Wireless devices by tapping your compatible Apple device1

Feel confident – Check your sound processor status and battery level to make sure your equipment is working properly

To experience all the features of the Nucleus Smart App, download the app for free from the Apple App Store and select ‘demo mode’ to test out the Nucleus Smart App on your compatible Apple device1.

PAIRING

Before you can start using the Nucleus Smart App, you first need to pair your Nucleus 7 Sound Processor to your compatible Apple device1.

ENJOY TRUE WIRELESS™ FREEDOM

The Nucleus® Sound Processors can introduce you to a whole new wireless world with our 2.4 GHz Cochlear™ True Wireless™ technology. You can watch TV, talk on your smartphone and



hear speech and conversation – all without the constraints of wires or bulky neck-worn components that you find with less advanced wireless systems.

SWIM, SOAK AND SPLASH WITH THE NUCLEUS SOUND PROCESSORS AND AQUA+

The Nucleus® Sound Processors let you experience the outdoors or relax in the bath. All with added peace of mind. The Nucleus 7 and Kanso Sound Processors are highly water resistant and can both be waterproof when used with the Nucleus® Aqua+ accessories.

SMART SOUND® IQ

A Sound Processor That Adapts To Your World – Automatically Every place is different, with different sounds. You’re constantly moving into different listening environments, and you want your sound processor to adapt to all of them – effortlessly. Our SmartSound® iQ* and dual-microphone technologies are designed to do just that.

The Nucleus Sound Processors have a Scene Classifier that automatically scans your surroundings and identifies the listening environment as one of six scenes. SmartSound iQ then adjusts the setting for that scene to provide you optimal hearing for that situation without the need for manual adjustments to the sound processor.

[LEARN MORE](#)



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