Empowering Students with Disabilities

The Role of AAC and AT in Communication and Learning

Language and Speech Program
Assistive/Instructional Technology Program
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Welcome

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Acronyms and Definitions

LAS	Language and Speech
SLP	Speech-Language Pathologist
SLPA	Speech-Language Pathology Assistant
AAC	Augmentative and Alternative Communication
AT	Assistive Technology
IT	Instructional Technology

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Objectives

- **Define** roles of Language and Speech (LAS) Program and Assistive/ Instructional (AT/IT) Program
- **Establish** foundational knowledge of Augmentative and Alternative Communication (AAC) and Assistive Technology (AT) principles and applications.
- **Examine** the role of AAC and AT in supporting communication and learning.
- **Engage** in hands-on exploration of AAC and AT tools and strategies.
- **Share** parent resources and strategies to support AAC and AT use at home.

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Language and Speech: The Role of AAC

Language and Speech (LAS) Program

- School-based Language and Speech (LAS) therapy supports students with communication disorders in articulation, language (expressive, receptive, pragmatic/social), fluency (stuttering), and voice to access their education.
- The LAS Program has over 700 providers, including speech-language pathologists (SLPs) and speech-language pathology assistants (SLPAs).
- SLPs assess, prevent, and treat speech & language challenges, collaborating with staff to address student needs.
- Some students require Augmentative and Alternative Communication (AAC) for communication support.

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Augmentative and Alternative Communication (AAC)

- AAC supports individuals with speech impairments by supplementing or replacing spoken language through devices, systems, and strategies (IDEA, 2004).
- AAC builds core language skills and supports communication.
- AAC enhances or replaces speech without hindering verbal development.

- Types of AAC:
  - **Light-tech** (e.g., picture boards)
  - **Mid-tech** (e.g., simple voice output devices)
  - **High-tech** (e.g., speech-generating devices, apps)

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Assistive/Instructional Technology: The Role of AT

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Assistive/Instructional Technology (AT/IT) Program

- Assistive Technology (AT) includes any tool or device—commercial, modified, or customized—that enhances the functional abilities of students with disabilities (IDEA, 2004).
- Instructional Technology (IT) are tools and resources designed to enhance teaching and learning for all students.
- AT helps bridge the gap between a student's abilities and academic demands.
- Certified AT Assessors provide specialized services to support academic access.

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The AT/IT Program

- Focus on curriculum: reading, writing, mathematics, physical access
- Team of 20 highly qualified, itinerant Assistive Technology Assessors
- Credentialed teachers with certification in AT
- Every school is assigned an **AT Assessor**

Foundations of Augmentative and Alternative Communication (AAC)

What is AAC?

- AAC stands for Augmentative and Alternative Communication
  - **Augmentative** communication enhances existing speech
  - **Alternative** communication replaces speech when needed

- Some people use AAC throughout their lives while others may use AAC for a short time
  - For example, students may be hard to understand and need support until they can improve their intelligibility

- AAC can be used by people of all ages who experience difficulties with speech or language.

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Why Do We Use AAC?

- **Enables Communication** – Express thoughts & needs
- **Boosts Independence** – Reduces reliance on others
- **Supports Learning** – Builds language skills
- **Enhances Social Connection** – Engages with peers & family
- **Reduces Frustration** – Provides a reliable voice
- **AAC empowers communication & inclusion!**

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Types of AAC

No Tech

Unaided AAC such as eye blink codes, gestures, and manual signs. They require no additional equipment to use other than your body.

Light Tech

Communication systems that do not have voice output or require a battery. These include communication icons, boards and books, and alphabet boards.

Mid Tech

Communication systems that have displays that do not change after icons are selected. These use recorded voice output and are battery powered.

High Tech

Communication systems that typically use a rechargeable battery and have screens that change after icons are selected. These typically have robust vocabulary.

Student AAC Supports

If everyone can use AAC, does everyone need a high-tech device?

No, everyone can use a form of AAC. This includes No tech, Light tech, Mid tech, and High tech devices and supports.

Do all students who need language and speech support need AAC?

No, Language and Speech (LAS) support targets a variety of needs including stuttering, articulation, language, AAC, and more. Some students just require support from LAS, but not with AAC. All students who use AAC do require support from LAS.

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Types of Augmentative and Alternative Communication (AAC)

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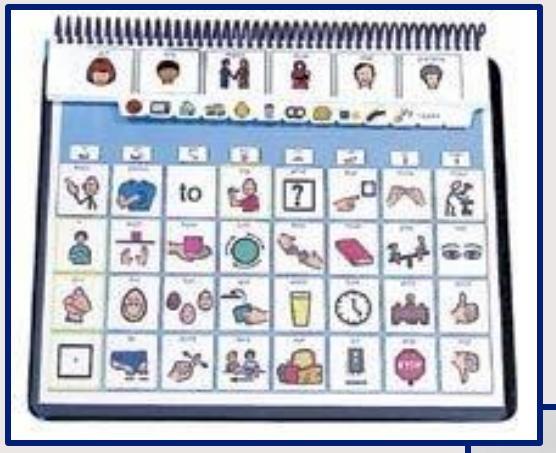
Light Tech AAC

- Formerly referred to as low-tech AAC.
- Provides AAC support without speech output.
- Includes tools such as 3D objects, communication boards, books, photographs, visual schedules, and more.
- Having a light-tech AAC option is recommended, even for students using mid-tech or high-tech AAC.



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Mid Tech AAC

- Operates using batteries or electricity to deliver pre-recorded voice or text messages at the press of a button.
- Useful for students who find high-tech AAC too complex.
- Can support partner-assisted scanning (communication method where a partner presents choices, and the student selects their response using eye gaze, vocalization, gestures; etc.)
- Serves as a valuable classroom aid.
- Helps teach cause-and-effect concepts.

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High Tech AAC

- AAC systems with dynamic displays and speech output.
- Includes devices with touchscreens, apps, and eye-tracking technology.
- Allows for customizable vocabulary, text-to-speech, and internet access.
- Supports a range of access methods, including touch, switches, and eye gaze.
- Requires charging, programming, and maintenance for optimal use.
- Often used alongside light-tech AAC for flexibility and backup support.

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High Tech AAC

High Tech AAC: Text to Speech

Alternative Access for AAC

- Supports individuals who cannot directly select buttons or symbols.
- Includes access methods such as switches, eye gaze, head tracking, and joystick control.
- Partner-Assisted Scanning (PAS) can be used when independent access is challenging (communication method where a partner presents choices, and the student selects their response using eye gaze, vocalization, gestures; etc.)
- Customizable settings allow for adjustments in sensitivity, speed, and selection method.
- Essential for ensuring all students have a way to communicate effectively.

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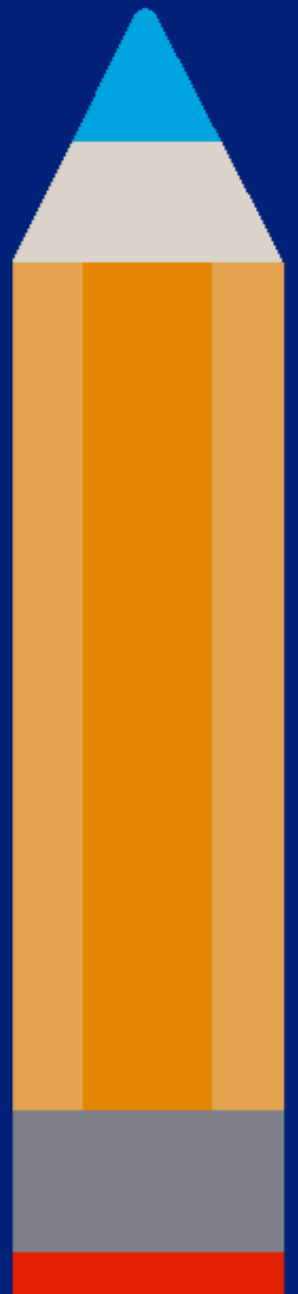
Alternate Access: Switch Access

Hands-On AAC Demonstration



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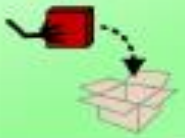
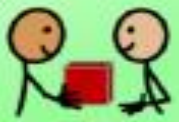
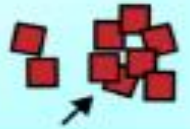
Let's Talk AAC!

Using the vocabulary on the core board in the next slide, please take a moment to share your answer to the following question with a partner:

What did you do this morning?

I, me, mine 	want 		drink 	not 			
you 	see 	like 	put 		good 	bad 	
	help 	eat 	give 		big 	small 	
	go 	stop 		in 	out 	more 	
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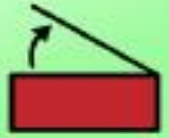
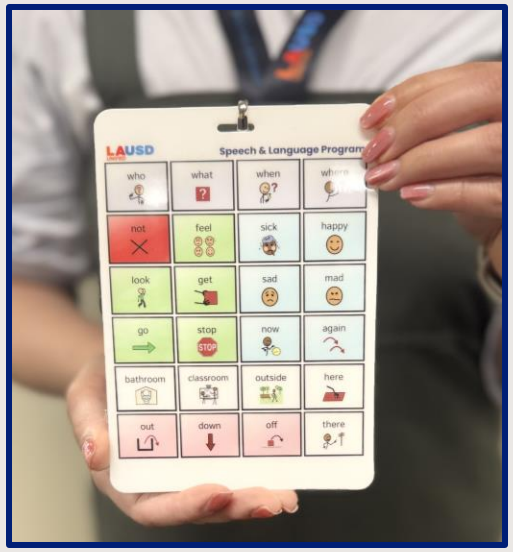
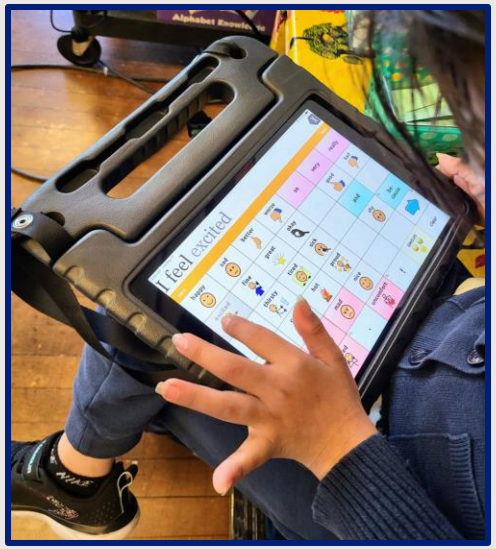
		open 	need 	on 	off 	all done 	

AAC Demonstration

- Light Tech
- Mid Tech
- High Tech





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Foundations of Assistive/Instructional Technology (AT/IT)

What is Assistive Technology (AT)?

- Any tool, device, or system that helps individuals with disabilities perform tasks more independently.
- Includes both low-tech (e.g., pencil grips, visual schedules) and high-tech (e.g., speech-generating devices, eye-tracking systems) solutions.
- Supports communication, mobility, learning, and daily living activities.
- Essential for providing access, inclusion, and greater independence.
- **The focus of Assistive Technology is to consider tools that aim to *bridge the gap* between the functional performance of a student and the academic demands of the curriculum.**

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What is Instructional Technology (IT)?

- Tools and resources designed to enhance teaching and learning for all students.
- Includes interactive whiteboards, educational apps, digital textbooks, and learning management systems.
- Supports engagement, collaboration, and differentiated instruction.
- Helps streamline lesson delivery, assessment, and student progress tracking.
- Used to improve overall classroom efficiency and learning outcomes.
- **While IT benefits all learners, AT is individualized to meet the specific needs of students with disabilities.**

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Types of Assistive and Instructional Technology (AT/IT)

Assistive Technology (AT)

Sora
The student reading app

Learning Ally
Transforming the Lives of Struggling Learners

Co:Writer®

Kami
for Accessibility

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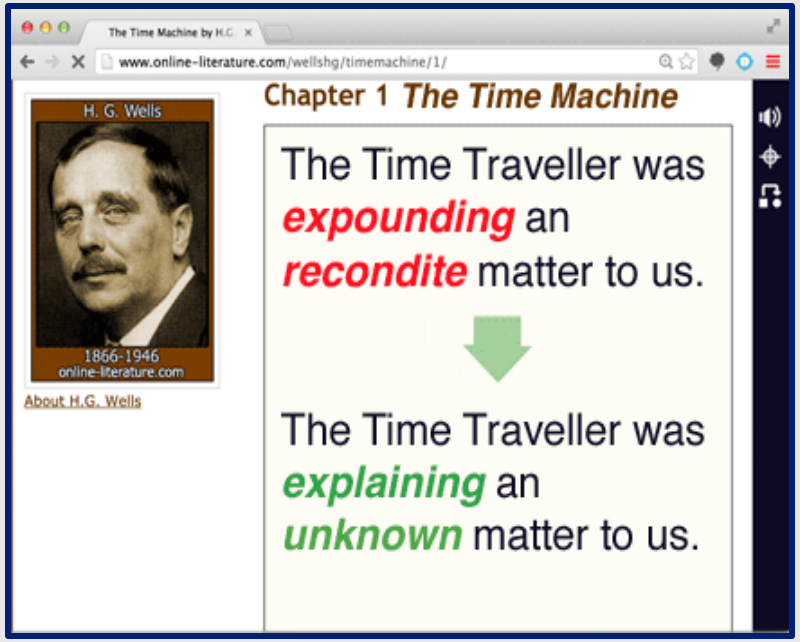
AT for Reading Access

- No Tech and Low Tech
- Curriculum Embedded Supports
- Digital Accessibility Features
- Digital Tools
  - Auditory Support for Reading
  - Comprehension Supports – (ex. text leveling, annotation)
  - Display Options

Sentence isolator

Digital books



Text leveling

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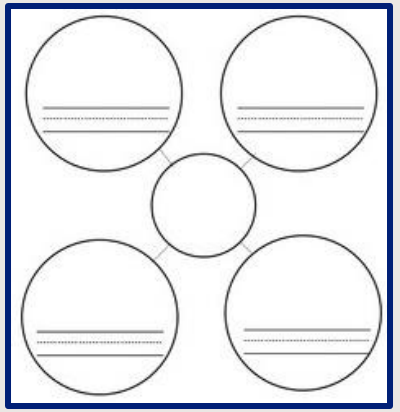
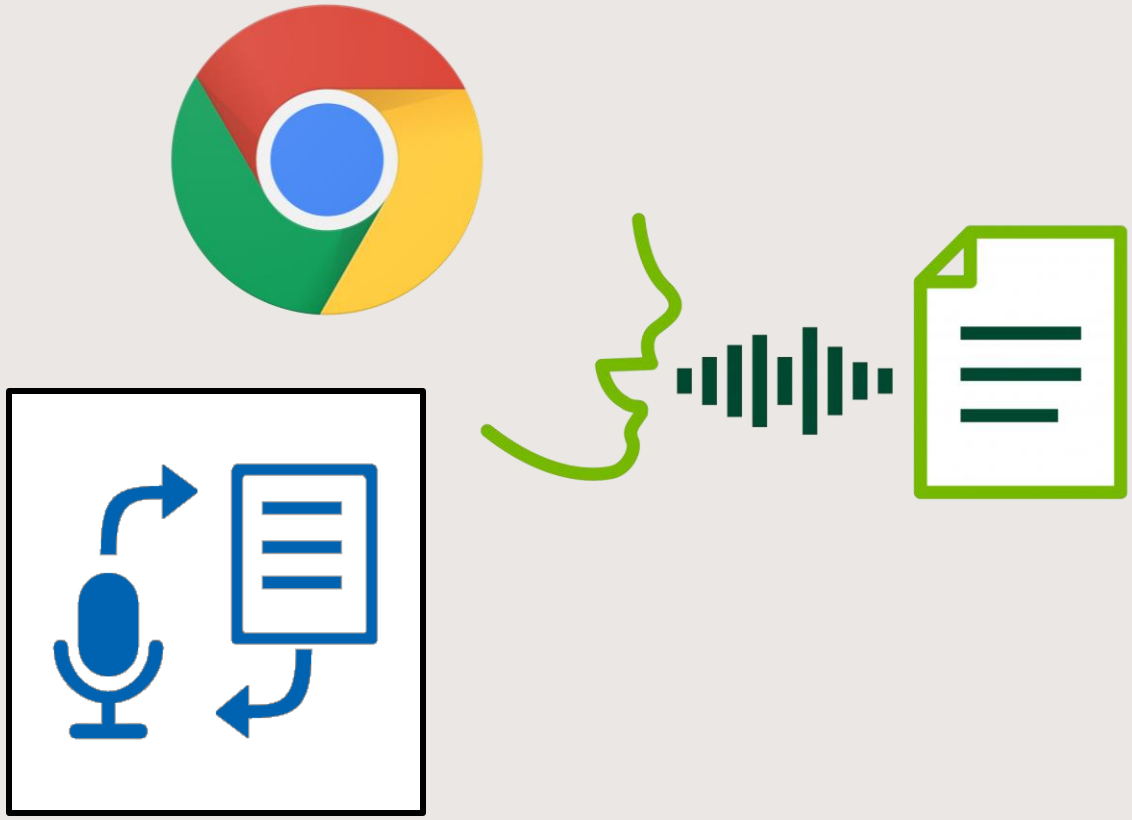
No Tech & Low-Tech Writing Supports

- Tracing, Stamps, Sentence Strips
- Slant Boards
- Pencil Grips
- Adapted paper
- Word Banks
- Cloze notes or teacher provided notes
- Graphic Organizers
- Scribe



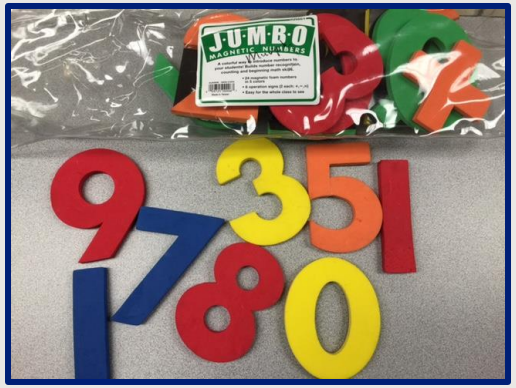
Mid to High-Tech Writing Supports

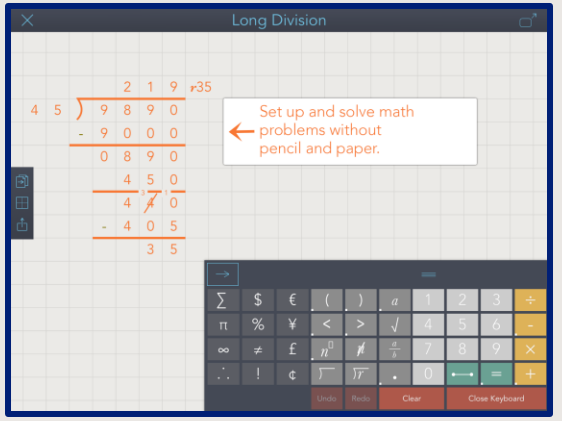
- Curriculum & device embedded supports
- Digital Graphic Organizers
- Speech to Text
- Text to Speech (for editing)
- Word Prediction
- Taking photos of notes

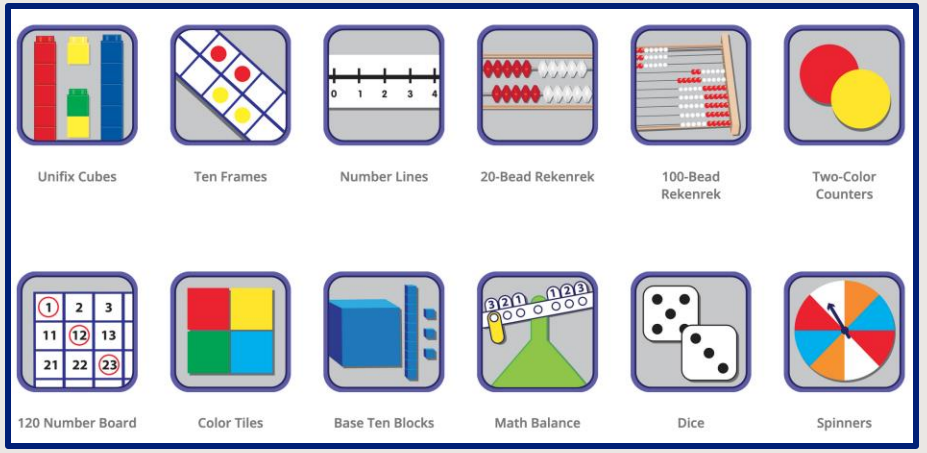


AT for Math Access

- Magnetic numbers
- Magnetic beads/tactile feedback
- Big Keys calculator
- Tablet apps
  - Math formatting
  - Manipulatives
- Accessibility Features
- Curriculum Embedded Supports







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AT for Physical Access

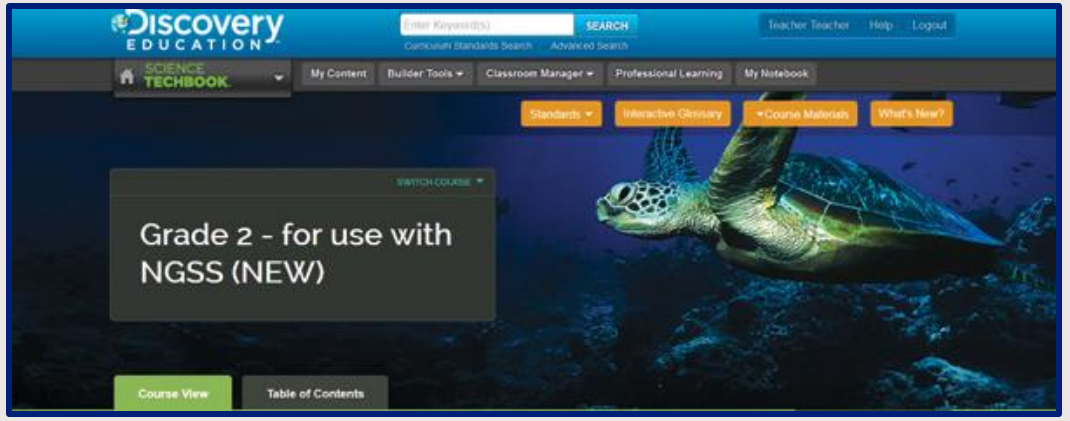
- Adapted Keyboards & Keyguards
- Switches
- Mounts & Slant Boards
- Adapted Track Pads, Joysticks & Mice
- Head Mouse
- Eye-Gaze Devices

Instructional Technology (IT)

i-Ready

Amplify.

schoology



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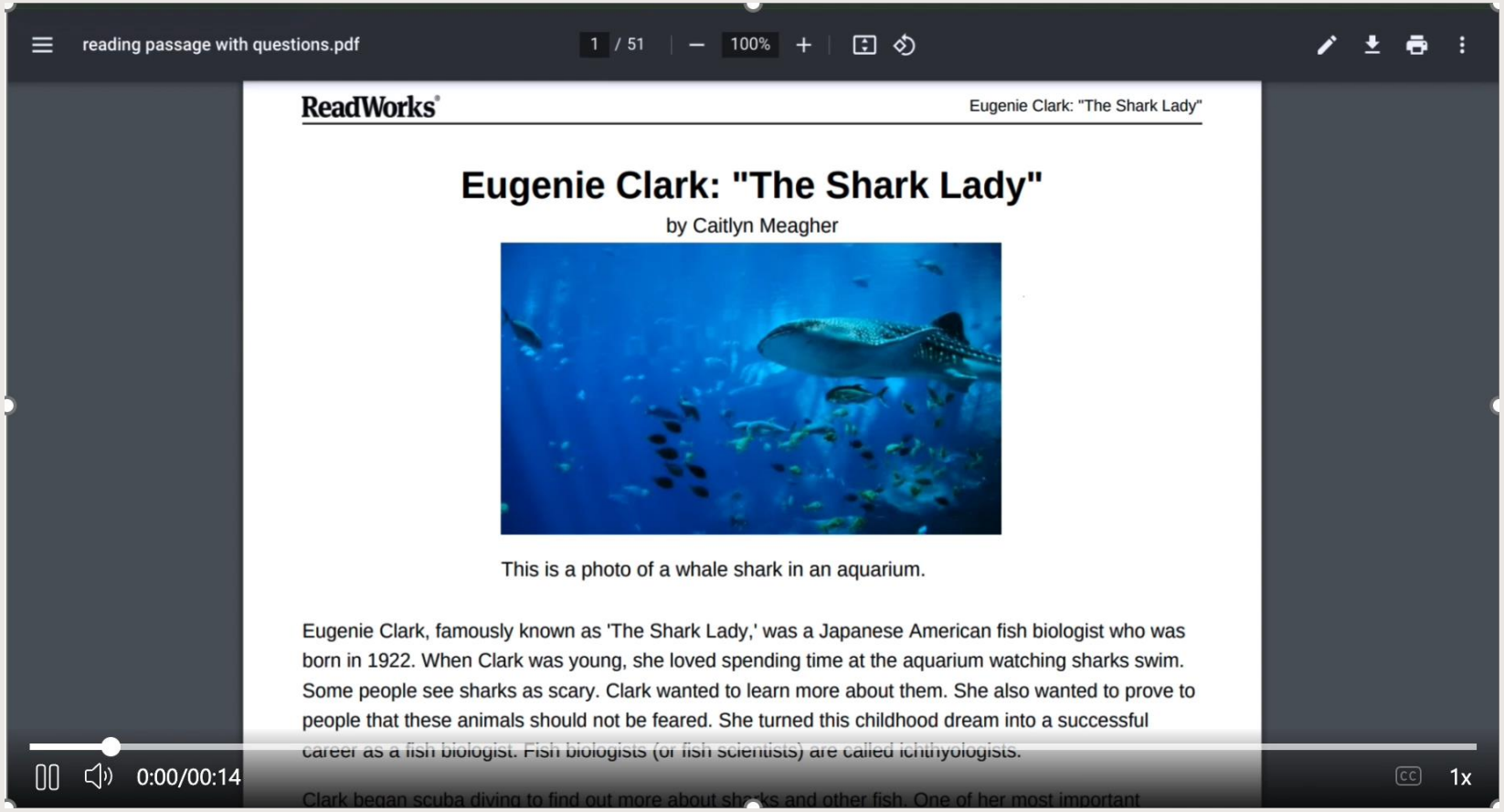
Hands-On Assistive Technology Demonstration

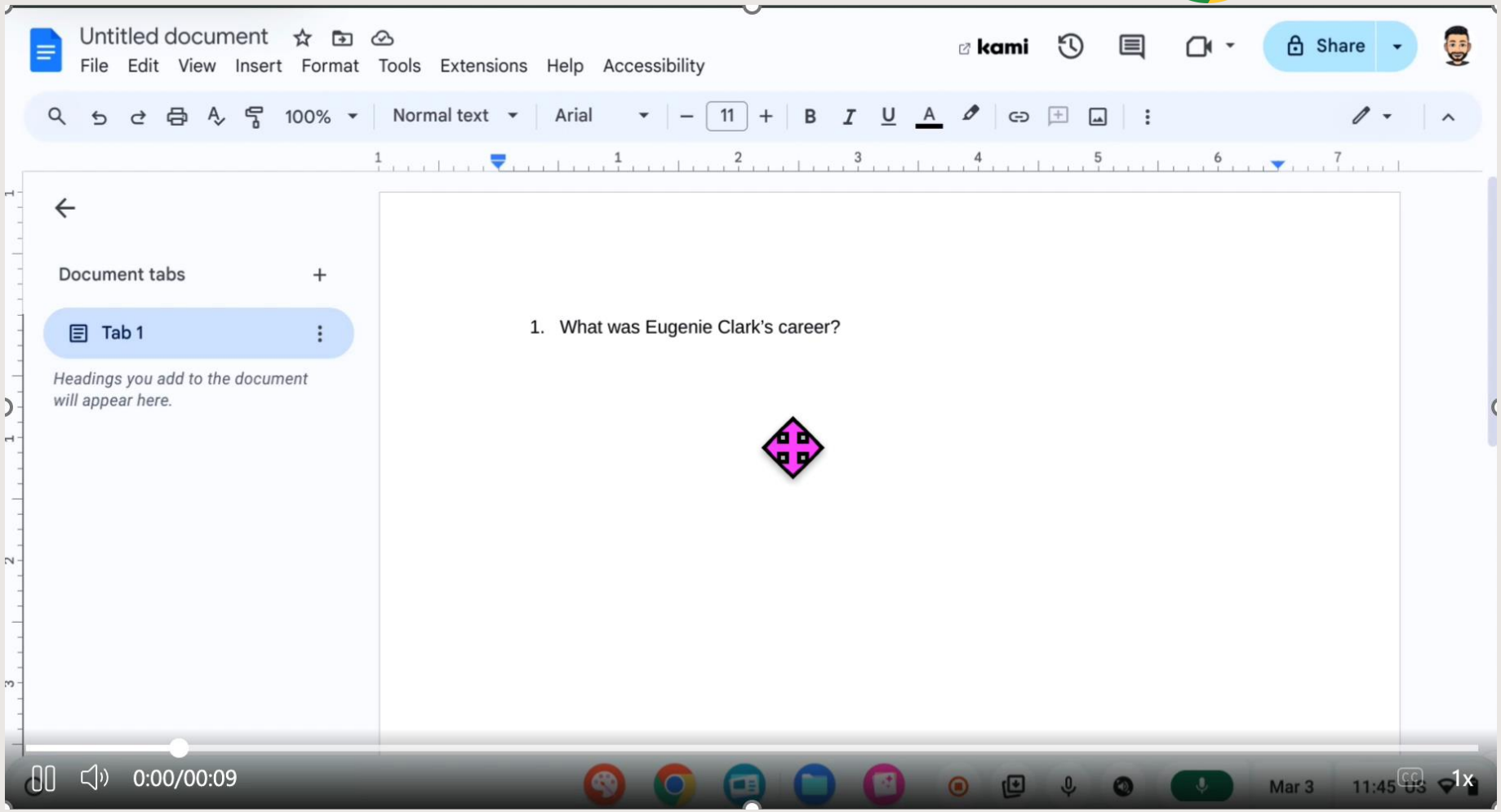
Accessibility Tools

- Reading
  - Chrome
  - iPad
- Writing
  - Chrome
  - iPad

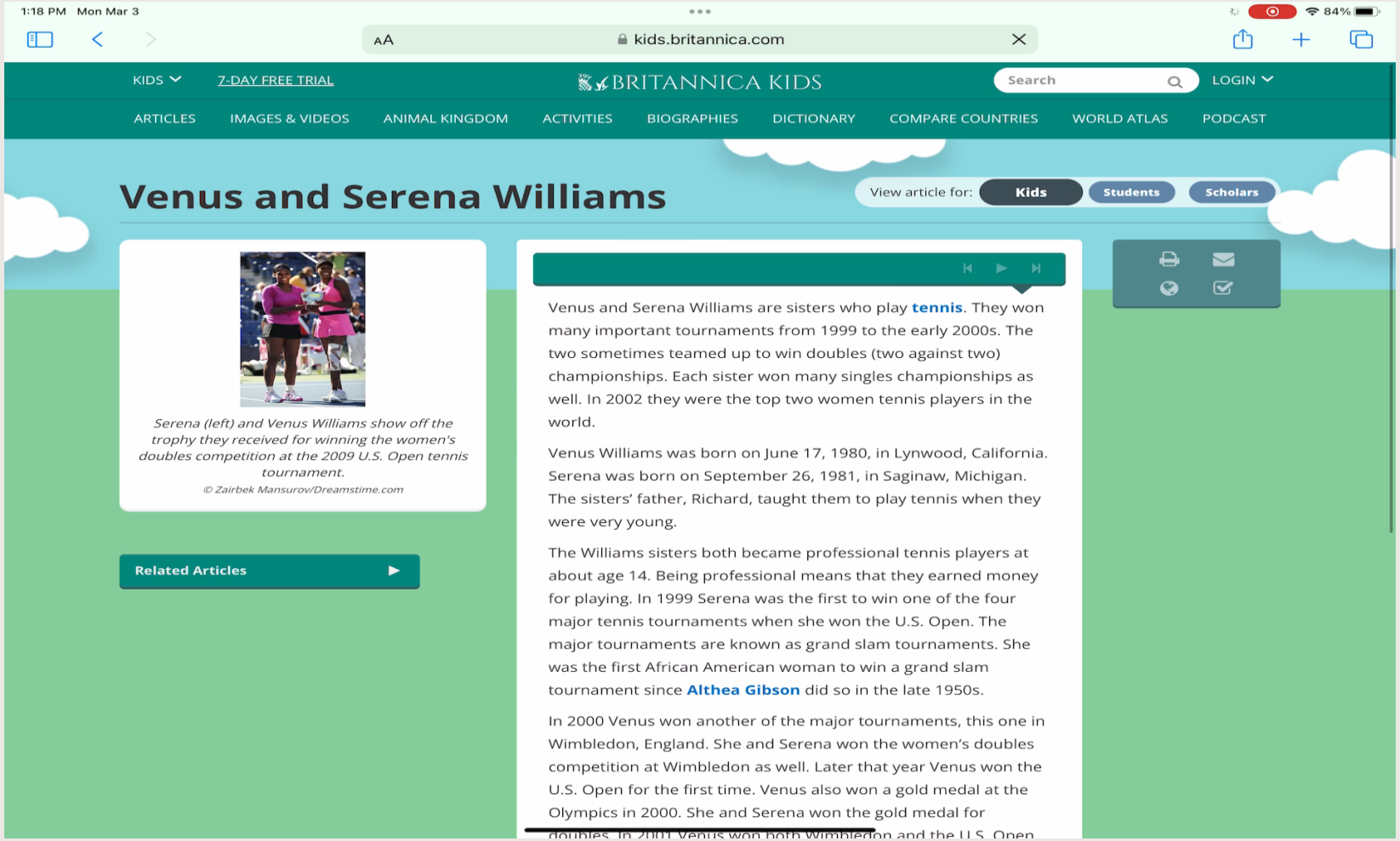
Chromebook: Text to Speech



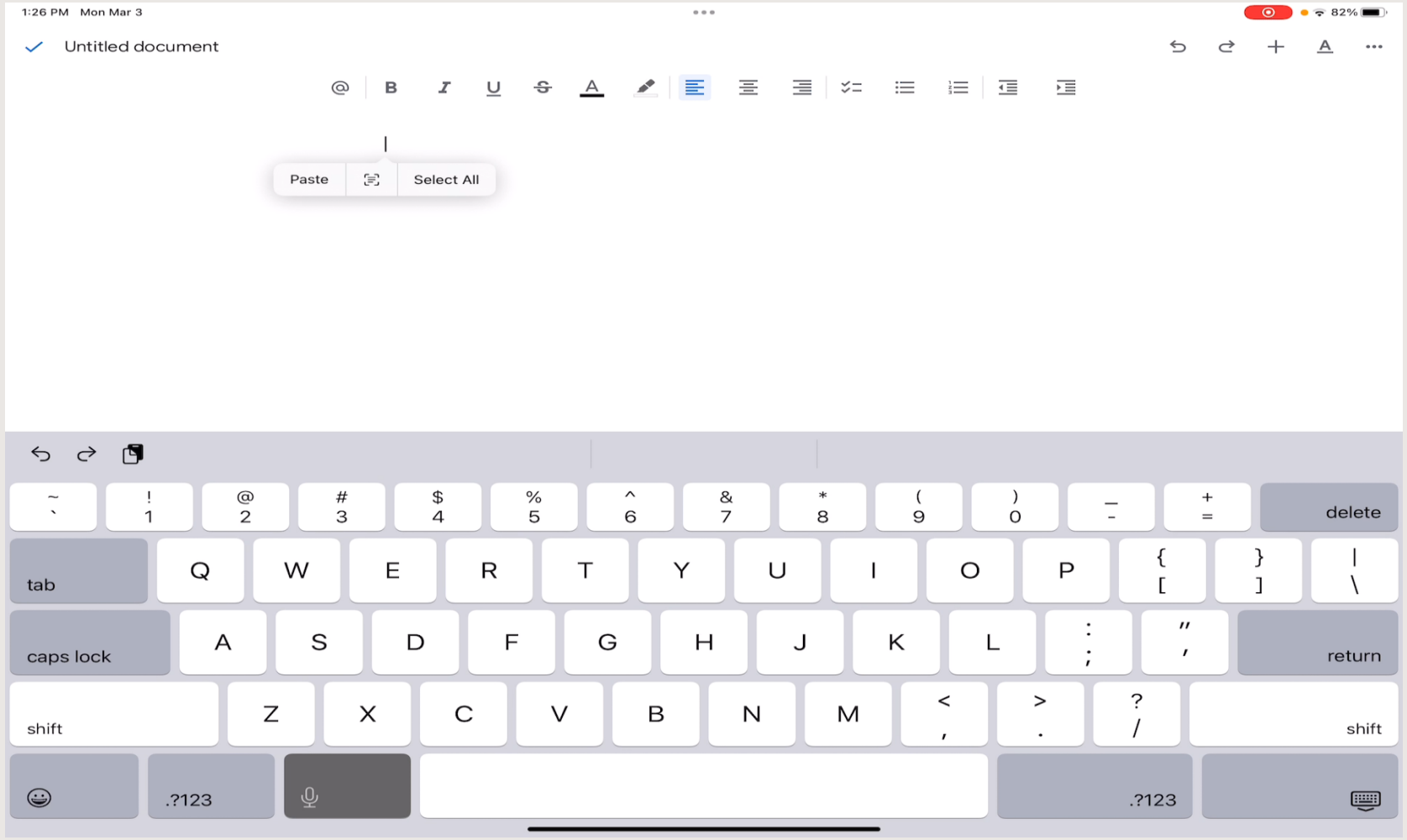
Chromebook: Speech to Text



iPad: Text to Speech



iPad: Speech to Text



Implementation, Success Stories & Impact

The Creative Curriculum for Preschool

Communication Guide

featuring the Reduce, Reuse, Recycle Study

Support materials created by the LAUSD AAC Team

Lifelong AT User: Elizabeth

- LAUSD student who benefitted from AT supports from preschool through her senior year of high school

- Tools used throughout educational career
  - Alphasmart keyboard with keyguard
  - iPad with external keyboard and keyguard
  - MacBook Pro with joystick mouse
  - MacBook Pro with trackpad

- 2023 “Yes I Can” Award Nominee, Council for Exceptional Children

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Lifelong AT User: Elizabeth

Parent Resources and Strategies

Using AAC: What To Do At Home

Home Activity	Examples of what to model (core words are underlined)
Eating breakfast	One word: I'm hungry! Let's **go** eat. Two words: Let's **make** something **different**. Three words: **I need** to **get** my juice. Four words: **Do you want** to **eat**?
Reading a story	One word: Let's **open** a book! Two words: **You turn** the page. Three words: **I want** to **look**. Four words: **What do you see**?
Listening to music	One word: The music **stopped.** Two words: **Play** something **different**. Three words: **Turn it up**! Four words: **He put that** song **on**!

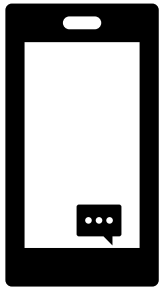
Using AAC: What To Do At Home

Photographs

Real Objects

Using Gestures

Texting



Writing

Sign Language

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AAC Resources and Links

Resource Name	Link	Description
LAUSD AAC Website	https://sites.google.com/lausd.net/lasaac/home	A website maintained by the AAC Team at LAUSD containing resources for all levels of technology and activities for AAC.
PrAACtical AAC	https://praacticalaac.org	A website with activity ideas and perspectives from people who use, care for, or work with AAC.
Project Core	https://www.project-core.com	A website with free trainings, core board files, and articles to help people learn how to use core words.
Assistiveware Core Word Classroom	https://coreword.assistiveware.com/login	A resource that has core word planners, a folder full of resources about using core during home activities like cooking and shopping, and more.

All resources listed here are currently free as of February 2025. Some resources may require the creation of a profile to login and access content.

AT Resources and Links

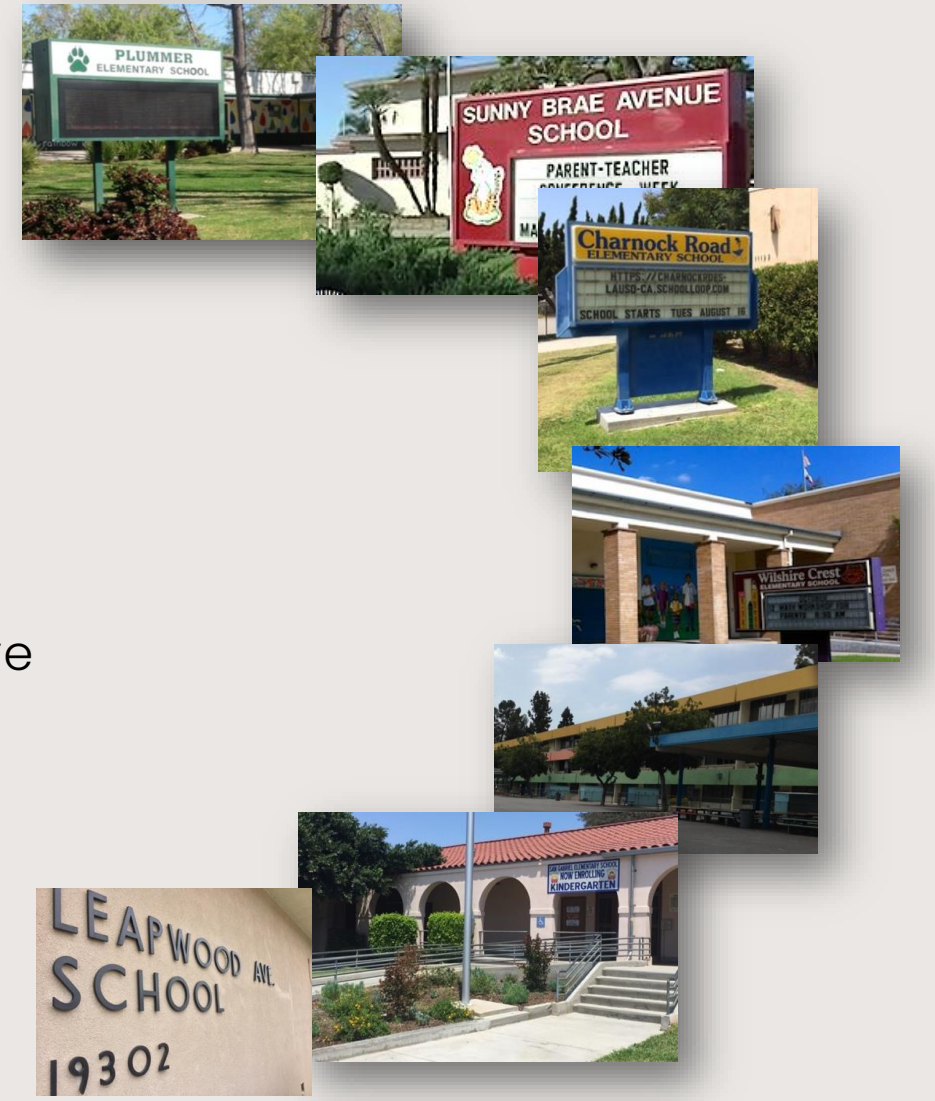
Resource Name	Link	Description
Apple Accessibility	apple.com/accessibility	Accessibility website for Apple products
Google Accessibility	belonging.google/in-products/disability-innovation	Accessibility website for Google products
Microsoft Accessibility	microsoft.com/en-us/accessibility	Accessibility website for Microsoft products

All resources listed here are currently free as of February 2025. Some resources may require the creation of a profile to login and access content.

AT Resources and Links

Assistive Technology Lending Libraries (ATLLs)

- Seven regional locations across the district
- Short term loans for school and student access
- Parent workshops & professional development
- Support access to innovative technology
- AT Assessor assigned to each school



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District Highlights: AAC and AT

AAC Highlights

- LAUSD's AAC Team is among the best in the nation, consisting of 15 highly trained AAC Consultants and 9 skilled SLPAs dedicated to supporting students.
- Over 2,000 students across the District rely on AAC to enhance their communication and learning.
- Our administrative team and AAC SLPs collaborate closely with Early Childhood Special Education (ECSE), Charter Schools, and Alternate Curriculum partners to ensure comprehensive support.
- We maintain strong partnerships with Chicago and New York school districts, fostering collaboration and shared best practices.
- Our team played a key role in implementing communication boards in all ECSE classrooms, enhancing accessibility for young learners.

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AT Highlights

- LAUSD is unique in that it has a dedicated Assistive Technology Team. The AT/IT Program consists of 20 experienced credentialed teachers with additional certification in Assistive Technology.

- With the help of 3 AT/IT Technology support staff, we manage the processing, setup and maintenance of 4000+ AAC and AT devices.

- Our AT Assessors collaborate closely with Special Education Division of Instruction, Early Childhood Special Education (ECSE), Charter Schools, and Alternate Curriculum partners to ensure comprehensive support.

- We maintain strong partnerships with Long Beach and New York school districts, fostering collaboration and sharing best practices.

- We stay current with the most innovative technology for curriculum access, including eye-gaze technology, robotic telepresence, and Control Bionics neuro-nodes.

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Summary & Future Goals

Summary

- AAC and AT support students with complex communication and learning needs
- The LAS and AT/IT Programs provide tools and strategies for effective expression and engagement.
- We help bridge communication barriers and promote independence, ensure equitable access to education, and enable full participation in the learning environment.

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Future Goals

- Increase access to AAC and AT tools across LAUSD schools
- Provide targeted AAC and AT training for SLPs, teachers, and support staff across all LAUSD regions
- Strengthen interdisciplinary collaboration between AT assessors, SLPs, teachers, administrators, and other stakeholders
- Stay updated on emerging AAC and AT technologies
- Collect and analyze data on AAC and AT to inform evidence-based best practices

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Q&A and Discussion

Thank you for your support and participation!