

Trends in K-12 Assistive Technology



Austin ISD Assistive Technology Team

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Today's Agenda



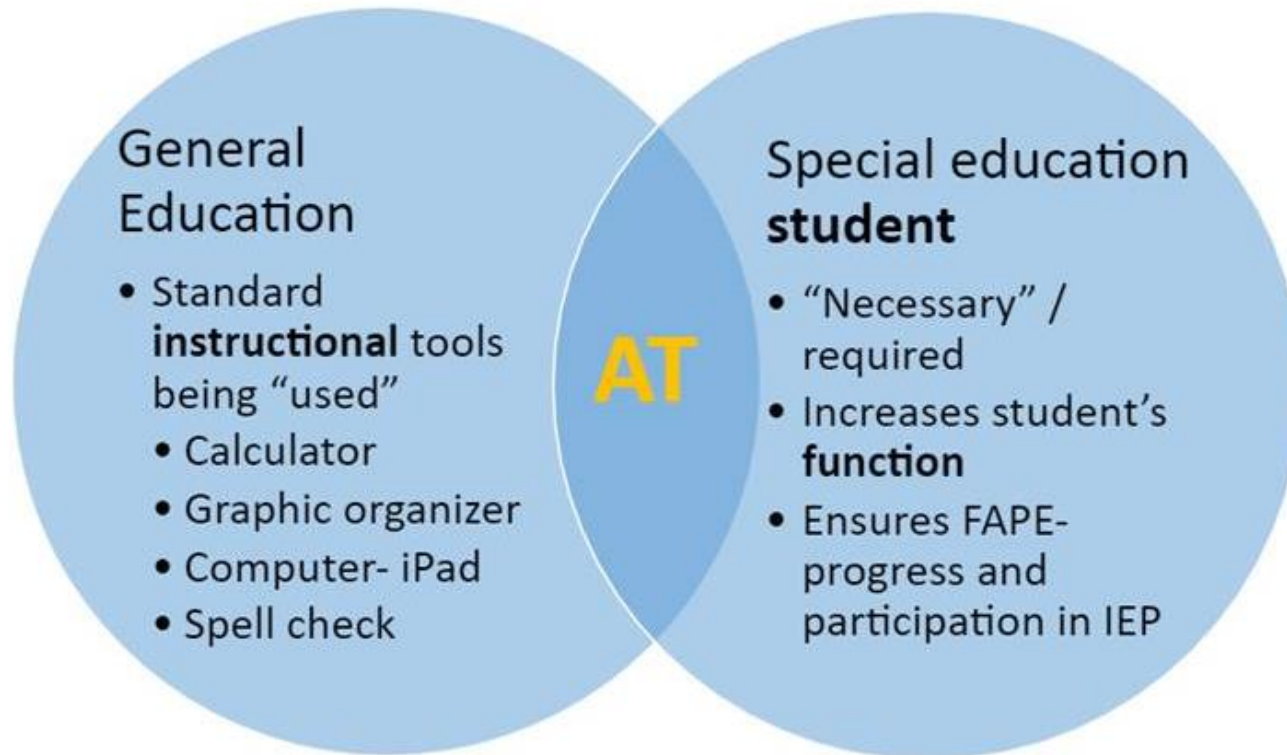
- Trends in AT
 - Instructional Technology vs Assistive Technology
 - Accessible Digital Text
 - Universal Design for Learning
 - Common Assistive Technology Tools and Terms
 - Text to Speech
 - Speech to Text
 - Word Prediction
- Built in Assistive technology on the PC and Mac computers

Trends in Assistive Technology

- Mainstream technology
- One-to-one technology initiatives
- Extensions and Apps
- Devices with multiple functionalities
 - keyboards
 - touchscreens
- Collaborative Tools



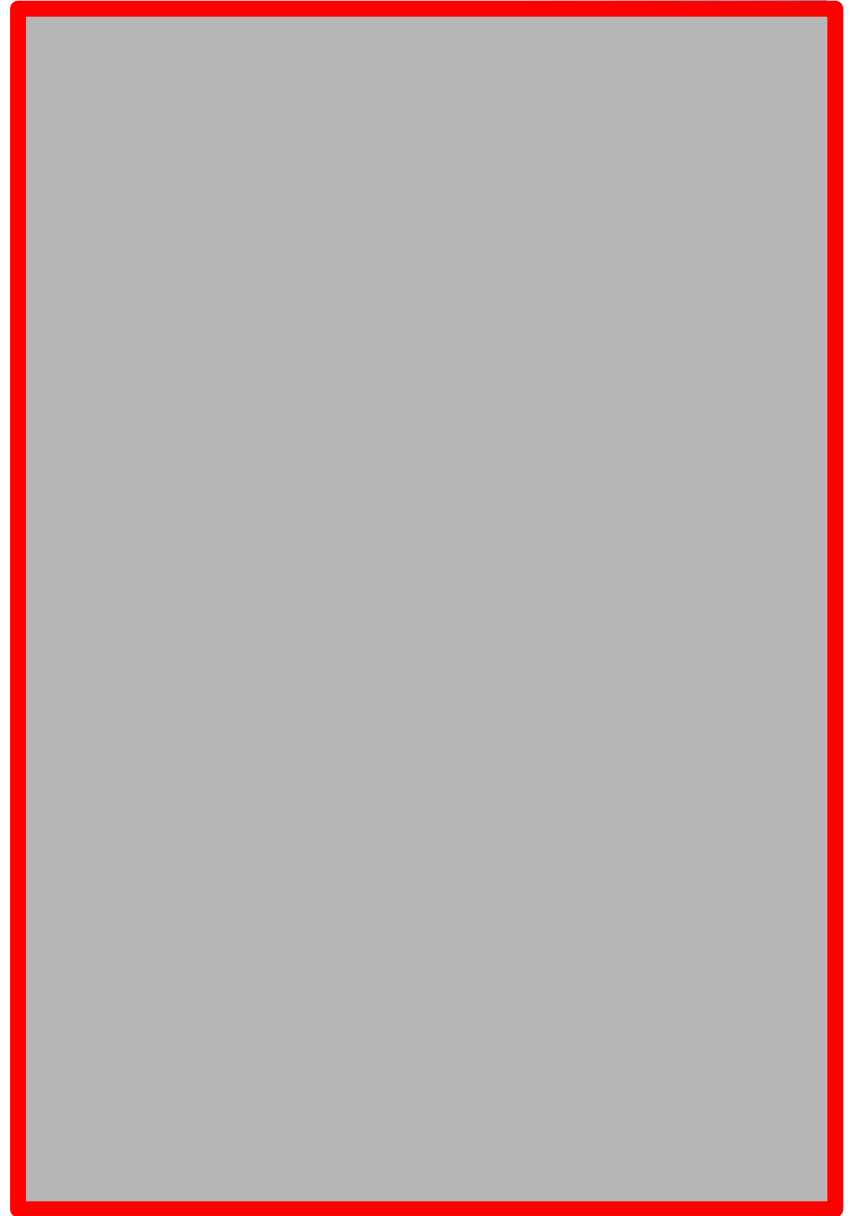
Instructional Technology vs. Assistive Technology



**The News
I Did
Not Get**

I have something
REALLY IMPORTANT to
share...
It may affect you
health, your safety, and
your ability to access
your education and
justice and could save
your life.

PLEASE READ IT HERE:



Contrary to common
assumption...

**Digital does not
mean accessible.**

Digital Materials and Accessibility

Accessibility Do's for Digital Materials:

- Videos with captioning
- Using multiple ways to navigate (ie. not just color)
- Alternatives to video or audio only files
- Presenting with logical order of materials
- Accessible for all students when delivering content



AT and AEM

Assistive Technology can make inaccessible educational materials accessible

- 1:1 Technology Initiatives
 - Are there assistive technologies built into the devices provided? **OR**
 - Are specific devices needed for student to interact with educational materials?
- Not all digital materials will work with assistive technologies
 - Educational materials must be accessible from the start for some assistive technologies to work.



Universal Design for Learning

Universal design as used in IDEA is based on the definition found in the Assistive Technology Act of 1998:

“The term ‘universal design’ means a concept or philosophy of designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include products and services that are directly accessible (without requiring assistive technologies) and products and services that are interoperable with assistive technologies.”

UDL in the Classroom

- Lesson Goals Posted
 - Referred to and discussed
- Alternative Assignments
 - Video, oral, drawing
- Work spaces that are Flexible
 - Seating options, headphones, large and small group settings
- Frequent and Meaningful Feedback
- Materials that are Accessible
 - Text to speech, captions, audiobooks



INSPIRED BY A PUBLIC SCHOOL STUDENT WITH DISABILITIES



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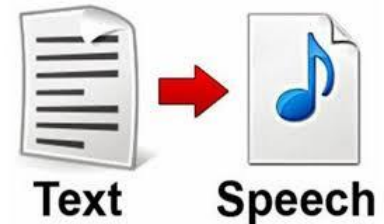
CLEARING A PATH
FOR PEOPLE WITH SPECIAL NEEDS
CLEARS THE PATH FOR EVERYONE!

Tool and Terms for Assistive Technologies



Text to Speech

The big picture...



WHAT IS IT?

TTS is technology that reads aloud digital text.

TYPES:

- **Built-in** – Chromebook, iPad, Computer OS
- **Web-based** – websites with TTS tools
- **Text to speech apps** – for iOS/Android
- **Text to speech software/extensions** – software that includes TTS features

Speech to Text

The big picture...



WHAT IS IT?

STT is technology that allows you to "write" words by speaking. Also called dictation, voice to text or speech recognition.

TYPES:

- Built-in STT on Chromebook, iOS, Mac, and Windows computers
- Apps
- Chrome extensions
- Dedicated software programs

Word Prediction

The big picture...

WHAT IS IT?

Word prediction attempts to "predict" what word the student is trying to write after typing one or more letters. The predictions are based on frequency of use, grammar, and rules of spelling.

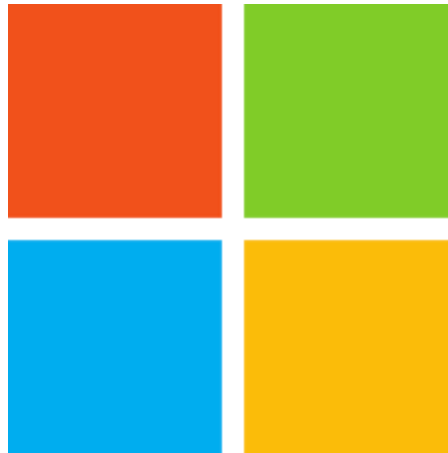
TYPES:

- Built-in to touchscreen Chromebooks
- Paid apps and/or iOS accessibility feature
- Chrome extensions
- Dedicated software programs

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Built-In Assistive Technology Tools for PCs and Microsoft Products



Built in Tools for the PC

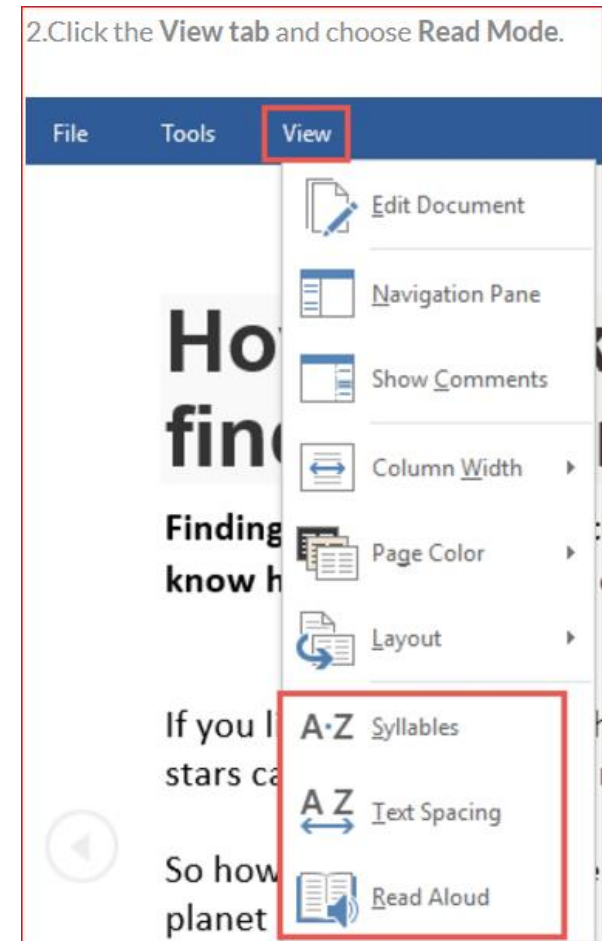
Start > Control Panel > Ease of Access Center

- Narrator
- Magnifier
- Speech Recognition
- On-screen Keyboard
 - **Word prediction**
- Eye Gaze controls (version 1709 or later)



Learning Tools for MS 365: Word

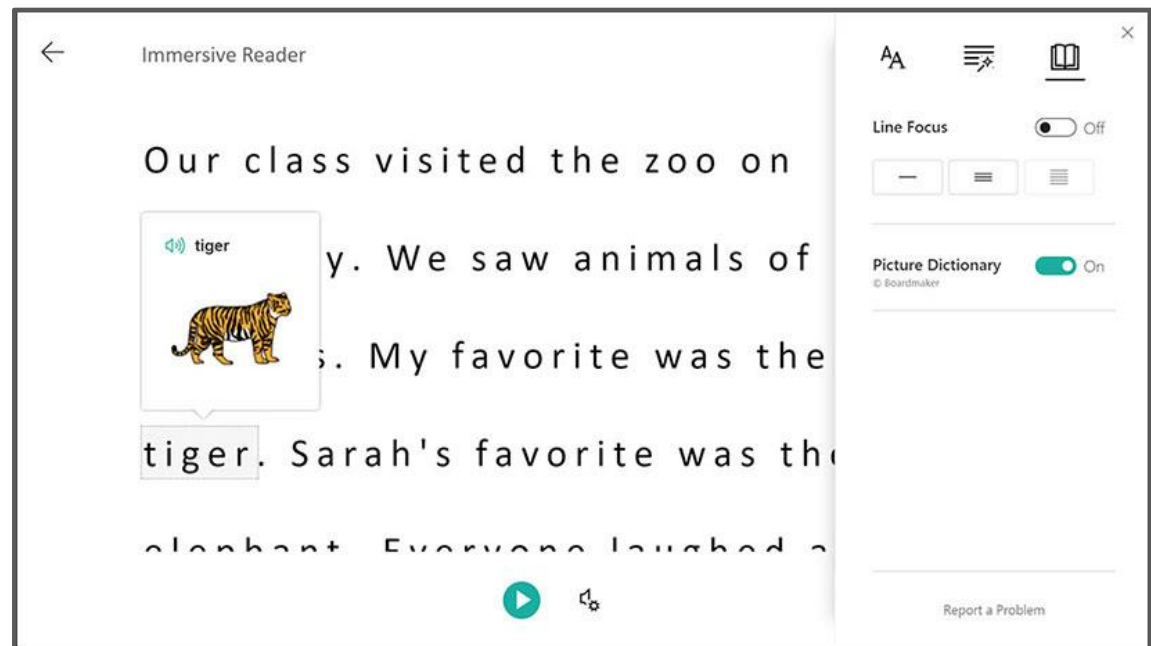
- **Read Aloud** – text to speech with highlighting
- **Text Spacing** – increase between characters, words and lines
- **Syllabication** – displays individual syllables of words
- **Color Filters**– background color options
- **Column Width** – changes line length
- **Focus Mode** – dims background to highlight individual lines of text



Immersive Reader

- Integrates Learning Tools features
- Picture Dictionary
- Opens in a separate window – clears page clutter

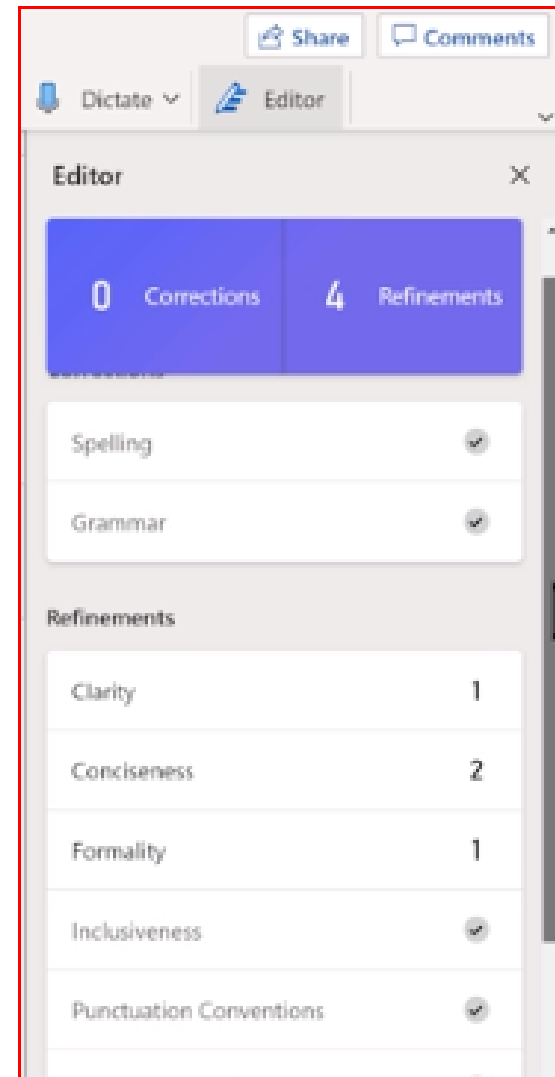
*Available in Office 365
OneNote, Word, Outlook
on web and Office Lens
for iOS*



Office 365 Office Tools

Editor

- Spelling
- Grammar
- Clarity
- Vocabulary
- and more...

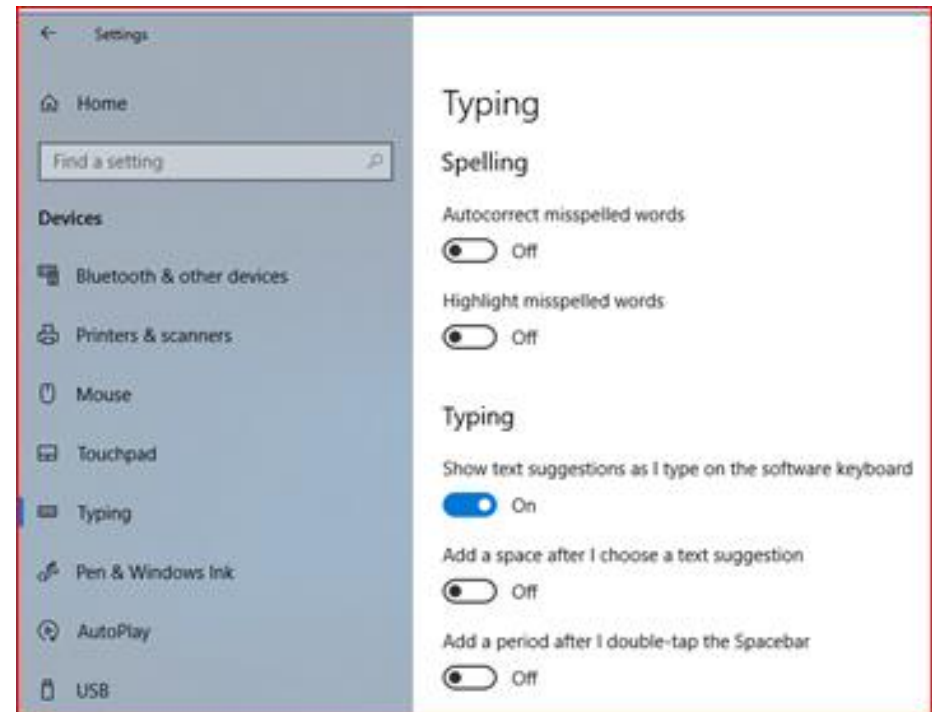


Office 365 Office Tools

Text Suggestions

- up to 3 words available to choose from

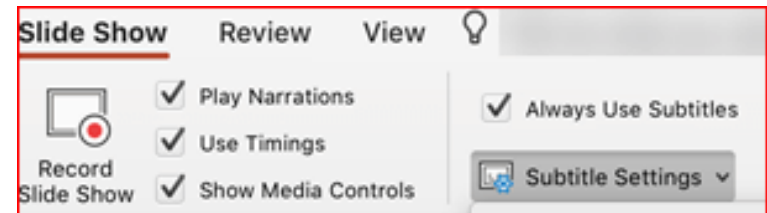
**works in Word, Teams chat and more – must be activated, only available in new versions*



Office 365 Office Tools

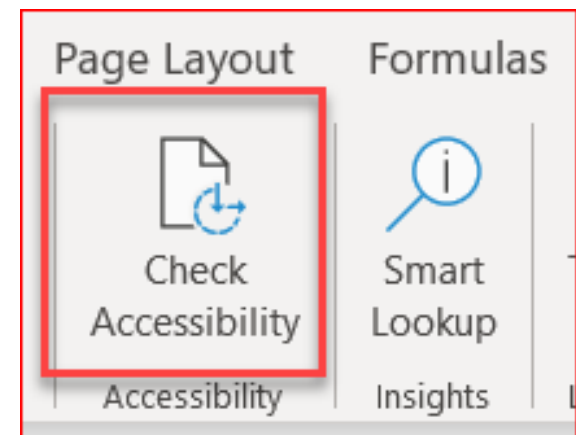
Power Point

- Live subtitles for video



Word and Power Point

- Auto alt
 - text for images – automatically notifies of need
- Accessibility Checker



Built in Assistive Technology Tools for Mac OS



Mac OS

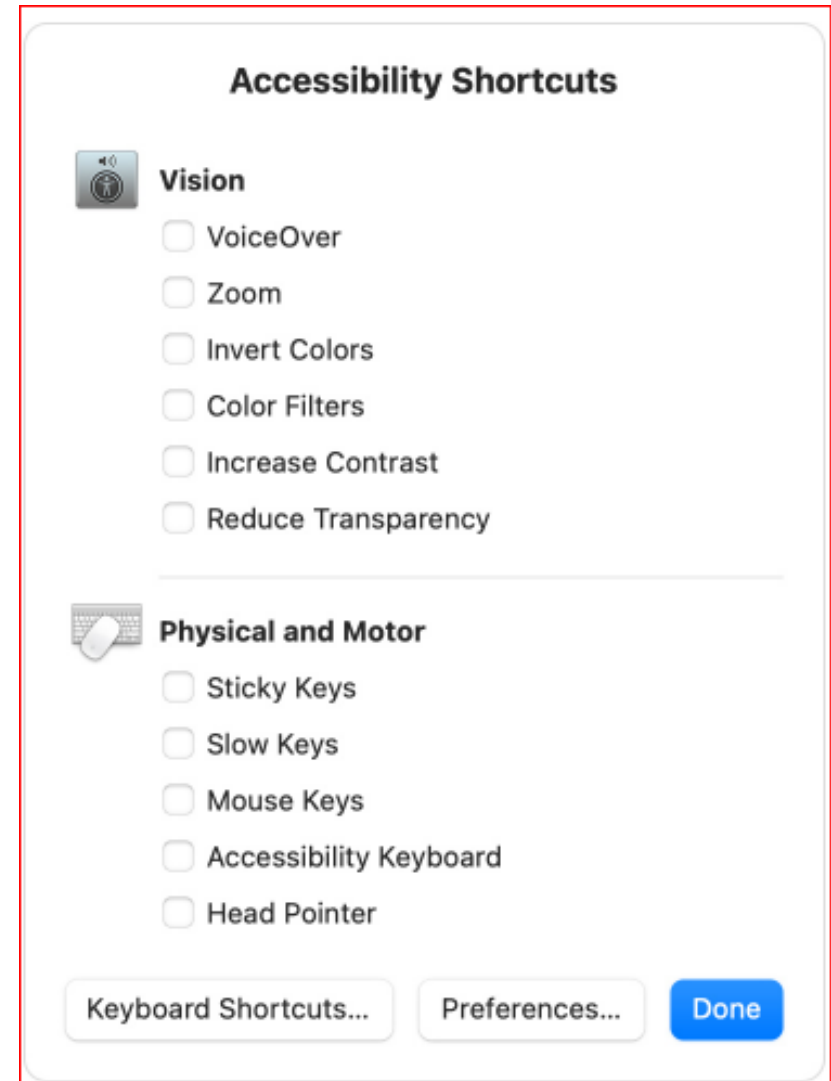
Mac – Built-in Accessibility Tools

- Voice Over
- Zoom/Magnifier/Hover Text
- Spoken Content(TTS)/Spoken Alerts
- Display - color filters, cursor size, Dark Mode
- Dictation(STT)/Siri Voice
- Switch Control
- Predictive Text
- Accessibility Keyboard - mouse keys, pointer control, slow keys, sticky keys



Accessibility Panel

To Access on desktop:
Option+Command+F5



Austin ISD **A**ssistive **T**echnology



Questions?

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References and Resources

- [National Center on AEM](#)
- [CAST](#)
- [About Universal Design for Learning](#)
- [Chrome Accessibility](#)
- [Apple Accessibility](#)
- [Windows Accessibility](#)
- [TextHelp](#)
- [Don Johnston, INC](#)