



# Assistive Technology in the Workplace

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## Presenter

- RESNA Certified ATP
- M.S. in Rehabilitation Science and Technology
- Taught undergraduate and graduate level assistive technology courses at East Carolina University
- Developed an online graduate certificate program in AT for East Carolina University



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## Key Learning Objectives

- Review legislation and statistics
- Explore accommodation options
- Explore built-in accessibility features
- Apps, Universal Design, & Resources



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## Legislation/Stats

- Section 504 of the Rehabilitation Act
- Americans with Disability Act
  - Perform the core duties of a job
    - Provide new equipment
    - Modify existing office equipment or assistive technology
  - Perform marginal or non-essential functions
  - Request must not impose an undue hardship
  - Includes accessible websites



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## Legislation/Stats

- In 2010
  - 46% of working adults between ages of 18 & 64 with a learning disability were employed
  - Only 19% of young adults stated that their employers were aware of their disability
  - Only 5% reported receiving accommodations in their workplace



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## Workplace Assessment

- Declaration of Disability
- Define the Situation – job functions that need to be accommodated
- Explore AT Options
  - May already be proficient with a specific AT system
  - Contact an AT specialist (JAN); State VR agency; State AT Tech Act; RESNA
- Choose & Implement AT
- Monitor and Upgrade AT



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# Computer Access

Accessibility



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## Alternate Input

- Alternative Mouse

- Ergonomic Mice
- Trackballs
- Joysticks
- Touchpads



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## Alternate Input

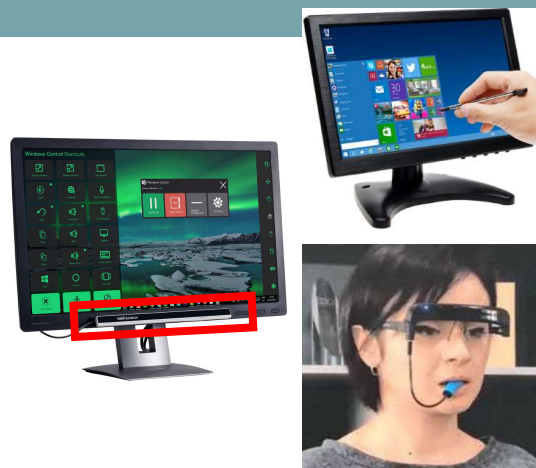
- Alternative Keyboard

- Ergonomic
- One-handed
- Enlarged
- Mini



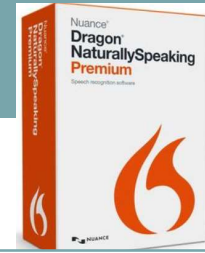
## Computer Access

- Touch Screens
- Eye gaze
- Head mouse



## Computer Access

- Voice recognition software
  - Limited muscle control or hand-use
  - Learning Disability
  - Carpal Tunnel Syndrome/Repetitive Stress Syndrome
- Built-in Solutions:
  - Microsoft
  - Google Docs
- Other Solutions



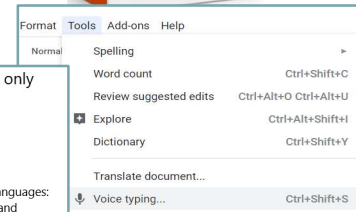
Dictate text and control your device using only your voice

Turn on Speech Recognition

☐ Off

Speech Recognition is only available for the following languages: English (United States, United Kingdom, Canada, India, and Australia), French, German, Japanese, Mandarin (Chinese Simplified and Chinese Traditional) and Spanish.

Press the Windows logo key + Ctrl + S to toggle Speech Recognition on or off.



<https://support.microsoft.com/en-us/help/14213/windows-how-to-use-speech-recognition>



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## Computer Access

- LV/Blindness
  - Refreshable Braille Keyboards
  - Screen Readers
  - Screen Magnifiers
  - Large Print Keyboards

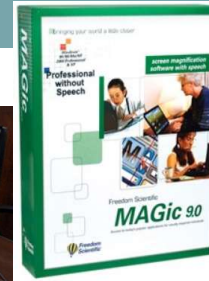


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# Computer Access

- Screen Access
  - Screen magnifiers
    - Built-in zoom features for Windows and Mac
  - Magic
  - SuperNova
  - ZoomText

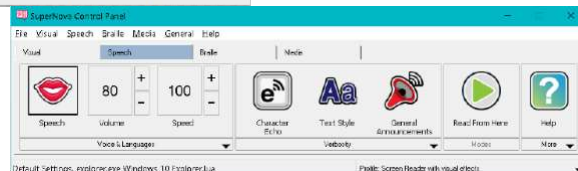
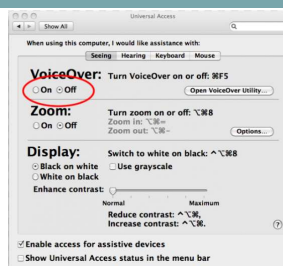


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# Computer Access

- Screen Access
  - Screen Readers
    - Dolphin
    - JAWS
  - Built-in
    - Voice Over – Mac
    - Windows 10



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## Computer Access

- Reading
  - Text-to-Speech
- Writing
  - Word Prediction
  - Voice Recognition
  - Graphic Organizers

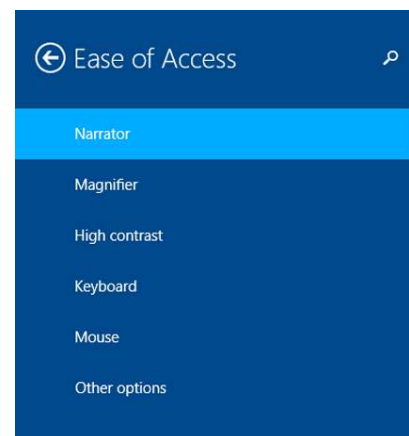


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## Built-in Accessibility Features

- OS Systems have built-in accessibility
  - Keyboard
  - Mouse
  - Screen Access
    - Increase size/font
    - High Contrast
    - Magnifier
  - Voice Input
  - Text-to-Speech



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# Apps

Cornucopia of Apps

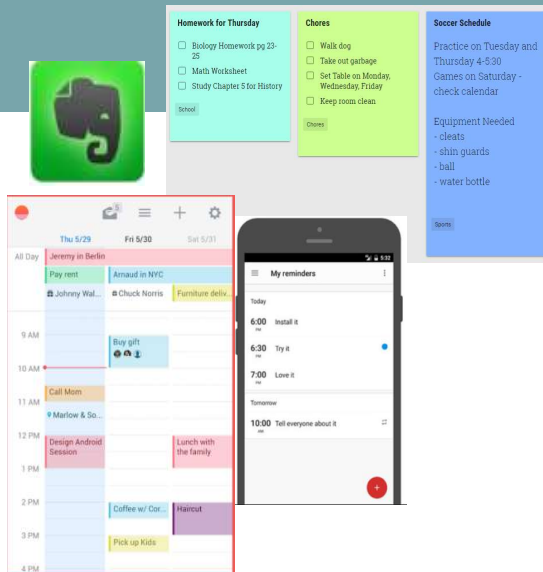


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## Apps

- Timers
- Reminders
- Calendar
- To-Do Lists



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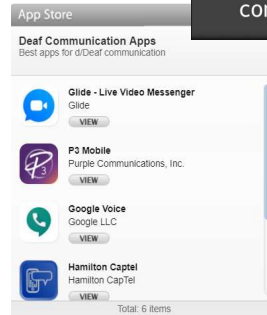
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# Apps

- Hearing Impairments
- Vision Impairments
- Learning Disabilities



truth is so well fixed in the minds of  
the surrounding families, that he is  
considered the rightful property of



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# Meetings, Training, Phones

Accessibility



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## Meetings & Training

- Live captioning
- Video conferencing
- Assisted listening systems
- ILA – Instant Language Assistant



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## Telephone Access

- Captioned telephone systems
- Neck loop listening device
- Amplified phones
- Smartphone accessibility features
- Headset

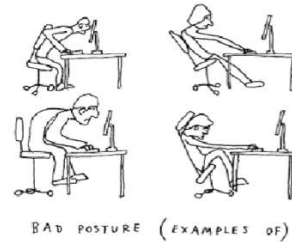


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# Ergonomics

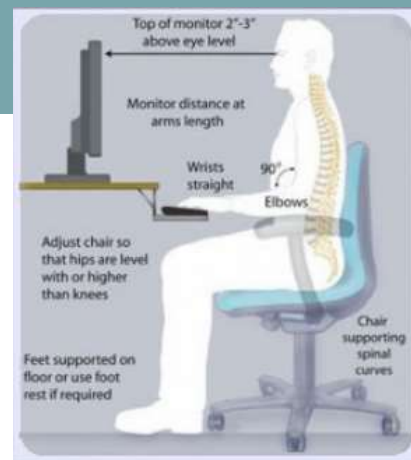
Proper Positioning



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# Ergonomics

- Posture
  - Screen clips
  - Microphone headsets
- Seating
  - Lumbar support
  - Adjustable armrests
  - Footrests
  - Standing desks
  - Alternative/flexible seating
- Repetitive stress syndrome/Carpal Tunnel



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## Universal Design

- Employers should:
  - Consider equipment with UD features (OS)
  - Assess information systems for interoperability with AT
  - Evaluate maintenance of equipment
  - Upgradability – what is needed when software/systems are upgraded



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## Workplace Accessibility

Inclusive Practices



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## Workplace Accessibility

- Create inclusive environments
- Product accessibility
- Empowering employees
- Education



## Workplace Accessibility

- [Access to Technology in the Workplace: In Our Own Words](#)
- JAN: Job Accommodation Network:
  - <https://askjan.org/index.cfm>
  - <https://askjan.org/a-to-z.cfm>
- TechCheck – Assess the accessibility of the workplace technology
  - [Accessible Technology Action Steps: A Guide for Employers](#)

## References/Resources

“AIHA Protecting Worker Health.” An Ergonomics Approach to Avoiding Office Workplace Injuries and Illnesses, [www.aiha.org/about-ih/Pages/an-ergonomics-approach-to-avoiding-office-workplace-injuries-and-illnesses.aspx](http://www.aiha.org/about-ih/Pages/an-ergonomics-approach-to-avoiding-office-workplace-injuries-and-illnesses.aspx).

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Cortiella, Candace, and Sheldon H. Horowitz. “The State of Learning Disabilities.” National Center for Learning Disabilities, 2014.



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## Questions



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## Any Questions after Webinar

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