Five Tips for Better Digital Classroom Accessibility

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- PK-12 Blindness and Visual Impairments Licensure

- K-12 Adapted Curriculum Licensure

- K-12 General Curriculum Licensure

Master's degrees

- Special Education

- Assistive Technology

Graduate Certificates (with Master's option)

- Applied Behavior Analysis

- Assistive Technology

- Autism Spectrum Disorders

Teacher Licensure Certificates (with Master's option)

- Special Education: Adapted Curriculum (K-12)

- Special Education: General Curriculum (K-12)

- Special Education: General Curriculum (Add-on Endorsement)

- Special Education: Visual Impairments (PK-12)

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Accessibility is a comprehensive topic; this session provides a brief overview of selected strategies.

- Accessibility benefits countless students, parents, and teachers <u>with</u> and <u>without</u> disabilities

Disability and Accessibility
- Students may or may not be identified with:
    - Learning disabilities
    - Dyslexia
    - Print and reading disabilities
    - Blindness and vision impairment
    - Visual processing disorders
    - Visual fatigue, changes to visual functioning
    - Convergence insufficiency
    - Visual motor skill and neurological processing considerations
    - Variations in color vision/blindness
    - Migraine and vestibular disorders
    - Sensory integration
    - Deaf and hard of hearing
    - Motor and mobility impairment
    - Health issues
    - Many more
- Parents, colleagues, other stakeholders

Tip 1: Provide actual text, not images of text
Ensure text is presented as text and not as an image capture of the text

- Why: Text as images cannot be altered for font style, size, accessed by screen readers, braille displays, and other technologies

- Images of text are often blurry and do not allow for reasonable access with an OCR or language translator

- Requires significant accessibility **"retrofitting"**

Example: Class Schedule (Actual Text)

Class	Start Time	End Time
1	8:00	8:55
2	9:00	9:55
3	10:00	10:55
4	11:00	12:30
Lunch	Lunch A 11:00 Lunch B 11:30	Lunch A: 11:30 Lunch B: 12:00
5	12:35	1:30
6	1:35	2:30

Inaccessible Example

Class Schedule

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1	8:00	8:55
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(Image capture of class schedule from above)

Inaccessible Example Interactive Slide, Document, Worksheet Example

(Image description: disability and accessibility slide)
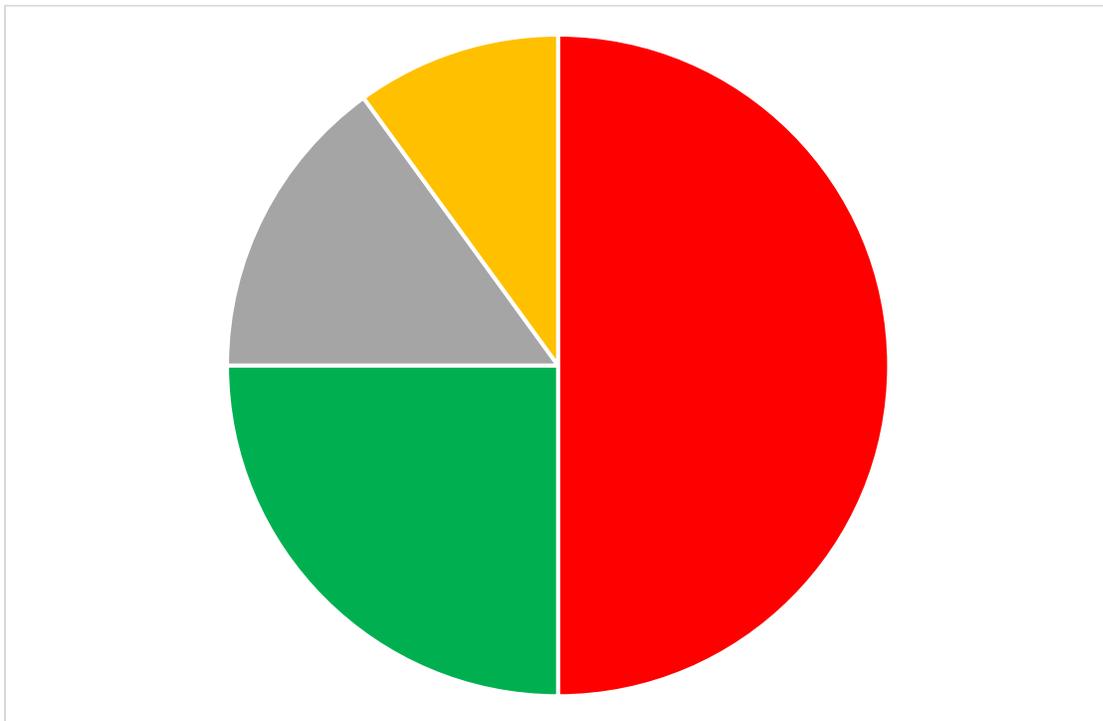
Tip 2: The Four C's:
- Color

- Contrast

- Clutter and

- Crowding

Color Dependent Information
- Color vision

- "Make sure that colors are not the only method of conveying important information." (WebAIM)

- Example of color conveying information on next slide:

Example of Color Dependent Response (Inaccessible)
- Identify in the pie chart which color represents the greatest amount:

- Image description: A pie chart with red, green, yellow, and gray varied portions.

Colour Contrast Analyser (CCA) Paciello Group:
- Image Description: Screen Convert option in the Colour Contrast Analyser with the red, green, yellow, and gray in simulated Deuteranopia colors

- Accessible Option

- Provide text for each color, numeric value, or other detailed, non-color dependent information

Inaccessible Example Color Dependent Response Example

- Group assignments: please move to the breakout room for your assigned team color:

Amy

Chris

Natalie

Aveen

Ahmed

Alex

Jose

Viviaan

(Description: the names Amy, Aveen, Ahmed, and Alex are in green; Chris, Natalie, Jose, and Viviaan are in red)

Accessible Option Suggestions
- Label each group, red and green, with student names under each group title

- Use an * or underline or another discernable feature for each group identifier

- You Try:

Inaccessible Example:

Identify Accessibility Issues and Alternative Options

Parent Information Sheet: Red indicates a required field; green is optional:

1. Parent/guardian name:

2. Student (child) name:

3. List any volunteer services you are willing to provide in our class this year:

4. Preferred phone number:

5. Preferred email address:

6. List days and times you are available to volunteer:

7. List items (cleaning supplies) you are willing to provide to our class:

8. Please let us know about your child and anything we can do to provide support this year:

(Description: Prompts 1 ,2, 4, 5 and 8 are in red; 3, 6, and 7 are in green)

Contrast
- **Test for color contrast:**
- Colour Contrast Analyser (CCA) [Paciello Group](#)
- [WebAIM Contrast Checker](#)
- The next slide contains examples of low and high contrast

Low contrast is represented with a light gray background and gray text

High contrast is represented with a black background and yellow text

Low Contrast
High Contrast

Impact of Contrast
Affects individuals with:

- Visual fatigue
- Some refractive vision conditions
- A common change noted in some age-related vision conditions
- Certain processing and neurological conditions
- Many Others

Options:

Preferences for contrast varies significantly for contrasting colors

Inverted contrast v. non-inverted colors

Impact of Glare and Brightness
- Highly individualized
- Brightness: Preference varies significantly

Low v. high

- Impact of glare

- Importance of assessment and evaluation for customized settings (monitor, computer, devices)

- Teachers: provide materials that allow for customized changes

Clutter and Crowding

- Many students with various known and undiagnosed disabilities benefit from less visual clutter and font/writing that has adequate, non-crowded spacing

- Provide ample space between items, separate complex information, or allow for customized alteration of documents and materials

- Tight lines, patterns, abundant visual clutter can present a challenge for individuals with vestibular disorders

Tip 3: Multimedia, Captioning, Interpreter, and Description

- Captioning and Interpretation

- Captioned media and live captioning

Deaf/Hard of hearing, students with auditory processing disorders, those new to learning English, and many more people benefit from captioning

- Sign language services: consult with your school system on procedures

Description: Video and Instruction

- Video description: provides audio narration of visual information

- Direct instruction: give descriptive information: Instead of "the formula is there", read the formula and note its location

- Provide descriptions of complex tables, charts, visuals

Multimedia: Seizure and Vestibular Considerations

- **Vestibular disorders** are diagnosed more frequently among students and adults Challenges: Static text on top of a moving background, animations

- **Seizures:** Challenges: Flashing, flickering, strobing, optical illusions, continuous motion, various movement

Migraines: some are triggered by visual elements, auditory noises/feedback

- WebAIM Seizure Disorders

Tip 4: Document and Slide Accessibility

Document Accessibility: This is an **abbreviated** list:

- Use headings in your documents and webpages

- Use high contrasting colors

- Provide alt-text

- Specify link in context

- Repeat row as header on tables

- [Learn How: Microsoft: Training Teachers to Author Accessible Content](#)

- [Google Documents and Slide Accessibility](#)

- Alt Text in Google Docs: Demonstration

- Headings in Google Docs: Demonstration

Tip 5: Advocate for Accessibility in Procurement, Installation, and Updates
- Procurement: programs, multimedia, electronic textbooks, applications, software, and hardware purchased must be accessible

- Accessibility must be embedded

- VPAT: are they reliable?

- Adoption: adopting applications and other programs, check for accessibility

- Updates: new program, device, and software updates sometimes "break" accessibility features

- Administrators: consult with accessibility specialists for this involved topic

Accessibility
- Accessible materials, devices, and media make all the difference for students, but requires a **team** and **proactive approach**

- **Retrofitting** accessibility is an intensive and costly process

Bonus Quick Tips: In-person and Hybrid Learning During COVID 19
- Please consider placing contrasting tape/markings around the perimeter of plexiglass (Image description: a clear plexiglass divider partially covers a table.)

- Use high contrasting physical distance markers

- Contrasting color choice will depend on the surface color on which they are affixed

- Image descriptions: two sets of social distancing markers are presented, one with light yellow outlines of people and a light blue directional arrow on a white background. The other, also on a white background, are dark blue with a black two-way directional arrow.
- Provide clear information for non-drivers to access curbside and parking lot waiting room services

Please Take Care of Yourself!
- The 20/20/20 rule
- Ergonomic monitor and positioning
- Customized settings

Resources
- [Assistive Technology Initiative (Mason): Document Accessibility](#)
- [Google Documents and Slide Accessibility](#)
- [Learn How: Microsoft: Training Teachers to Author Accessible Content](#)
- [Virginia Department of Education Accessibility Resources](#)
- [W3C Web Accessibility Initiative](#)
- [WebAIM: Web Accessibility in Mind](#)