Design Plan Document
Full Course | Developing an Accessible Grammar: Mastering Inclusive Practices Online
This Module | Effective Alternative Text for Universally Understandable Images

Course-Level Overview:

This course focuses on accessibility practices, specifically to meet the needs of higher education faculty and staff (K-12 and university) who engage with MS Office and multimedia tools in their work and course design. The aim of these modules is to demystify, simplify, and prioritize accessibility, making inclusive content design feel manageable to those entirely new to the field. This instruction seeks to shift the perspective from anxiety surrounding legal non-compliance and overwhelm about the technical intricacies of Web Content Accessibility Guidelines (WCAG) to a collective and continuous commitment to progress-over-perfection. Our goal is to integrate accessibility seamlessly as a routine principle of practice. Some module-level topics include identifying missing alternative text and writing meaningful audio descriptions, evaluating and correcting errors of color and contrast, and mastering captioning guidelines and best practices to then select appropriate captioning tools from those available.

In a world where seeking accommodations from specialized disability specialists and resource centers can be invasive, lengthy, and harmful to disabled students and employees, this course offers an alternative approach. Instructor-led examples, activities, and assessments provide practical guidance and hands-on experience with both intuitive and formalized accessibility testing. Through real-life, in-person activity-based problem-solving, students will address barriers encountered by disabled users in the digital space. The modules within this course serve as starting points for a continued commitment to inclusive design. They hope to empower participants to proactively elect inclusive design choices.

Duration: Basic Instruction: 40-60 minutes | If optional Deep Dive: 100 minutes

Course-Level Needs Analysis and User Assessment

Needs Analysis

What specific instruction is needed and why?

- Instructional Focus: Replacing common inaccessible habits with easy accessibility principles to shift digital behavior
- Rationale: Crucial for professionals to recognize and rectify habits that hinder access in order to include all students and reduce the accommodation request burden on students.

Does the group or organization have overarching goals? How does this instruction align?

- Organizational Focus: Inclusivity in digital communication. This module directly contributes to this mission.

What skills, competencies, or new knowledge must be acquired to meet the goals?

- Required Skills: Recognizing and addressing inaccessible digital habits and implementing accessible replacements.

What skills do learners already have, and what knowledge gaps exist?

- Existing Skills: Basic computer skills (i.e. using email, using shared drives, developing and presenting slides, etc.)
- Knowledge Gaps: Specific accessibility practices, recognizing common inaccessible habits.

What training will help close the identified gaps?

- Training Focus: Practical training in easy accessibility principles, personal habit recognition (around currently persistent inaccessible practices), and practice in implementation of alternatives upon their introduction.

Will instruction need to be repeated or expanded, and how?

- Periodic refreshers or expanded modules to address evolving accessibility practices or new additions and changes in Web Content Accessibility Guidelines (WCAG).

Contextualizing the Users

Target Audience: University professors overwhelmed by accommodation requests. Many perceive accessibility as overwhelming or the designation of "tech teams" and are uncertain on their own skills. Some are the singular representatives of their departments and must return after these modules to teach their teams.

Significance: Professors currently experience professional burden managing accommodation requests, leading to increased stress and workload. Providing professors with actionable strategies to make their classes more inclusive can reduce request volume. By adopting inclusive practices, professors demonstrate a commitment to meeting the diverse needs of their students and reducing student burden as well.

User Persona Map: Visualizes a composite student of the module and is attached as SVG file separately for resolution reasons.

Practical Use: Hands-on experience with accessibility testing and problem-solving for digital barriers.

Flexibility: Enrichment modules available for deeper understanding. Modules serve as starting point in this educational commitment.

Module-Level Instructional Goal(s):

This module is designed to empower participants with the essential skills needed to create meaningful and inclusive alternative text (alt text) for digital images. The instructional content is structured around four key learning objectives, each targeting a specific aspect of alt text proficiency.

- After completing this module, participants will have **acquired advanced skills in crafting effective alternative text** to ensure universal accessibility for individuals with visual impairments and non-disabled users.
- Participants will **recognize that accessibility revisions are collaborative exercises**, and finding solutions is an iterative process.
- Additionally, participants will develop proficiency in **integrating meaningful alt text across platforms** such as MS Word documents and e-mails.

Module-Level Overview and Learning Objectives:

This module equips participants with skills in creating accessible and inclusive digital content through the instruction in meaningful alternative text (alt text) for visual content, in four stages:

- **Recognize Ineffective Alt Text:**
  - *Description*: Participants identify characteristics of ineffective alt text
  - *Measurement*: Participation in a charades activity where participants act out ineffective alt text, allowing their peers to guess and discuss the issues and gaps.
  - *Skill Emphasis*: Observational and Analytical Skills
- **Apply Alt Text Principles:**
  - *Description:* Participants will apply key alt text principles to create descriptive and inclusive alt text for a variety of images.
  - *Measurement:* Evaluation of participant-created alt text for given images during a hands-on exercise, focusing on principles from the Diagram Center
  - *Skill Emphasis*: Application of Knowledge and Creative Thinking
- **Revise Inadequate Alt Text:**
  - *Description:* Participants will demonstrate the skill of revising non-effective alt text per peer feedback to make it more descriptive and inclusive.
  - *Measurement:* Submission of revised alt text for given images, with a brief self reflection on changes and collaboration.
  - *Skill Emphasis:* Revision and Collaboration
- **Integrate Meaningful Alt Text into Images:**
  - *Description*: Participants insert meaningful alt text across various digital platforms, including MS Word documents and emails*:*
  - *Measurement:* Participants will insert complete alt text into various images in Microsoft Word or Email clients.
  - *Skill Emphasis:* Practical Application and Technical Proficiency

Instructional Content, Events of Instruction, Context and Setting

Overview of the Instructional Content:

The instructional content of this module hopes to empower participants to craft meaningful and inclusive alternative text towards improving content accessibility. Participants will also develop the proficiency to identify and navigate specific features within various platforms, such as Word documents and social media, towards familiarizing themselves with inserting effect alternative text in these programs. This module aims to demystify the process of creating effective alternative text, making it an integral part of inclusive design practice.

Events of Instruction:

- **Introduction to Alt Text**: Setting the foundation by explaining the importance of alt text and its role in accessibility.
- **Recognition of Ineffective Alt Text**: Engaging participants in a hands-on activity where they identify characteristics of ineffective alt text.
- **Application of Alt Text Principles**: Providing opportunities for participants to learn and apply key alt text principles in crafting descriptive and inclusive alt text.

- **Revision of Inadequate Alt Text**: Facilitating a collaborative session where participants demonstrate the skill of revising non-effective alt text based on peer feedback.
- **Integration Across Platforms**: Guiding participants in inserting meaningful alt text into various digital platforms like Microsoft Word documents and emails.

Context and Setting:

The learning will occur in a dynamic and collaborative in-person setting, fostering an environment conducive to active engagement and participation. The context will be a professional development period or afternoon workshop with university professors opting in to enroll. Laptops for examples will be provided by library loan and/or participants can bring their own. The module focus on practical solutions and encourages progress over perfection via iterative alt text exercises. The module is designed for both standard instruction and academic extension/enrichment, acknowledging diverse skill levels among participants. The module also includes some foundational instructional option for those instructors that mis-gauge their levels of understanding upon entering the workshop to still allow participation and meaningful engagement.

Technology Rationales Considering SECTIONS and SAMR Guidelines

The course path may differ if a student has entered this workshop and then found that the level is not quite where they self-gauged. Therefore technology rationales are provided for all paths – foundational, standard (the expectation at entry) and academic enrichment. This choice was made to encourage an inclusive classroom environment and maintain engagement given that self-report of competency and ability and self-gauge may sometimes over-penalize.

Foundational Route Activities

- **Video Conferencing Tools with Auto-Transcription (e.g., Zoom with Otter.ai integration):**
    - **Use:** Demonstrate how auto-transcription supports accessibility in video content. This is for a student who needs an alternative activity that practices similar skills to alternative text generation but cannot access that activity.
    - **Rationale:** Integrate Zoom with Otter.ai for accessibility features, aligning with SECTIONS for single-stream audio feature and SAMR for Redefinition of how video content is made accessible.
    - **Skill Level:** Beginner to Intermediate
    - **Instruction Type:** Foundational
- **Simple Image Viewer (e.g., Microsoft Photos):**
    - **Use:** View images and understand the basics of visual content.
    - **Rationale:** Employ Microsoft Photos for straightforward image viewing, ensuring a foundational understanding of visual content without the need for complex features. Aligned with SECTIONS for Simplicity and SAMR for Substitution of traditional image viewers.
    - **Skill Level:** Beginner
    - **Instruction Type:** Foundational

- **Text-to-Speech Software (e.g., NaturalReader):**
    - **Use:** Assist in understanding written content by converting text to speech.
    - **Rationale:** Incorporate NaturalReader for its straightforward text-to-speech functionality, supporting foundational learners in accessing course materials through

auditory input. Aligned with SECTIONS for Simplicity and SAMR for Augmentation of traditional text-based content.
    - **Skill Level:** Beginner
    - **Instruction Type:** Foundational

Standard Route Activities

- **Screen Share and Presentation Software (e.g., Microsoft PowerPoint):**
    - **Use:** Display examples of effective and ineffective alt text for discussion.
    - **Rationale:** Employ Microsoft PowerPoint for clear presentations, adhering to SECTIONS for Structure and SAMR for Augmentation of traditional presentations.
    - **Skill Level:** Beginner to Intermediate
    - **Instruction Type:** Standard

- **Online Collaborative Platform (e.g., Google Docs):**
    - **Use:** Collaboratively work on hands-on exercises and alt text revision activities.
    - **Rationale:** Google Docs for effective communication and collaboration, aligns with SECTIONS and SAMR for Modification of traditional collaborative activities.
    - **Skill Level:** Beginner to Intermediate
    - **Instruction Type:** Standard

- **Polling or Quiz Software (e.g., Kahoot!):**
    - **Use:** Assess understanding through interactive quizzes.
    - **Rationale:** Implement Kahoot! or a similar tool for engagement; this follows SECTIONS for Engagement and SAMR for Redefinition of assessment methods.
    - **Skill Level:** Beginner
    - **Instruction Type:** Standard

- **Online Image Editor (e.g., Canva):**
    - **Use:** Practice creating and editing images with alt text.
    - **Rationale:** Incorporate Canva for creative expression for students and image design; this is guided by aspects of SECTIONS that focus on multimedia and creative expression, and SAMR because of image editing and modification.
    - **Skill Level:** Beginner to Intermediate
    - **Instruction Type:** Standard

- **Social Media Platforms (e.g., Twitter, Instagram):**
    - **Use:** Analyze and discuss alt text practices on social media.
    - **Rationale:** Utilize Twitter and Instagram for analysis, reflecting SECTIONS for Social Interaction and SAMR for Modification of how alt text practices are discussed.
    - **Skill Level:** Beginner to Intermediate
    - **Instruction Type:** Standard

Academic Enrichment Activities

- **Accessible Rich Internet Applications (ARIA) Validator (e.g., W3C ARIA Validator):**
    - **Use:** Validate ARIA attributes and enhance understanding of web accessibility.
    - **Rationale:** Integrate W3C ARIA Validator for accessibility features, aligning with SECTIONS for Accessibility and SAMR for Modification of validation processes.

    - **Skill Level:** Intermediate
    - **Instruction Type:** Enrichment

- **Image Description Tools (e.g., Microsoft Seeing AI):**
    - **Use:** Explore AI-based alt text generation for images.
    - **Rationale**: Introduce Microsoft Seeing AI for AI-based alt text, aligning with SECTIONS for Technological aspects and SAMR for Redefinition of how alt text is generated.
    - **Skill Level:** Intermediate
    - **Instruction Type:** Enrichment

- **Alt Text Testing Browser Extensions (e.g., WAVE Browser Extension):**
    - **Use:** Evaluate the accessibility of web pages and images in real-time.
    - **Rationale:** Utilize WAVE Browser Extension for real-time testing, reflecting SECTIONS for Accessibility features and SAMR for Modification of testing approaches.
    - **Skill Level:** Beginner to Intermediate
    - **Instruction Type:** Enrichment

Course Map Draft

Module 1: Understanding the Landscape
- Navigating the Accessibility Landscape in Education
- Legal and Ethical Considerations, Importance of Proactive Accessibility

Module 2: Alt Text and Inclusive Image Practices
- Addressing Accommodation Challenges: Introduction to Alt Text
- Identifying Ineffective Alt Text: Real-world Challenges Professors Face
- Simplifying Alt Text Creation: Diagram Center Principles



Module 3: Multimedia Accessibility
- Accommodating Diverse Learners: Captions and Transcripts
- Hands-on Strategies: Making Video and Audio Content Inclusive

Module 4: Document Structure and Navigation
- Structuring Course Materials for Accessibility
- Crafting Navigable Content: The Role of Semantic HTML (in the LMS context, especially)

Module 5: Forms, Quizzes, and Interactive Elements
- Simplifying Forms for All: Accessibility in Interactive Elements
- Practical Tips for Accessible Forms: ARIA and Beyond

Module 6: Flashing Content, Flicker Testing, and Epilepsy Considerations
- Mitigating Risks: Addressing Flashing Content and Flicker
- Practical Flicker Testing: Creating Epilepsy-Friendly Content
- Ensuring Inclusive Learning: Epilepsy Considerations in Educational Materials

Module 7: Testing and User Experience
- Streamlining Accessibility Testing: Tools and Techniques
- Gathering Insights: User Testing and Feedback from Students in Educational Settings

Instructor's Guide for One Workshop – Improving Alternative Text Creation and Image Description

Overview: This workshop aims to empower participants with the skills to create meaningful and inclusive alternative text (alt text) for digital images. Designed for university professors who have reported being overwhelmed with accommodation and remediation requests of course materials, the session will guide participants through hands-on activities and discussions, clarifying the process of effective alt text creation and promoting inclusive design practices.

By the end of this workshop, **participants will**:
1. Acquire and practice skills in evaluating and crafting effective alternative text for universal accessibility in images and charts.
2. Recognize that accessibility revisions are collaborative exercises, emphasizing an iterative process reliant on feedback.
3. Develop proficiency in integrating meaningful alt text across platforms such as MS Word and emails.

Language of Instruction: English

Materials Required (By Activity Below):

Introduction to Alt Text (5 minutes):
- Puzzle pieces (for icebreaker activity)
- Writing materials (if participants choose to write on puzzle pieces)
- Blank sheets of paper and writing utensils (for individual reflection activity)

Recognition of Ineffective Alt Text (15 minutes):
- Pre-selected images with bad alt text examples
- Bucket or container for holding image cards

Instructor Option, Activity 1A, ALT Charades:
- Images with ineffective alt text examples
- Space for participants to act out charades

Instructor Option, Activity 1B, Alt Text Analysis:
- Provided examples of alt text
- Images/charts on reverse corresponding to the alt text examples
- Venn Diagram templates (optional)

Introduction of Diagram Center and Alt Text Principles (20 minutes):
- Presentation slides or materials introducing Diagram Center and alt text principles
- Images representing different subjects (scientific diagrams, charts, maps, etc.)

Creating and Generating Alt Text (20 minutes):
- Instructor Option, Activity 1A, Write It, Trade It:
    - Variety of images for alt text creation
    - Puzzle pieces with images (optional for added challenge)
    - Writing materials
    - Peer feedback forms

- Instructor Option, Activity 1B, Simulated Alt Text, Find it, Fix it:
    - Access to online simulation tools (Microsoft Word auto-generated text, Microsoft Seeing AI, or https://alttext.ai/)
    - Devices or computers

Transition/Break Activity: Imaginary Vacation (10 minutes):

- Soft background sounds (ocean waves, birdsong, gentle rain)
- Guidance script for guided imagery
- Comfortable seating or space for participants
- Optional: Soft blankets or eye masks for added comfort

Revision of Inadequate Alt Text (10-15 minutes):

- Instructor Option, Activity 1A, Alt Text Revision Workshop:
    - Ineffective alt text examples from earlier activities
    - Writing materials
    - Peer feedback forms
- Instructor Option, Activity 1B, Alt Text Peer Review:
    - Alt text descriptions prepared by participants.
    - Peer feedback forms

Integration Across Platforms (10 minutes):

- Instructor Option, Activity 1A, Text Integration Challenge:
    - Images for alt text integration
    - Laptops or devices with Office.
    - Access to a learning management system access (D2L, Moodle, Canvas (free), etc.)
    - Accessibility screener web browser extension (e.g., WAVE)
- Instructor Option, Activity 1B: Platform Exploration and Platform Deletion:
    - Recordings of screen reader demonstrations
    - Devices with various screen readers (Narrator, ChromeVox, Jaws, VoiceOver, etc.)

Closing Reflection and Open Question Session (8 minutes):

- Open space for discussion
- Exit survey forms with questions
- Writing materials or digital devices for responses

Activity Timing and Order Breakdown:

Introduction to Alt Text..... 5 minutes
Instruction Option, Activity 1A: Alt Text Icebreaker: Participants share their understanding of alt text in a brief discussion or writing their understand on the backs of puzzle pieces that are then put together and read out. This second option may allow students who do not wish to center on their person and just the idea to participate. **Rationale:** Engages participants and allows them to contribute existing knowledge.

Instruction Option, Activity 1B: Participants individually jot down their thoughts on the importance of alt text but do not share these with the group. This allows for personal reflection and expression without the time pressure to 'finishing' for students who have more or fewer thoughts to contribute.

Recognition of Ineffective Alt Text.....15 minutes
Instructor Option, Activity 1A, ALT Charades: Participants select an image from a pre-selected bucket of bad alt text examples and try to use the alt text to act out the image so that a partner can guess the image**.** Group can re-convene and discuss the experience after, or write a personal reflection of what the experience was like. **Rationale:** Interactive and memorable, encourages group discussion.
Materials Sample: Images that would be good samples would be an image with a long vignette alt text paragraph, a flowchart that shows complex processes whose alt text is simply, "flowchart with circles and boxes" or "flowchart" and the GoodWill logo where the alt text isn't meaningful to say GoodWill but provides a detailed description of the baby.

Instructor Option, Activity 1B: Alt Text Analysis:
Participants analyze provided examples of alt text, identifying strengths and weaknesses when compared to the picture on reverse. Can use/introduce a Venn Diagram to help organize thinking and encourage a discussion around how participants would generated alt text for their own Venn Diagrams.
Rationale: Develops analytical skills and encourages critical thinking.

Introduction of Diagram Center and Alt Text Principles .....20 minutes
Activity (All): Begin with a brief overview of the Diagram Center and its role in promoting functional alt text for images. Explore and simplify these principles together. **Rationale:** Setting the context helps participants understand the significance of functional alt text in creating inclusive content.
Hands-On Exercise: Present participants with a variety of images representing different subjects (scientific diagrams, charts, maps, etc.). Some can be from the ice breaker. Ask them to identify elements that require functional alt text based on the Diagram Center's principles.
Rationale: This hands-on approach allows participants to directly apply theoretical knowledge and understand the practical aspects of creating alt text for diverse images.

Creating and Generating Alt Text.....20 minutes
Instructor Option, Activity 1A, Write It, Trade it, Participants apply alt text principles to create descriptive and inclusive alt text for images. It would be interesting to incorporate challenge here if needed and put in 3D images or images with text to increase the challenge here and highlight how the same image can have different alt text based on *context*, highlighting a Diagram Center principle.
Rationale: Reinforces theoretical knowledge and enhances skill development, while getting peer feedback.

Instructor Option, Activity 1A, Simulated Alt Text, Find it, Fix it:
Participants use an online simulation tool (Microsoft Word auto-generated text or Microsoft Seeing AI) to contribute to the editing AI-generated alt text to improve it. https://alttext.ai/ is another option.
Rationale: Provides a virtual hands-on experience.

Transition/Break Activity: Imaginary Vacation .....10 minutes
Guidance (2 minutes):
- Instruct participants to close their eyes or focus on a comfortable spot in the room.
- Let them know that they are about to embark on a mental vacation to a peaceful destination.

Guided Imagery (5 minutes)
- Describe a serene and imaginary location, such as a quiet beach, a peaceful forest, or a cozy cabin in the mountains.
- Encourage participants to vividly imagine the sights, sounds, and sensations of this calming place.

Soft Background Sounds (2 minutes):

- Play soft, soothing background sounds like ocean waves, birdsong, or gentle rain to enhance the immersive experience.

Reflection (1 minute):

- After a few minutes, guide participants to slowly return to the present moment.
- Ask them to reflect briefly on how the mental vacation made them feel.

Rationale:

- This activity provides a mental break from activities that may have had a more involved cognitive load while holding to the unit's focus on images and image description, loosely.
- Imaginary vacations allow participants to mentally detach and experience a sense of calm.
- Soft background sounds or providing a soft blanket can add an auditory element and textural element to enhance relaxation.

It is important to be mindful of participants' comfort levels and preferences. Adjust the duration and details of the guided imagery to suit the overall tone of your session.

Revision of Inadequate Alt Text.....10-15 minutes

Instructor Option, Activity 1A, Alt Text Revision Workshop

Participants revise non-effective alt text based on peer feedback. **Rationale:** Collaboration enhances learning and exposes participants to diverse perspectives.

Instructor Option, Activity 1B, Alt Text Peer Review

Participants swap alt text descriptions and provide constructive feedback to each other. **Rationale:** Focuses on peer interaction and skill refinement.

If students have already mastered this, through extensions in preceding activities and do not feel that this activity is helpful or feel that it is redundant. An option here is to cater to the audience and use this time to see if participants can resolve 1-5 alt text barriers in their taught course for which they received accommodations requests. Students can help other students resolve some of these and collaborate.

Integration Across Platforms.....10 minutes

Instructor Option, Activity 1A, Text Integration Challenge

Participants insert complete alt text into various images in Microsoft Word or email clients or D2L or Canvas learning management systems. When completed, it can be rewarding to upload or link these to an accessibility screener like WAVE to see the results show "alt text present or complete." This last step can also begin an introducing to automated accessibility testing.

Rationale: Practical application reinforces skills and ensures participants can transfer knowledge.

Instructor Option, Activity 1B: Platform Exploration and Platform deletion

Play recordings from screen readers to demonstrate how screen readers cut off long alt text. Focus on flowchart and diagrams for which the group has generated alt text here to show how different screen readers can vary in how they break and communicate the same alt text. Have students identify one similarity and one surprise from the recordings (out loud or on a post it that is put in a shared bin and read.

Technology needed: Instructor familiarity with Narrator, ChromeVox, Jaws, VoiceOver etc,

Rationale: Encourages exploration and application across diverse settings.

Closing Reflection and Open Question Session..... 8 minutes

Students can have an open question and answer period, reflections on the workshop, and are invited to give feedback on a one question survey for future workshop ideas, improvement on this one, and whether or not their learning goals felt met. Students are also encouraged to gauge their level of anxiety around instruction and meeting student course accommodation requests around image description and alt text after this point. **Rationale:** This activity provides feedback for continuous improvement, assesses learning goals, addresses anxiety around accomodations requests to verify if the user map and assumed user was outlined correctly, and generates both content and estimates for engagement in future workshops.

Exit Survey Questions:

- **Overall Workshop Evaluation** - On a scale from 1 to 5, how would you rate the overall effectiveness of this workshop?
- **Most Valuable Insights** - What specific aspects of the workshop content did you find most valuable or insightful?
- **Suggestions for Improvement** - What suggestions do you have for improving the structure or content of this workshop?
- **Future Workshop Ideas** - Are there specific topics or areas related to accessibility and inclusive design that you would like to see covered in future workshops?

Future Plans for this Module

- Incorporate ongoing **research findings** and advancements in alt text and accessibility into the module to ensure content remains current and aligned with the latest best practices.
- Establish a **community of practice** or **discussion forum** where participants can continue to share experiences, challenges, and solutions related to alt text and inclusive practices.
- Develop **additional modules** within the broader course, addressing specific accessibility topics such as video captioning, interactive media accessibility, and emerging technologies in the accessibility space.
- Encourage participants to **collaborate on real-world projects**, applying their alt text skills to create inclusive content for educational resources, thereby contributing to the larger accessibility community.
- Work towards the **integration of accessibility principles into institutional policies** and practices, fostering a culture of inclusion within the academic community.
- Expand the program to offer **advanced workshops** or webinars, allowing participants to deepen their expertise in alt text and related accessibility topics. Accessible digital comics?
- Collaborate with accessibility-focused organizations to **bring in guest speakers**, provide additional resources, and enhance the overall learning experience. i.e. AbleGamers and alt text in static frame gaming?
- Establish a continuous **feedback loop with participants**, gathering insights on the effectiveness of the module and making iterative improvements based on their input.
- Address the limitations and potential harm of using **simulations for disability representation**, fostering understanding among participants about the complexities of representing disabilities accurately, even when screen reader testing for alt text compliance.