



TIPS, TOOLS & INTELLIGENCE
FOR DEVELOPING TALENT

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DESIGNING SECTION 508 COMPLIANT LEARNING

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LEARNING TECHNOLOGIES

DESIGNING SECTION 508 COMPLIANT LEARNING



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WHAT IS CONSIDERED A DISABILITY?	1
WHAT IS SECTION 508 COMPLIANCE, AND HOW DID WE GET HERE?	1
WHO NEEDS TO COMPLY?	4
WHAT THIS MEANS FOR L&D PROGRAMS	5
PREPARING TO ASSESS YOUR PROGRAMS FOR COMPLIANCE.....	6
UNIVERSAL DESIGN PRINCIPLES	7
INSTRUCTIONAL DESIGN STRATEGIES FOR ACCESSIBLE LEARNING	9
DESIGNING ACCESSIBLE LEARNING	12
CONCLUSION.....	13

REFERENCES & RESOURCES	14
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JOB AIDS

Context/Methodology Matrix.....	15
Preliminary Compliance Action Plan.....	16

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Roughly 19 percent of the U.S. population has a disability of some sort, and some people have more than one. As an L&D professional, you want the course materials you create to be available to all of your learners. So whether you're designing for an online course, an instructor-led classroom, or any other format, you need to be concerned about accessibility. This means making sure your participants—from a person with a severe vision or hearing disability, to a person who wears glasses, to a person with a physical disability or movement disorder—can access (or actually use) the content.

Not only do you *want* to reach your learners where they are, in many cases, you are *required* to do so by law. Section 508 of the Rehabilitation Act and the Americans with Disabilities Act require that information technology be available to all individuals, regardless of disability. L&D professionals need to be aware of these laws when preparing their training materials. In addition, organizations you work with may want to ensure accessibility that goes beyond the bare minimum of what is required under law.

Let's explore the myths and facts about making training accessible to every learner so we can design learning programs that provide access to visuals, images, videos, audio, text, links, colors, and activities so that no learner is left behind. In this issue of *TD at Work*, we will explore design techniques and ideas for developing accessible content as required for programs that are funded by federal grants or other government funds. It is possible to make your content accessible to every learner and to keep it legal, engaging, and inclusive!

This publication will:

- explore the laws and standards and explain how to evaluate your current programs for compliance
- tackle the challenge of creating accessible visuals, activities, and quizzes that engage your learners and optimize the learning process
- develop real-world solutions for visual and audio content and identify what you can and cannot do during the design process

- examine options for assessing learning, testing your system, and integrating it into your learning management system
- establish a plan for a comprehensive review process that includes the steps to take and the tools you need to proceed confidently.

WHAT IS CONSIDERED A DISABILITY?

This may seem simplistic, but it is important to be clear about this definition. Perhaps the clearest definition of a disability comes from the Americans With Disabilities Act (ADA). To be protected by law, a person must have a disability or a relationship or association with an individual with a disability.

An individual with a disability is defined by the ADA as a person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment. The ADA does not specifically name all of the impairments that are covered under the law. However, here are a few “major life activities” that are covered: walking, talking, hearing, seeing, eating, breathing, learning, and more—perhaps you get the idea.

Although we use the ADA to provide the definition of disability, Section 508 is not part of the ADA. The ADA protects the civil rights of individuals with disabilities, while Section 508 of the Rehabilitation Act ensures accessibility to digitally published materials.

WHAT IS SECTION 508 COMPLIANCE, AND HOW DID WE GET HERE?

U.S. disability laws have been in development for many years and provide the foundation and framework for where we are today. These laws came on the heels of the civil rights laws of the 1960s. In many ways, these laws represent an awakening of the United States, an awakening to

the rights and needs of a population of people who have been marginalized.

The spirit of these laws is to truly provide access to information and opportunity.

Rehabilitation Act of 1973

Often called the Rehab Act of 1973, this law is where Section 508 comes from; it requires affirmative action in employment by the federal government and by government contractors, and it prohibits employment discrimination on the basis of disability in federal employment, in programs conducted by federal agencies, in programs receiving federal financial assistance, and among federal contractors. Training and development professionals (instructional designers, trainers, coaches, and so on) who work with federal agencies or who receive federal financial assistance are bound by this law.

Rehabilitation Act Amendments of 1998

In 1998, Congress amended the Rehabilitation Act to add Section 508, which requires federal agencies to make their electronic and information technology accessible to people with disabilities. The law applies to all federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508, agencies must give employees with disabilities and members of the public access to information that is comparable to the access available to others.

DISABILITY LAWS CAME ON THE HEELS OF THE CIVIL RIGHTS LAWS OF THE 1960S—IN MANY WAYS THESE LAWS REPRESENT AN AWAKENING OF THE UNITED STATES, AN AWAKENING TO THE RIGHTS AND NEEDS OF A POPULATION OF PEOPLE WHO HAVE BEEN MARGINALIZED.

2017 Update

On January 18, 2017, the United States Access Board—an “independent federal agency that promotes equality for people with disabilities

through leadership in accessible design and the development of accessibility guidelines and standards”—published an updated set of requirements for information and communication technology covered by Section 508 of the Rehabilitation Act and Section 255 of the Telecommunications Act.

The Section 508 standards apply to electronic and information technology acquired by the U.S. government, including computer hardware and software, websites, multimedia, phone systems, and copiers. Meanwhile, the Section 255 guidelines apply to manufacturers of telecommunication equipment and address access to telecommunications products and services.

The new rule, published jointly, updates and reorganizes the Section 508 standards and Section 255 guidelines in response to changes in technology, innovation, and market trends. The refresh also aligns these sections’ requirements with those of other guidelines and standards, both in the United States and abroad. Such standards include the Web Content Accessibility Guidelines and guidelines issued by the European Commission.

Americans With Disabilities Act

The Americans with Disabilities Act (ADA) was signed into law in 1990. There are five titles of the ADA, with Title III being the most relevant to designing and delivering training because it involves educational and instructional training modules. The other titles have been included here because employers are required by law to provide reasonable accommodation in the workplace. Training and development professionals may be asked to restructure their training program as it relates to the other ADA titles.

Title I: Employment

These are the requirements of the ADA as they relate to employment.

- requires employers to provide reasonable accommodations for applicants and employees with disabilities
- prohibits discrimination on the basis of disability in all aspects of employment

- for these purposes, reasonable accommodations include:
 - restructuring jobs
 - making work sites accessible
 - modifying work schedules
 - providing services, such as interpreters, and modifying training materials, examinations, and policies.

The law requires that employers make these reasonable accommodations only if they do not impose an “undue hardship” on the employer. Any individual covered must be qualified for the position.

Title II: Public Services

Title II applies to state and local government agencies and stipulates that they cannot deny services to people with disabilities or deny participation in programs or activities that are available to people who do not have disabilities. In addition, public transportation systems—such as public buses—must be accessible to individuals with disabilities.

Title III: Public Accommodations

Under Title III, establishments that are open to and for the public must be accessible to persons with disabilities. This rule applies to restaurants, hotels, retail stores, privately owned transportation systems, and so on. Further, the title requires that new construction and modifications must be accessible and that existing facilities must remove barriers if readily achievable.

Finally—and this is where talent development comes into play—educational programs and instructional technology must be accessible to individuals who are hearing impaired or deaf. The law includes state and local governments and some private organizations and mandates the provision of appropriate auxiliary aids and services where necessary.

Title IV: Telecommunications

Companies offering telephone service to the general public must have a telecommunications relay service for individuals who are deaf. These

are telephone transmission services that enable individuals with a hearing or speech impairment to communicate by wire or radio with a hearing individual in a manner that is functionally equivalent to the ability of an individual without a hearing or speech impairment. These services enable two-way communication between an individual who uses a telecommunications device for the deaf (TDD), or other non-voice terminal device, and an individual who does not use such a device.

Title V: Miscellaneous

Title V of the ADA prohibits coercing, threatening, or retaliating against individuals with disabilities or those attempting to aid those people with disabilities.

Additional Legislation

Several additional U.S. laws have helped set the stage for where we are today in terms of ensuring that our communications—including those around learning and training—are accessible to people with disabilities.

Television Decoder Circuitry Act of 1990

All televisions manufactured after 1993 with a screen size of 13 inches or larger are required to have a built-in closed-caption decoder. This may not be a significant issue anymore, because few organizations still use televisions manufactured prior to 1993. However, those of you using old TVs need to be aware of the need to caption any materials or programming for audience members who are deaf or hard of hearing. If you are using a newer television with built-in captioning, make sure you know how to turn the feature on.

Telecommunications Act of 1996

In 1996, the Telecommunications Act was passed, requiring video programming distributors (cable operators, broadcasters, satellite distributors, and other multichannel video programming distributors) to add closed captions to their television programs. In 1997, the Federal Communications Commission set a transition schedule requiring distributors to provide an increasing amount of captioned programming. Make sure that any materials you use comply with

these requirements and that you know how to access the captions.

Technology-Related Assistance for Individuals With Disabilities Act of 1988

Assistive technology is any piece of equipment or product that is acquired, modified, or customized to improve or maintain functional capabilities of individuals with disabilities. Such products could be electronic devices that make communication possible, or such items as magnifiers, closed-caption television, or a Braille note-taking computer.

Assistive devices can help employers comply with the ADA. L&D professionals should be aware of the technology participants may be using, including how it might assist in making the training course material accessible.

Web Content Accessibility Guidelines

Unlike the U.S. laws already discussed, the Web Content Accessibility Guidelines (WCAG) 2.0 are international in scope. Although they are just standards—that is, suggested guidelines and best practices—some countries have chosen to adopt WCAG as a legal requirement. The guidelines were developed by the World Wide Web Consortium, which also developed such standards as HTML.

Which guidelines should you follow, Section 508 or the WCAG? The proposed new standard, adopted in January 2017, for Section 508 incorporates WCAG 2.0, requiring accessibility that complies with WCAG Level AA.

According to WCAG, there are three levels of accessibility:

- Level A (minimum): the most basic web accessibility features
- Level AA (midrange): deals with the biggest and most common barriers for users with disabilities
- Level AAA (highest): the highest level of web accessibility.

As Kevin Gumienny explains in his TD article, “E-Learning for All,” meeting these standards translates into your e-learning being:

- perceivable, meaning that all learners can access the content through, for example, text alternatives for video and audio content
- operable, meaning that all learners can use the interface, which may require, for example, making certain functionalities available from the keyboard instead of just a mouse
- understandable, meaning that content appears and operates in predictable ways
- robust, meaning that material can be interpreted by assistive technologies, such as screen readers.

IF YOU WORK FOR A FEDERAL AGENCY, HAVE A CLIENT WHO IS A FEDERAL AGENCY, RECEIVE FUNDING FROM THE U.S. GOVERNMENT, OR HAVE LEARNING PROGRAMS AND CONTENT THAT THE FEDERAL GOVERNMENT MAKES AVAILABLE TO THE PUBLIC, YOUR CONTENT AND LEARNING PROGRAMS MUST BE COMPLIANT WITH THE LAW .

WHO NEEDS TO COMPLY?

As Tanya Seidel explains in her ATD Learning Technologies blog post, Section 508 of the Rehabilitation Act requires that both members of the public and federal employees be able to access electronic and information technologies developed, procured, maintained, or used by federal agencies. The standards also apply to electronic and information technology procured by the federal government and made available to the public, including computer hardware and software, websites, phone systems, and copiers.

In other words, if you work for a federal agency, have a client who is a federal agency, receive funding from the U.S. government, or have learning programs and content that the federal government makes available to the public, your

content and learning programs must be compliant with the law.

But companies with which you work may want to go behind the letter of the law. As Gumienny notes in his TD article, “The private sector is being challenged to ensure that its online presence complies with the ADA. In 2016, more than 250 lawsuits were filed against companies in the retail, hospitality, and financial services industries, alleging that their websites were inaccessible to users with disabilities.”

WHAT THIS MEANS FOR L&D PROGRAMS

If you look at the learning and development programs that are designed and delivered in organizations around the world, you can break down everything we do into three basic categories of learning environments:

- face to face
- online, instructor led
- online, asynchronous.

Table 1 provides example scenarios relating to program design and development considerations for each of those three categories. Some of these development opportunities focus on preparing the participants, not just instructional design and technology. When trying to create a culture of inclusion (not just compliance), the supervisor or manager the employee will work with for on-the-job training not only must be educated on the legal requirements, but also must be able to respond to the human needs of employees with disabilities.

After considering the type of learning and how to make it generally accessible to a broad range of learners, the next step is to consider the individual learning needs as they relate to accessibility. We are not new to needs assessment in learning and development; however, our focus has traditionally been centered around the topical or competency-focused needs of our learners, as well as how to design and deliver the content most effectively.

Essentially, what the 508 requirements ask us to do is to add another layer to our needs assessment considerations.

TABLE 1. LEARNING ENVIRONMENTS

	Face to Face	Online, Instructor Led	Online, Asynchronous
Example Scenarios	• classroom training • coaching and mentoring • on-the-job training	• webinars • webcasts • conference calls	• e-learning • websites and wikis • learning management system
Considerations	• designing accessible curriculum and materials • preparing the trainer in participants' access needs • coaching the supervisor	• verifying software accessibility • designing accessible curriculum and materials • preparing the presenter and subject matter experts on participants' access needs	• verifying software accessibility • designing accessible curriculum and materials • providing easy access to assistance when needed

Note: Not a comprehensive list

Table 2 shows that there are overlapping types of impairments and related needs. For example, someone who is deaf or hard of hearing obviously has an auditory impairment; however, some learning disabilities also have an auditory processing component. Similarly, someone who is blind or has limited vision has a visual impairment, and some learning disabilities (such as dyslexia) have a visual processing aspect that would require a similar accommodation as those for someone with a visual impairment.

In many ways, this is similar to what happened in the early 1990s when physical and architectural changes were made to buildings and sidewalks after the passage of the ADA. One unexpected benefit of adding physical curb cuts at intersections for people who use wheelchairs was the fact that delivery personnel and parents with children in strollers could move more easily. In a nutshell, accommodating one learning need will benefit people with more than one type of need. For example, you may find that accommodating different learning needs also benefits individuals with language or literacy needs (such as closed captioning aiding people who have English as a second language). And people without any special needs also may appreciate the additional supports.

So, let's put this all together. Table 3 on pp. 8–9 pairs the different learning environments with the access needs of people with disabilities. Across the top are the three main learning environments (identified in Table 1), and down the left are the four main learning access needs (identified in Table 2). Each box in the chart provides some ideas for accommodating the learning needs in each of the learning environments, such as examining color choice and contrast on slides or allowing extra time for individual activities or worksheets.

PREPARING TO ASSESS YOUR PROGRAMS FOR COMPLIANCE

Getting all of your course materials 508 compliant can be daunting. Now that you have learned a bit about various disabilities, including ones that may not manifest themselves overtly, you should think about your own training modalities and types of programs you facilitate.

Here are five steps to get started:

1. Complete an inventory of all learning programs and courses your organization offers.

TABLE 2. ACCESS NEEDS FOR PEOPLE WITH DISABILITIES

People with the disabilities listed below tend to have access needs that fall into four categories. The specific accommodations needed will vary, based on individual needs.

Auditory	Visual	Physical	Cognitive
• deaf • hard of hearing • hearing impaired • cognitive processing • ADHD	• blind • limited vision • dyslexia • color blind • cognitive processing • ADHD	• mobility • ambulatory • motor coordination • hand/eye coordination	• ability to focus • learning differences • cognitive processing • ADHD • stress or anxiety

2. Compile a list of all software programs used to manage learning programs (such as your LMS, CMS, and LCMS).
3. Identify your most frequently used program or content, then sort the course inventory by one or more of these categories: most attended, most important (regulatory), strategic imperatives, and so forth.
4. List all your instructional methodologies, both those you employ now and those you plan to use in the near future:
 - face to face, on the job, coaching, mentoring
 - online, asynchronous, mobile
 - website, wiki, LMS
 - gamification.
5. Explore learning access needs, both stated needs for accommodations and unstated potential needs.

If you have a large learning library, it is going to take some time to complete this analysis. Once you've completed the five steps, prioritize the most frequently used programs, tools, and resources when developing your action plan so that you can address the accessibility of your key programs in a relevant and strategic order. And remember that beyond the tools and programs is the human element—what the manager needs to be aware of and how an employee with a hidden disability may feel about discussing it.

UNIVERSAL DESIGN PRINCIPLES

As the number of individuals being diagnosed with disabilities has increased (both in the United States and around the world, according to the U.S. Census Bureau and the World Health Organization), it's important to understand and use instructional and technological strategies for accommodation in the learning environment. There are a number of things instructors can do while planning a course to make it more accessible to all participants. Proactively considering these

strategies is part of a process called universal design (UD). UD offers these suggestions:

TO DESIGN ACCESSIBLE LEARNING, IT HELPS TO BEGIN WITH A PERSPECTIVE OF UNDERSTANDING, A POSITIVE MINDSET, AND A WILLINGNESS TO ACCEPT THE CHALLENGE.

Before a Program

- Include a statement in your course communication inviting participants to communicate with you about disability-related issues.
- Clearly define course requirements, state whether assessments are required, and tell participants if there are learning assignments outside of class time. Avoid last-minute readings or new assignments.
- Provide printed materials early to allow participants sufficient time to read and comprehend the material. Many participants with disabilities find it beneficial to use software that can read the materials aloud.

During the Learning Experience

- Use multimodal methods to present classroom material, so as to address a variety of learning inputs (auditory, visual, kinesthetic). Provide important information in both oral and written formats.
- When facilitating the program, state the learning objectives, review previous lessons, and summarize periodically.
- Use more than one way to demonstrate or explain information.
- Read aloud what you write on the board or present on a projected visual.
- Keep instructions brief and uncomplicated. Repeat them word for word.
- Allow time for clarification of directions and other essential information.

- Know how to turn on the captioning feature, and use captioned videos. Although captioned videos are typically used for participants who are deaf, they also help some participants with learning disabilities and those for whom English is a second language. Give participants an opportunity to view a video multiple times by making it available in a library or learning center or on a website.

Outside Class

- Provide study guides or review sheets.
- Have multiple methods for course assessment, such as allowing participants to take an assessment; work alone or in a group; or deliver an oral, written, or videotaped project presentation.
- Design distance learning courses with accessibility in mind. For example, avoid

TABLE 3. LEARNING ENVIRONMENTS AND ACCESS TO LEARNING

	Face to Face	Online, Instructor Led	Online, Asynchronous
Auditory Access	• Offer sign language interpretation. • Provide hard and/or soft copy of materials. • Ensure that all course videos you use have closed captioning. • Provide specific written directions for learning activities and worksheets.	• Utilize live closed captioning of the webinar. • Provide transcripts of live presentation and dialogue. • Ensure that all course videos you use have closed captioning. • Provide transcripts for course videos. • Develop a script prior to session, if possible.	• Provide closed captioning of all spoken words. • Ensure that all course videos you use have closed captioning and/or transcripts. • Review all auditory directions provided in the course and ensure that the same directions are provided visually.
Visual Access	• Provide hard and/or soft copy of materials prior to class. • Create clear verbal description of all photos and graphics (capture the context). • Examine color choice and contrast of slides and graphics. • Be very specific when providing directions about breaks, lunches, activities, restrooms, and so on.	• Ensure screen reader can access “live chat” stream. • Provide clear verbal description of photos, graphics, and video. • Use “alt-tabs” on photos and graphics for screen reader access. • Make sure webinar software is accessible via keystroke. • Examine color choice and contrast of slides, graphics, and other visual images.	• Ensure all content is accessible via keystroke, not just mouse-enabled drag and drop. • Use “alt-tabs” on photos and graphics for screen reader access. • Review all visual directions provided in the course, and ensure that the same directions are provided auditorily. • Test the program to ensure it really is accessible.

real-time chat sessions because not all participants can type quickly or accurately enough to fully participate.

INSTRUCTIONAL DESIGN STRATEGIES FOR ACCESSIBLE LEARNING

Learning can be disempowering to a disadvantaged group in ways that are invisible

to the advantaged group, and some learning professionals are hesitant to embrace the importance of designing accessible learning programs. Instructional design has evolved over the years; new and creative ways have emerged to implement fun and interactive games and methodologies that we hope enhance the learning experience. But truth be told, I believe that most initial design approaches assume that the participants have no barriers to learning.

	Face to Face	Online, Instructor Led	Online, Asynchronous
Physical Access	• Ensure that there is physical access to the training location (such as a ramp). • If an activity requires physical movement, inquire about ideas for inclusion. • Never assume that participants with disabilities can't participate. • Allow extra time for individual activities, worksheets, and assignments.	• Vary methodology for participation—including live chat and vocal discussions. • Consider movement limitations, and allow extra time for transition to breakout rooms. • Allow extra time for individual activities, worksheets, and assignments. • Never assume that participants with disabilities can't participate.	• Remove time-based restrictions in the course. • Consider enabling both keystroke and mouse-enabled content (such as drag and drop) to allow for multiple ways for access. • Provide both audio and visual directions. • Include closed captioning to provide additional access.
Cognitive Access	• Remember that cognitive and psychological needs are invisible and you may not be aware of a need for accommodations. • Be flexible to requests for variation if possible. • Variety is key—all of the above methodologies for access can apply here. • Allow extra time for individual activities, worksheets, and assignments.	• Ensure that all directions and expectations are clearly communicated. • Be flexible to requests for variation if possible. • Variety is key—all of the above methodologies for access can apply here, especially those for auditory and visual needs. • Allow extra time for individual activities, worksheets, and assignments.	• Remove time-based restrictions in the course. • Consider enabling both keystroke and mouse-enabled content (such as drag and drop) to allow for multiple ways for access. • Provide both audio and visual directions. • Include closed captioning to provide additional access.

Note: This tool is not comprehensive. The intent is to provide an overall view of learning environments and designing access to learning.
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To design accessible learning, it helps to begin with a perspective of understanding, a positive mindset, and a willingness to accept the challenge. Let's explore five instructional design strategies and how we can use them to promote access and inclusion for learners with disabilities. You will see that, in many cases, designing for accessible learning will benefit all learners, not just those with disabilities.

Use Design Thinking to Discover Creative Approaches

According to Tim Brown, CEO of IDEO, "Design thinking can be described as a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible." Design thinking is solution focused, not problem focused; instructional designers need to draw upon logic, imagination, intuition, and reason to explore the possibilities for creating the best outcome for learners. At first, it may be helpful to work with L&D colleagues and explore each aspect of design thinking.

For example, you might assign an aspect of design thinking to each team member—similar to Edward DeBono's "Six Thinking Hats"—then talk through how you might address accessibility

at each stage of the course design process. You really can't make a course accessible until you have envisioned how best to communicate a concept using different methodologies. Begin with a mindset for inclusion, and the job will go more smoothly than if you try to redesign your course after the fact: Section 508 or WCAG compliance is not an "add in."

As DeBono suggests, approaching the course design with others can be especially helpful early on. See the sidebar, Role-Based Approach to Accessible E-Learning, for tips on dividing up aspects of the process of ensuring accessible training.

Write Clear and Concise Learning Objectives

Well-written learning objectives provide a clear picture of what you expect learners to be able to do as a result of the lesson. According to Robert Mager, learning objectives should be specific and measurable and should guide both instructors and students in the learning process.

Mager's ABCD model for learning objectives includes four elements: audience, behavior, condition, and degree of mastery needed. Whether you're writing learning objectives for

ROLE-BASED APPROACH TO ACCESSIBLE E-LEARNING

In his August 1, 2017, *TD* article, "E-Learning for All," Kevin Gumieny suggests—based on Bill Tyler of Optum Technology's explanation at the CSUN Assistive Technology Conference—using a roles-based approach to fold accessibility into the development and process of learning creation.

The instructional designer, as the designer of the learning experience, thinks about just that: Can someone who has a visual disability, for example, see a timeline?

Course developers, Gumieny states, are the "link between instructional content and learner access." They make sure all content is available to all learners. Such questions to be aware of here include, Are captions available to the learner? and Can a screen reader perceive all the course content?

It is the hope that, when testing the course material, all systems are a go rather than still having problems to address. Checklists can assist course testers (and others) as they make sure everything works as it should. Gumieny writes, "Making something accessible means meeting several criteria. Checklists ensure that people don't have to remember everything every time. They bring consistency when different reviewers examine the same course."

Incorporating accessibility into the process helps to ensure not only that your e-learning courses are accessible but also that the process is efficient.

participants with or without disabilities, it is important to remember all four prongs of the model. Each aspect of the model is even more important, however, when designing accessible learning because the needs of audience and the behavior to perform on the job are all the more critical.

The two most frequent mistakes that instructional designers make when writing learning objectives are:

- The objective is too vague and does not focus on the particular behavior expected. See these examples:
 - *Vague objective:* Participants will learn the key aspects of essential communication.
 - *Specific objective:* Participants will demonstrate the four steps to having a difficult conversation.
- Too many behaviors are built into one objective. Each objective should be written to support behavior—such as to demonstrate, identify, discuss, explain, and so on. Bloom’s Taxonomy is a great resource for pinpointing active verbs to describe the specific behavioral change learners should attain from the training or program.

BEGIN WITH A MINDSET FOR INCLUSION, AND THE JOB WILL GO MORE SMOOTHLY THAN IF YOU TRY TO REDESIGN YOUR COURSE AFTER THE FACT: SECTION 508 OR WCAG COMPLIANCE IS NOT AN “ADD IN.”

Create a Course Structure That Makes Sense

Have you ever participated in a poorly designed course? Or tried to complete an activity that had incomplete or confusing directions? Too many of us have! A course structure that flows well and integrates all key concepts of the content presents the content in a digestible format, reduces confusion, and creates a positive learning experience.

In asynchronous e-learning courses, the flow is typically in this order: welcome, instructions, objectives, course content, assessment, summary, next steps, and exit instructions. Always consider the content: Is it linear and, therefore, has to be presented in a particular order? Or are you starting with the least important topic and leaving the most important for the end when learners have less stamina? Challenge yourself or your design team to really evaluate course flow and structure to leverage the most effective and inclusive approach—to marry the content with *all* participants’ needs.

Provide Both Content and Context

In his book, *Start with Why*, Simon Sinek explores the importance of helping people understand the reason behind what they do. Learning professionals can take a page from his book and add more context to our training programs. We can do this, for example, by incorporating emotion into our content through storytelling. This is a valuable strategy that can benefit all learners.

Requirements for 508 compliance also may mean adding context for specific audiences. For e-learning participants who have a visual impairment, for instance, you should add “alt text” that effectively describes all visuals, such as pictures, icons, and graphics. Alt text (alternative text) is a word or phrase describing the image that can be inserted as an attribute in HTML (hypertext markup language). The alt text appears in a text box that is readable by screen reader software. Most websites should have an option for you to add alt text when uploading images.

One final way to add context is through audio description of videos. Audio description provides a vocal summary of what is happening on the screen for people who are visually impaired—similar to how closed captioning adds context to the background sounds for people with hearing impairments.

Test Your Assumptions

Never assume a program works the way you imagined it would. I once had a designer tell me that if we simply designed the course using HTML 5.0, it would automatically be accessible. Six

months later, after we had tested for accessibility, we were still redesigning the program to be compliant with the law. Test your process and your design along the way to ensure that it is working as you intended.

DESIGNING ACCESSIBLE LEARNING

Now, let's get into the nitty gritty with some specific tips and tricks to ensure that your training modules are compliant. For additional guidance, check out the Tools and Checklists for Designing Accessible Learning in the sidebar.

Alternative Pathways

An easy way to get started creating accessible learning is to create a second pathway to the content. The secondary version can be designed with the key features for accessibility in mind, such as keyboard access and text equivalents.

Keyboard Access

Have you ever tried to navigate a website without your mouse? It's not as easy as you might think. And most learners with a visual impairment use a keyboard, not a mouse, to access web content. This is a problem when learning professionals create content that only operates with a mouse click.

TOOLS AND CHECKLISTS FOR DESIGNING ACCESSIBLE LEARNING

There are volumes of tools and resources out there to assist you with the fine details of designing accessible learning. Some of my favorites are listed below.

Particularly helpful are the detailed checklists for designers that provide easy-to-understand solutions for both 508 and WCAG compliance developed by WebAIM with the Center for Persons with Disabilities at Utah State University. Be sure to check out the other links listed here and in the References and Resources section of this *TD at Work*:

- 508 checklist by WebAIM: <https://webaim.org/standards/508/508checklist.pdf>
- WCAG checklist by WebAIM: <https://webaim.org/standards/wcag/checklist>
- Resources for creating accessible video and social media compiled by the General Services Administration (GSA) Government-Wide Section 508 Accessibility Program: www.section508.gov/content/build/create-accessible-video-social
- Guidelines for Section 508 Standards from the GSA: www.section508.gov/summary-section508-standards
- Description of WCAG 2.0 conformance from the GSA: www.section508.gov/content/build/website-accessibility-improvement/WCAG-conformance
- Video about screen readers by the Trace Research and Development Center at the University of Wisconsin-Madison: www.youtube.com/watch?v=o_mv06EQ0tM
- Narrated programming for people with visual impairments from Narrative Television Network: <http://narrativetv.com>
- Step-by-step guide to making presentations accessible by the W3C Web Accessibility Initiative: www.w3.org/WAI/training/accessible
- Whiteboard presentations on accommodations for the deaf and hard of hearing by Noelis Marquez at Automatic Sync Technologies: www.automaticsync.com/captionsync/accommodations-deaf-hard-of-hearing-students
- Design Thinking blog by Tim Brown: <https://designthinking.ideo.com>

To support all learners, you must incorporate a keyboard alternative. You can test this by pressing the tab key repeatedly and ensuring that all elements are highlighted as you follow the cursor around the screen. Also, avoid drag and drop interactions. For links, learners must be able to use the tab key to navigate to the link and open it by pressing “Enter.” If a learner leaves the course to access information in another browser, there needs to be a simple way for them to return to where they left off.

Avoid using phrases like “click here,” and always tell learners when they can click on the “next” button (or arrow) to move to the next page. A learner with a visual impairment, for example, won’t know that they need to click the “next” button to move to the next screen unless they are prompted to do so.

Accessible Text

Have you ever been in an environment where you could not hear directions and you needed to receive the communication in writing? Learners who have trouble hearing need their audio and video files to be accompanied by a text equivalent, such as closed captioning or a downloadable transcript.

Ensure that all PDFs have been saved as searchable text, not images, as images cannot be read by a screen reader used by someone with a visual impairment. And, as previously discussed, use descriptive text or alt text for images in the document. You can embed this in the document containing the image or table. Tools such as Storyline and Captivate can help you manage your descriptive tags easily.

IN A NUTSHELL, 508 COMPLIANCE MEANS THAT NO LEARNER GETS LEFT BEHIND—REGARDLESS OF DISABILITY STATUS.

Color Scheme

Users with visual impairments may not be able to understand critical information when its meaning or importance is conveyed only through the use of color. For example, color-blind users may

not know a field is required if the only feature indicating that the field is required is a red label.

To be accessible, all important information conveyed using color also must be conveyed using text cues. When the text color of a form field is red to indicate it is a required field, adding the word “required” after the field name will provide the necessary cue. Screen readers and other assistive technologies are able to interpret these text cues for users with visual impairments.

There are also things you can do to make your content easier to access visually. It helps to use high color contrast (background to foreground contrast, watermark to foreground contrast, and so forth). The color contrast ratio between the background and text should be at least 4.5:1.

Font size also is important. Bigger is better. Keep your text large, preferably between 12 and 18 points, depending on the font style.

In summary, pay specific attention to font size, color, text equivalent cues, and keyboard access as well as mouse access. For its part, when ensuring that its materials are Section 508 compliant, the U.S. Department of Health and Human Services pays specific attention to images, captions, color, data tables, interactivity or dynamic content, forms, and navigational elements and links.

CONCLUSION

In a nutshell, 508 compliance means that no learner gets left behind—regardless of disability status. It’s a way to break down barriers and provide learning opportunities to all employees who can perform the essential functions of the job. In many instances, making course materials accessible is required by law, and we’re seeing more and more individuals and private organizations expecting courses, the Internet, and other resources to be accessible.

The time to begin thinking about course design is not when you are testing or piloting a course, but in the early stages of design and development. Keeping accessibility in mind from the start will save you time and money. As the U.S. Department of Health and Human Services emphasizes: “It is much easier to create content that is accessible in the first place (bake it in), than to remediate content after the fact (bolt it on).”

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- U.S. Access Board: www.access-board.gov.
- U.S. Department of Health & Human Services, Accessibility Training: Introduction to Accessibility and Section 508: www.hhs.gov/sites/default/files/Intro%20to%20Accessibility%20and%20508.pdf.
- U.S. Equal Employment Opportunity Commission, Facts About the Americans with Disabilities Act: www.eeoc.gov/eeoc/publications/fs-ada.cfm.

CONTENT/METHODOLOGY MATRIX

Use this matrix to list, in one place, all of your training methodologies and the programs that you facilitate. This will give you a snapshot of what you may need to work on in terms of accessibility.

	Methodology					
Content	Face to Face, Instructor Led	Online, Asynchronous	Online, Instructor Led	On the Job	Coaching/ Mentoring	Other
Onboarding						
Leadership						
Technical Skills						
Customer Service						
Operations						
Safety						

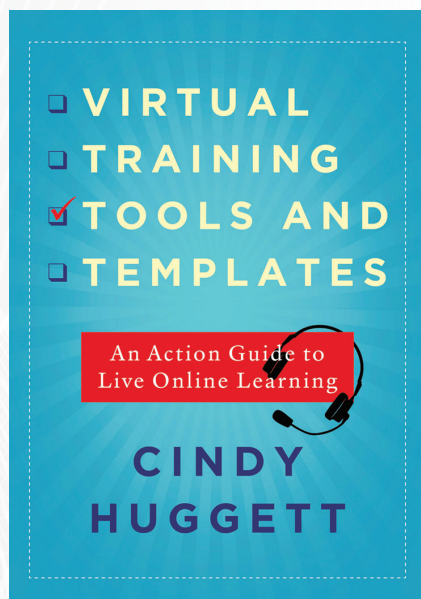
PRELIMINARY COMPLIANCE ACTION PLAN

Answer the Compile questions to understand your priorities given your most frequently used programs, tools, and resources. Then use the other columns to evaluate your current program and plan for changes, with those priorities in mind.

Compile	Evaluate	Plan
Prioritize your most frequently used programs, tools, and resources to determine what your needs are.	Identify levels of 508 compliance for audio, visual, physical, and cognitive accommodations.	Create a prioritized plan of action to remedy what is missing or needs to change.
1. Identify your most used program or content: ☐ New Employee Orientation ☐ Leadership Development ☐ Sales Enablement ☐ Customer Service ☐ _____ ☐ _____ ☐ _____		
2. List all delivery methodologies: ☐ Face to face, on the job, coaching, mentoring ☐ Online—instructor led and/or asynchronous ☐ Website, wiki, LMS ☐ _____ ☐ _____		
3. Explore learning access needs: ☐ Stated needs for accommodations _____ ☐ Possible unstated needs _____		



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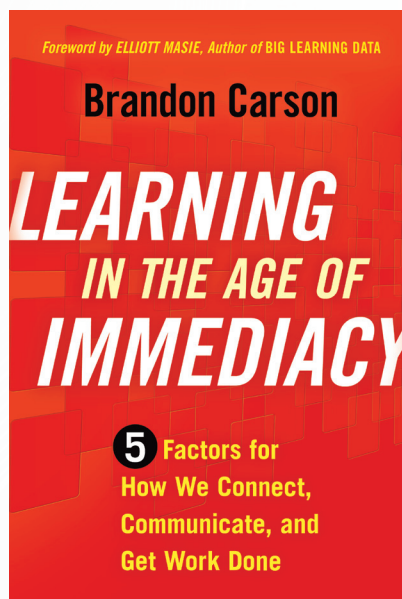
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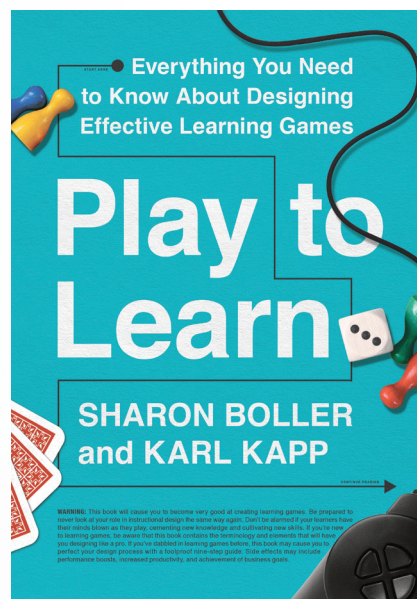
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