

# Why Universal Design for Learning Is Essential to Higher Education’s “New Normal”

This is an edited & expanded excerpt from Tobin & Behling, [Reach Everyone, Teach Everyone: Universal Design for Learning in Higher Education](#) (West Virginia University Press, 2018). Thanks to series editor Derek Krissoff for permission to edit & share.

## The Post-COVID-19 Higher Ed World<sup>1</sup>

Think about the voices in your campus who, in the days before the COVID-19 pandemic, were calling for expanded access to learning for students and for lowering barriers to learning. Chances are, the most consistent and loudest of those voices came from your colleagues in the Disability Support office. You know, the people who come to you with requests for extra time on tests and special accommodations to help give individual students with disability barriers a fairer chance at the same learning that everyone else is getting.

That’s one reason that, despite decades of legal progress and practical advances, only about ten percent of higher-education courses apply any type of inclusive design practices. It’s too easy to perceive the need as being a small one, for “those people over there.” We still encounter colleagues who ask “why would I do all of that work to make captions and transcripts when I don’t have any students in my class who have disabilities? Better to wait until I get that piece of paper from the disability-support office.”

The hard truth is that most disability barriers are invisible ones: nearly a third of students in any given class must navigate a disability-related barrier. That very invisibility works against advocates for making higher education, writ large, more accessible. It’s not only instructors who make the mistake of seeing “all that work” and few students to benefit from it—our presidents, provosts, and chancellors fund inclusive-education efforts as though they are niche programs “for those people over there.” They view disabilities through a medical-model lens, where disabilities are fixed traits that reside in the bodies of people who have them. The unspoken attitude seems to be “look at how noble we are. We are doing a special service for these poor, broken people by making these exceptions and accommodations just for them.”

## But Now It’s All of Us

That medical model is slowly being replaced by an approach known as the social model of disability. The essence of the social model is that because people are varied in myriad ways—in our physical bodies, mental agility, belief systems, whether cilantro tastes soapy—disabling conditions aren’t essential parts of us but are instead in the environments that we encounter. People who use wheelchairs to get around aren’t inherently disabled. A revolving door creates a disabling condition for such people, though.

And that’s the point of the social model: while there are disabling environmental conditions that we cannot overcome for everyone, we’re especially good at designing environments that are welcoming and able to be used by a wide range of people without needing special supports.

We’ve done a splendid job in the physical environment: curb cuts, automatic doors, elevators, ramps in addition to stairs, lower service counters, braille on signs. Where we haven’t yet done a splendid job is in the interactions we design for our students to have with higher-education materials, with each other, with instructors, with support staff, and with the wider world.

Fast forward to the present COVID-19 world and the new normal for which we are preparing. Nancy Doyle put it well in a recent *Forbes* article entitled “[We Have Been Disabled](#): How the Pandemic Has Proven the Social Model of Disability.” The environment has dealt us all a disabling condition. Because of the coronavirus outbreak, our work, family, and school lives have been upended. The disabling conditions that some of us used to face now have an analogue in a disabling condition that we all face together: social distancing to fight the spread of the virus.

## UDL is for Everyone, Especially Now

Universal design for learning (UDL) is a set of design principles based on the neuroscience of how humans learn. It advocates for lowering barriers to learning for everyone in three broad ways:

- Provide multiple means of learner engagement.
- Provide multiple means of representing information.
- Provide multiple means for learners to take action and express themselves.

These principles are [further expanded](#) by their creators at CAST; if this is your first time encountering UDL, we recommend spending some time on their site.

Campus leaders are searching right now for a way to make our courses, programs, and campuses feel present, real, and supportive to all of our students. Making students feel “a part of” our institutions, as opposed to the “apart from” feeling that social distancing and re-opening fears can create, is a key to re-starting our colleges and universities on a more accessible, open, and equitable footing. UDL is a key to designing the environment—our new normal—that we wish to create.

<sup>1</sup> This excerpt is edited for length and contains new content related to the COVID-19 pandemic response in higher education.

## The Online-Learning Continuum

As we think about the continuation of our colleges and universities in a post-COVID-19 world, we can chop the end of the word “accessibility” off and think in terms of “access” for everyone. While we will never get rid of the need to make one change, one time for one person via accommodations, we can greatly lower the need for such individual supports through the implementation of UDL practices in the arena of technology-mediated learning. All of our curricula should become more “[high-flex](#)” in nature, allowing multiple pathways for students to engage with us, learn, and show what they know.

We should understand that access to learning should be flexible. Online learning and in-person learning can combine in many ways: tech-enhanced face-to-face instructions, flipped classrooms, hybrid instruction, and fully online instruction. Even institutions that do not offer online courses typically employ an online environment to supplement the face-to-face classroom experience, so even web-enhanced courses contain some online-learning elements.

We should understand who our students are. The label of “non-traditional” has recently begun to be a misnomer. Beginning in the 2011-2012 academic year, “74% of all undergrads . . . had at least one nontraditional characteristic and about one-third had two or three” (U. S. Department of Education, 2015). In other words, treating all learners as though they were non-traditional students is a safe bet as we design our course interactions, and UDL helps us to respond to the increasing variability in our students’ life circumstances.

But higher-education faculty members and support staff are not required to use UDL strategies to design their online content. Most do not know about UDL or even consider it as a guiding framework when adapting their face-to-face courses to the online environment or adding flexible options to their in-person or blended courses. Faculty members and course designers should consider learner variability when developing online courses or using an online environment to supplement their classroom experiences. Many students enrolled in courses with online components are poorly prepared for the self-regulation that is needed in virtual environments. Many others do not have the technical skills to navigate web sites that were designed quickly or in a complex or confusing way. The methods by which students learn best vary, as does their ability to navigate the online classroom environment. These are potentially insurmountable hurdles for some students. UDL helps to lower them considerably when it is integrated into the design, instruction, and assessment of courses, using online tools that help to increase to reach of well-designed interactions.

## Online Barriers

There are three main areas where access barriers in online courses can occur: the learning management system (LMS), publisher-created content, and locally-created content.

## Learning Management Systems

Online learning includes any aspects of courses that are housed online. Many institutions are moving towards requiring all faculty members to have some minimal degree of online presence in their courses. The easiest way to do this is by posting course content to the institution’s LMS. The LMS itself can be hit or miss in terms of its accessibility for diverse learners. While some LMSes were designed with inclusive accessibility in mind, others were not, designed to help instructors to host course information and facilitate conversations using technology mediation. These online classroom spaces provide places for designers and instructors to add information about courses, to encourage student discussion, and for students to submit assessments.

Instructors often see the LMS as an organizational tool that enhances their courses, and they are surprised when they receive student complaints about barriers that the LMS places in their way. For example, Tom Tobin worked with a professor who received several late-night e-mail messages from a particular student, asking about due dates and questioning how to take part in the online discussion. After a little investigation, Tom and the instructor discovered that the student had a visual disability that made it challenging to understand the screen layout and use the tools within the LMS.

Many instructors use the LMS to conduct quizzes and tests under secure conditions, which can create its own barriers, such as for students trying to take tests on their mobile devices in locations with spotty internet connections, who often complain that they are unable to finish timed assignments due to poorly-designed mobile interfaces or the inability to save and return to assessment work within the time limit. Of course, not every barrier in the LMS is due to the software design itself. Perhaps students continue to ask when the study guide will be available, but the faculty member posted it last week—in an out-of-the-way sub-folder in the LMS, and expected everyone to find it. Both inaccessible features of the LMS and inaccessible ways that instructors use it become wearying, because faculty members are often called on to put together fixes for barriers that they may not have initially considered or created. The end result is often that instructors post only the obligatory minimum in the LMS and seldom refer to their course web sites again.

The National Federation for the Blind (NFB) has taken LMS companies to task for their products not being accessible to users with visual disabilities, based on whether users are able to get access to all areas and tools within the software. The NFB issues Gold Stars to those LMSes that incorporate accessibility and UDL principles into their overall design (Zou, 2011). Many LMSes are not there yet. They may recognize the need for accessibility, but are not yet able to ensure that their entire product is accessible. Faculty members are at a further disadvantage, because they do not have a choice about which LMS system to use. They must either use what they have available to them, or go rogue and choose resources that are not supported by the institution—and which themselves may not be accessible.

The solution to LMS inaccessibility is not something that can be accomplished overnight. Rather, it is imperative that institutions, driven by faculty advocacy and student-access issues, push LMS providers to design their platforms to be accessible by all. The more pressure that they receive from their client colleges and universities, the more likely changes

will occur. But, what should faculty members do in the meantime?

Since institutions have various LMSes and vary in how they use such systems, the best solution is to determine, through testing, which components of the LMS are inaccessible, and then provide institutionally-supported accessible alternatives. Faculty members should be encouraged to be creative about using other resources that are usable to a wide range of learners. Finally, to help students avoid confusion as to where content is or how they should navigate the online environment, faculty members should work with instructional designers to design courses that make sense and are intuitively navigable. In other words, UDL works best when the tool set supports learner variability and multiple ways of engagement, information presentation, and skill demonstration.

## Publisher-Generated Content

Another area where we should insist on UDL and inclusive design is in publisher-created resources. Since 2004, Part B of the Individuals with Disabilities Education Act (IDEA) requires publishers to make electronic copies of the books they produce available to students with disabilities (United States Department of Education, 2004), according to the National Instructional Materials Accessibility Standard (NIMAS). When they produce new texts, many publishers now also create electronic files that can be converted into specialized formats. While adherence to NIMAS has pushed publishers to consider accessibility, it has its limitations.

NIMAS applies only to materials designed for elementary and secondary education; it does not cover textbooks and content used in higher education. It also applies only to students who need alternative material formats based on their disabilities, leaving outside the standard students who are English-language learners using screen readers, or the busy moms listening to their textbooks from the carpool lane.

NIMAS also does not cover supplemental materials, such as videos, quizzes, interactive questions, additional readings, charts, graphs, interactive simulations, and flash-card study aids—all of which give students resources to reinforce course concepts. We support the creation of such various ways to interact with publisher materials, since they give students multiple ways to interact with the material. Further, because these materials are often bundled with textbooks on CD or via web-site access codes, they are available to students 24 hours a day, 7 days a week.

Many faculty members specifically adopt textbooks that are supported by multimedia supplemental materials, using the supplements to reinforce course concepts in multiple ways. However, merely requiring students to use a variety of tools in multiple formats is not in line with the UDL framework. Instead of forcing all learners first to read a text chapter, then listen to an audio guide, and then watch an overview video (as many publisher packages would have them do), learners should have choices for how they experience *each* of these resources. Each should demonstrate multiplicity. The text chapter should have an audio alternative. The audio guide should have a text transcript. The video should have captions or a text transcript. It is at this level of providing

choice for every item, what we term plus-one design, that publisher content often falls flat.

As staff members and faculty members, we should pressure publishers to make all of their content accessible, and we should also learn how to recognize accessibility features ourselves, since some publisher materials that are touted as being accessible are multiple-format only for the primary resources, such as the textbook itself.

## Institution-Generated Content

Faculty and staff members are the final barrier in the online-learning usability dilemma. But, of the three barriers, we are the most easily influenced. Before we can influence change, it is important to recognize how faculty members often create online content in the absence of assistance or training. In the early days of online courses at Suffolk University, most faculty members simply cut and pasted their lecture notes, narrated PowerPoint slides, and image-only PDF documents into the university's LMS and called it a day. A few who had taught online before began exploring the tools within the LMS to see how they could teach differently from their face-to-face interactions, and a few who had never taught online, but were excited to try, contacted the faculty-development office.

Those faculty members who had taught online previously found the switch from face-to-face to online courses smoothest. They had an idea of how to structure their courses in an online environment, and they knew what kinds of tools they wanted to use. Their very experience with technology was problematic, however. Their desire to incorporate shiny new mobile devices and apps—without first considering their accessibility and usability—got a few of them into individual-accommodation trouble when they began to teach online. The experience reminded them of the need to design a course first and then select a few pieces of technology to incorporate, in the plus-one model, later on.

Those who sought assistance were excited to try new things but naive to the amount of work it took to get courses in reasonable shape, especially for the first time they were taught. They also struggled conceptually, trying to figure out how to engage learners remotely. Largely, their enthusiasm and willingness to try new things led to success and a re-framing of their mindset. They started to look at courses as series of interactions rather than series of content items. The UDL mindset of plus-one helped them to make their interactions as open and easy to use as possible.

Finally, the cut-and-pasters had the least initial success. Their courses tended to look like online hoarding environments, in which course materials seemed dumped in with little rhyme or reason. Once these faculty members sought help from the teaching and learning center, they, too, were able to get the hang of designing their course interactions with UDL quickly. Kirsten Behling created the “Best Practices for Ensuring Accessibility in Hybrid and Online Courses” worksheet (below) in order to offer faculty members a fast and easy way to check whether or not their materials are accessible.

## Best Practices for Ensuring Accessibility in Courses with Online Components

Because UDL is a mindset rather than a set of prescriptive techniques, it can be easy to think that we've been "doing UDL" in an accidental manner all along. The opposite is the case: many of us use inclusive practices, but UDL asks us to be intentional about the design of the interactions that we have with our learners.

To move from the principles to practices, it is useful to have a few examples from which to begin. The following elements should be present in all hybrid and online courses. Answer yes or no to each criterion, and provide comments for all your "no" responses.

### Before the Course Begins

- Students have been provided with your course textbook/media requirements before the class starts.
- You have contacted the Office of Disability Services to discuss your use of multimedia tools before you decide to use them.
- You have listed a statement about disability services on your syllabus.
- You have provided students with the URL for accommodations in the learning management system your institution uses.
- Course textbooks were selected at least six weeks prior to the start of the semester and posted online for students to see.
- Textbook information includes the correct ISBN numbers and editions to be used. If electronic copies are mentioned, they correspond to the paper versions.
- When possible, you have chosen materials from publishers and journals that provide electronic content.
- Textbooks have been made available at the library's reserve desk.

### Learning Management System (LMS)

- The syllabus is provided in a Microsoft Word format.
- If you include links on your LMS pages, they have accompanying text that has a meaningful description.
- Buttons in your LMS menu have descriptive text alternatives.
- If your LMS page includes redirects or timed actions (such as clicking OK to continue), provide adequate response time for users to navigate the page.
- If your LMS site includes timed actions (such as quizzes), ensure that you can adjust response time, if needed.
- Type styles, sizes, and orientations are consistent throughout the LMS (consider using the preset *Styles* function).
- Color combinations are used that provide sufficient contrast between foreground and background.
- You have avoided flickering texts or animations.

- For HTML table-based layouts, provide appropriate headers and data call designations.
- Acronyms and abbreviations are spelled out (screen readers pronounce these as single words).

## Auditory and Visual Content

### Microsoft Word Documents

- The preset *Styles* feature in Word has been used to apply headers to all documents.
- There are no ornate fonts (use standard fonts such as Arial or Times New Roman).
- Headers are larger font sizes than the body of the text.
- No fonts smaller than 10-point size.
- For documents over six pages in length, a table of contents has been created (use the *References* tab in Word).
- All images, graphs, and figures have ALT-text tags (right-click on image, select *Format Picture*, and click *ALT Text*).
- All tables have clear labels for rows and columns and no empty cells.
- No documents have been created via *Save as Web*.
- All hyperlinks have been added using the *Insert Hyperlink* feature, and all hyperlinks are spelled out in the text.

### Microsoft Excel Spreadsheets

- All tables have row and column headings.
- All graphs have ALT-text tags (right-click on image, select *Format Picture*, and click *ALT Text*).
- All hyperlinks have been added using the Insert Hyperlink feature, and all hyperlinks are spelled out in the text.
- Color and highlighting are not the only means of providing information.
- Each worksheet is labeled appropriately (not just *Sheet 1* and *Sheet 2*).

### PDF Files

- All words can be individually highlighted with your cursor (i.e., the text will not be read as a picture; when in doubt, create a text-only HTML version of the content).
- All Word documents have been made accessible before conversion to PDF.
- Tag PDF documents whenever possible. For specific instructions, visit Penn State's AccessAbility site: <http://accessibility.psu.edu/pdf/>.
- PDFs that cannot be made accessible have been provided in an alternative format.
- No text files with multiple columns have been converted to PDFs (screen readers might still read the text across columns).

## Images

- ALT (Alternative Text) tags have been used on all visual elements, including charts, graphs, mathematical/scientific notation, and photos (right-click on image, select *Format Picture*, and click *ALT Text*).
- Extended text descriptions are provided for all complex images, including charts, graphs, mathematical/scientific notation, and photos.

## Microsoft PowerPoint Files

- All slides have simple layouts and avoid busy, themed backgrounds.
- Content is organized in a logical structure.
- Fonts are larger than 14 points size, and a sans-serif font is used.
- Color combinations are used that provide sufficient contrast between foreground and background.
- Ample white space is provided on each slide.
- ALT (Alternative Text) tags have been used on all visual elements, including charts, graphs, mathematical/scientific notation, and photos (right-click on image, select *Format Picture*, and click *ALT Text*).
- All audio narration discusses slide contents in relation to the larger themes or ideas of the course.
- A transcript of narration for each slide has been added to the *Notes* section of that slide.
- All hyperlinks have meaningful descriptions.
- No slide transitions or automatic timing functions.
- Slides have been designed with a slide layout format provided in the software.

## Video & Audio

- Captioning or written transcripts have been provided for all video or audio files.
- Video files are embedded into one of the following players: QuickTime, RealPlayer, iTunes, YouTube.
- Videos with visual information critical to comprehension include descriptions.

## Flash

- Written descriptions are provided for all content offered in Flash files.
- Ensure that all Flash content is accessible. For more information, see [www.adobe.com/accessibility/products/flash](http://www.adobe.com/accessibility/products/flash).

## Conferencing tools

- All content in web conferencing tools is typed and selectable by a cursor and adheres to the guidelines above for Word, PDF, PowerPoint, and Excel.

There is further opportunity to influence the usability of self-created course materials. Consider the web-based materials and technologies that we are asking students to use. Is the web site accessible? Can students access that journal article at 2:00 a.m. on their own? Does the survey app work with a screen reader? Are the podcasts transcribed? By encouraging our faculty colleagues and design staff to give thought to how users from all walks of life will access the content that they select for their course, you are empowering them to create universally designed courses for all.

## Take Us to Your Leaders

Right now, campus leaders worldwide are trying to determine the best course of action to prepare for an uncertain future. When will we re-open our colleges and universities? What will our institutions and curricula look like, work like, *feel* like? Now is the moment to speak up on behalf of open, equitable practices. UDL is a framework that is easy to understand yet can guide complex implementations. When you have that conversation with your institutional leaders, or just with your direct supervisor, it will be helpful to think in terms of privilege and who has it.

In the Before Times, privilege was marked by distance. Students who could afford to live on campus and take courses in person were at the apex, with evening, hybrid, weekend, and online programs an alternative for the rest of us who had work, family, military, and other responsibilities that kept us away from campus to varying degrees.

During the pandemic, the greatest markers of privilege are time and technology. Among our students, but also among our instructors and staff, caring for children and aged parents, taking on schooling responsibilities, and juggling family finances are all-too-common “have nots.” Likewise, many of our students and colleagues live in rural areas with poor internet, don’t own laptops or desktop computers, or have to compete with loved ones for time on the devices they do own. Our students are on their mobile phones and driving to school parking lots to get wi-fi signals.

In our post-COVID-19 colleges and universities, we must create broad supports, build in flexibility, and understand the circumstances from which our learners are coming to us. The 18-year-olds who live on campus and devote their entire attention to their full load of courses because their parents are paying all of their expenses? They’ve always been a myth.

As we move into the post-pandemic era of colleges and universities, we must design our courses, interactions, programs, support structures, and entire institutions to allow students choices, voices, and agency throughout. While we wait to be able to get on airplanes again, we can still heed some important pre-flight safety advice: “put your own mask on before assisting others.”

Be safe, readers. Find balance in your life and your work, and advocate for better access to education for everyone via universal design for learning!

—Thomas J. Tobin, State College PA, 2 May 2020