

**KISS: The Value of Simplicity in Online Education**

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**Abstract**

Keeping diversity and inclusion in mind throughout the process of online course design and delivery can be daunting to instructors, course developers, and content creators. These concepts, along with access equity and legal compliance, can seem distant from the principal objective of content presentation and instruction. Recent public health circumstances resulted in much of higher education's move to remote learning. This reveals the need for quality online education that seeks to remove barriers and create challenging and engaging opportunities for all learners. This article presents research-based and established best practices and universal standards to help educators create accessible, usable, and inclusive online learning environments in a way that simplifies the process, meets rigorous standards, and improves the experience for all learners.

*Keywords:* accessibility, best practices, course design, diversity, equity, inclusivity, online education, universal design, usability

## **Introduction**

Faculty are busy. So too, are the online content creators and instructional designers who support them. The increased use of digital learning spaces in higher education means that in addition to course planning and instruction, design plays a fundamental role in education. Course design is integral to creating accessible, equitable, and quality online learning experiences for diverse learners.

A review of the literature on designing web experiences for all users, universal guidelines in support of federal accessibility requirements, and standards for quality online course design reveals a common underlying rule, KISS. What does it mean to KISS? It's a design principle: Keep It Simple, Stupid. As educators, however, you may prefer to think of it as Keep It Super Simple.

Let's start with the educational best practice of providing learning objectives (LOs) for this unit, or article.

## **Learning Objectives**

At the conclusion of this article, readers will be able to apply the elegance of simplicity to principles of accessibility and Universal Design (UD), design inclusive and equitable online learning environments for diverse users, and improve access to digital course content for all learners.

Consider how quickly you can identify the action verbs for each of the three objectives. If you wanted to refer back to these LOs during or after reading this article, how easy would it be to find and identify the three distinct objectives?

Let's present these LOs in a different format, which might be more familiar to you:

## Learning Objectives

At the conclusion of this article, readers will be able to:

- Apply the elegance of simplicity to principles of accessibility and Universal Design (UD).
- Design inclusive and equitable online learning environments for diverse users.
- Improve access to digital course content for all learners.

While an improvement in clarity and ease of reference, it's likely that many of you skipped over the introductory sentence, "At the conclusion..." either because you're so familiar with it, or you recognized its unimportance. In an online course where everything is competing for cognitive attention, why include this ignorable phrase with every module, unit, or weekly presentation of the learning objectives?

This is what Steve Krug, in his web usability book *Don't Make Me Think, Revisited* calls visual noise (p. 38). Krug says that when an online page is cluttered, "you end up with what engineers call a low signal-to-noise ratio: Lots of noise, not much information, and the noise obscures the useful stuff" (p. 39). We might follow Krug's advice to "get rid of anything that's not making a real contribution" (p. 39), remove the "By the end of this unit..." phrase, and present our unit/article LOs as such:

## Learning Objectives

1. Apply the elegance of simplicity to principles of accessibility and Universal Design (UD).
2. Design inclusive and equitable online learning environments for diverse users.
3. Improve access to digital course content for all learners.

Now, students can immediately identify the action verbs of each objective. Notice, too,

that instead of a bullet list, the LOs are now numbered. This makes each objective easier to reference as well as align to other course elements. For example, you could map a unit's assignment to align with LO2. You could also align this unit's LO2 and LO3 with specific Course Objectives or Outcomes (CO) such as CO5 if they are in a numbered list as well. Both bulleted and numbered list styles have the added advantage of another recommendation in digital page design: white space. White space enhances readability and improves both the accessibility and usability of the page. Again, how quickly can you refer back to each specific objective in the paragraph example at the beginning of this article, compared to this latter version?

### **KISS and the Principles of Universal Design**

Eliminating unnecessary text or graphics is one strategy for simplicity (Horton & Quesenbery, 2013, p. 39). How else does this design principle KISS apply to universal access, inclusion, and usability?

By way of example, let's consider seating in a college lecture hall. Think of the bolted rows of chairs with individual pull-out desks, which invariably pull up from the right side and allow for the right arm to rest while writing. Now, consider how comfortable these desks are for a left-handed user. Hint: They're not. If left-handed students are lucky, there might be two or three left-handed desks, usually in the back row off to the side. An accommodation, but not very inclusive. Can you spot the left-handed desks in Figure 1?

**Figure 1.***Lecture hall*

Note. Hamer, E. (2018). Room 180 in Science Hall [Photograph]. UW-Madison communications. (<https://news.wisc.edu/student-to-student-uws-best-lecture-halls-and-classrooms/>)

Now consider a similar lecture hall but instead, each row has one long table and movable chairs. It's a simple design that improves the experience for all users. People who are left-handed now have a choice of seating. People who are right-handed are not inconvenienced by the accommodation if they happen to sit in the wrong chair. In addition, everyone benefits because there's more room for writing as well as more space for laptops, coffee cups, water bottles, phones, and any number of items that people have with them these days. An added benefit is the moveable chairs, which would allow for more flexibility, possibly even for pair or small group work.

This is an example of Universal Design (UD). Universal Design is different from equality, where everyone gets the same support, and equity, where people are given different

support depending on their need (what we sometimes call accommodation). Accommodations can be difficult, time-consuming, costly, and could inconvenience others. As with the long rows of tables, UD aims to simplify the process by eliminating barriers at the start, in the design stage.

Defined by North Carolina State University's Center for Universal Design (CUD), UD is "the design of products and environments to be usable by all people, to the greatest extent possible, without adaptation or specialized design" (CUD 1997). The CUD developed seven Principles of Universal Design for products and environments:

1. **Equitable Use:** The design is useful and marketable to people with diverse abilities.  
Example: Sidewalk curb cut.
2. **Flexibility in Use:** The design accommodates a wide range of individual preferences and abilities. Example: Scissors designed for both left- and right-handed users.
3. **Simple and Intuitive Use:** Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.  
Example: Assembly instructions with illustrations and text.
4. **Perceptible Information:** The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities. Example: Automated teller machine (ATM) with visual, tactile, and audible cues.
5. **Tolerance for Error:** The design minimizes hazards and the adverse consequences of accidental or unintended actions. Example: CTRL+Z on a computer keyboard to reverse or undo your last action.
6. **Low Physical Effort:** The design can be used efficiently and comfortably and with a minimum of fatigue. Example: Push bars on exit doors.
7. **Size and Space for Approach and Use:** Appropriate size and space is provided for

approach, reach, manipulation, and use regardless of user's body size, posture, or mobility. Example: Wide space in front of and within elevators. (CUD 1997)

Read through these seven Universal Design principles again and consider how each of them can be applied to learning. Keep education and online course design in mind as we take a closer look at the CUD's guidelines for Principle 3: Simple and Intuitive Use:

- a. Eliminate unnecessary complexity.
- b. Be consistent with user expectations and intuition.
- c. Accommodate a wide range of literacy and language skills.
- d. Arrange information consistent with its importance.
- e. Provide effective prompting and feedback during and after task completion (CUD 1997).

Could each of these guidelines for Simple and Intuitive Use be applied to the online learning experience? For most educators in higher education, spring 2020 was continuity triage in moving all courses online with astonishing speed. Not only did we need to consider an even broader range of diverse learners that includes age, gender, gender identity, nationality, language, sexual orientation, socio-economics, experience, and disability (permanent, temporary, or situational) but also home learning environments, family circumstances, reliable wi-fi, internet access, updated computers, technology skills and comfort levels, anxiety, time, physical space, and likely more.

How could we possibly design remote education for such a diversity of learners, circumstances, and environments? What about accommodations? This is where simplicity and principles of Universal Design can help. Because of the rush to move all courses online while incorporating many new technologies within a matter of weeks, it was a good and necessary



opportunity to find out what worked and didn't work well for fully online course design.

According to a survey of School of Nursing (SON) students conducted by J. Blender, the two main issues students reported involved either technology or frustrating complexity. The primary technology issues were with internet connection, audio, or video. As for complexity, students reported barriers to information if instructions were "all over the place", inconsistent, or messy with one student writing that "one of my [online] courses is simplistic, with logical and succinct information only. While the other course is over engineered with so much information and detail, it is difficult to manage or find anything" (SON Student Survey: Remote Technology and Learning, April 2020).

If we apply the Universal Design guidelines for Principle 3: Simple and Intuitive Use to online education, we can improve the learner's experience by eliminating unnecessary complexity, being consistent with navigation and layout in and among courses, being attentive to a wide range of digital literacy skills, and providing effective prompts and timely feedback. Student suggestions for improvement in these areas combined with lessons learned, time to prepare for subsequent terms, and attention to simplification and consistency all helped to advance the remote learning experience from slapdash emergency delivery to better practice.

### **Accessibility and Usability**

Not only do simple, consistent, and intuitive course design and delivery improve the learning experience, they help to meet digital accessibility compliance and the ethic of inclusivity.

The World Wide Web Consortium (W3C), developers of the universal standards called Web Content Accessibility Guidelines (WCAG) 2.1, describes the connection among Accessibility, Usability, and Inclusion. These concepts are closely related in the effort to create

digital content that reduces barriers and the need for accommodation while increasing the satisfaction of the experience for most users (learners). They are most effective when addressed together to create online content that is POUR: Perceivable, Operable, Understandable, and Robust (can work with assistive technologies, for example), which are the four main principles of accessible digital content. Simplicity applies to some element of each POUR principle but it most directly supports the Understandable guidelines: text is readable and understandable; content appears and operates in predictable ways, and users are helped to avoid and correct mistakes (WCAG 2.1).

Likewise, Quality Matters (QM), an organization specializing in standards for online and blended course design, emphasizes simplicity and clarity in several of their higher education standards for course design. It begins with Standard 1.1: “Instructions make clear how to get started and where to find various course components” and ends with Standard 8: Accessibility and Usability, which lists course navigation, design, and multimedia that facilitate “ease of use” and “readability” (QM Higher Education Rubric, Sixth Edition).

### **Simple Ways to Improve Usability**

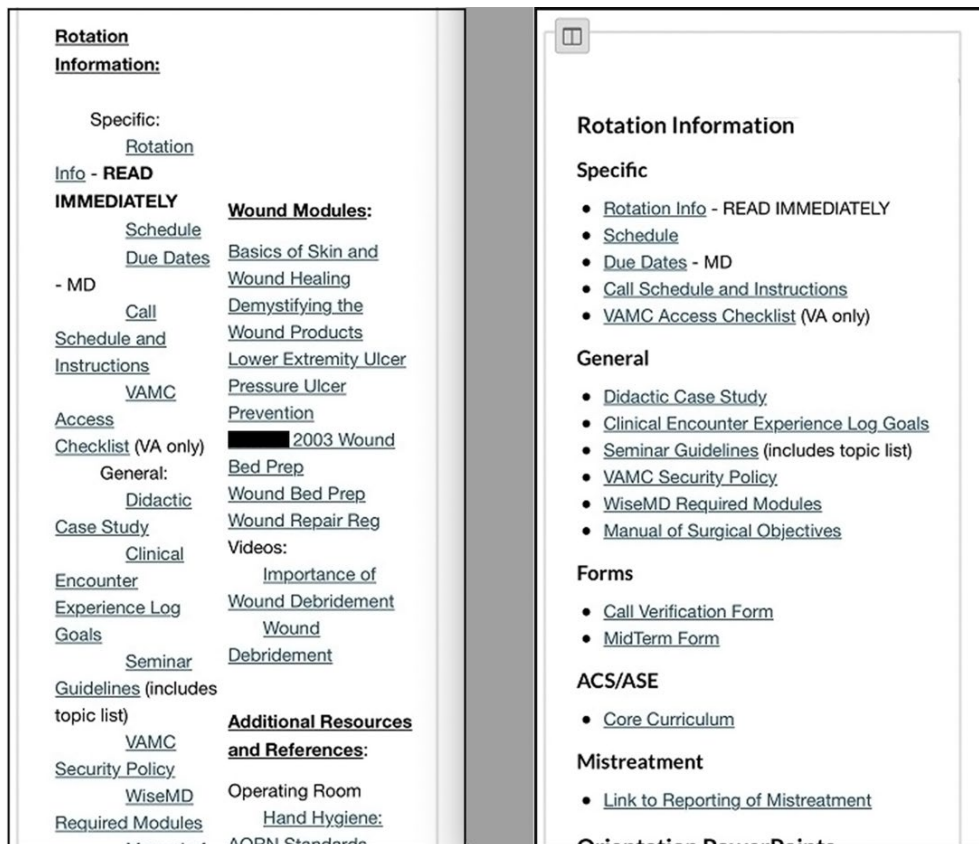
Accessibility addresses equivalent learning experiences for people with disabilities. Usability expands the scope to all learners as it relates to their satisfactory interactions with the digital platform. Clean, clear, and simple course design benefits a diverse range of learners no matter their circumstances or surroundings.

Accessibility and usability become increasingly important for students and instructors who access online course content from mobile devices. When W3C updated their Web Content Accessibility Guidelines (WCAG) to 2.1 in 2018, they included new requirements for accessibility of content on mobile devices (WCAG 2.1). Simplicity plays a role in how course

content appears on a mobile device. Figure 2 shows before and after screenshots taken on the author's mobile phone. The before image is the result of complex formatting that used a table, indents, and text styles. The content looks readable on a desktop computer but a mess on the phone. By simplifying the layout with heading styles and bullet points, the content becomes accessible and usable on the phone.

## Figure 2.

*Before and after layout on a mobile device*



Note. Online Course Formatting, Before and After on Mobile Device [Screenshots]. February 12, 2019. Used with permission from course instructor and online content creator. Screenshots by author.

Practical design considerations in layout, format, and language help to keep the challenge of online courses where it belongs: in the content. Here are a few strategies for designing accessible, usable, and inclusive online learning environments.

- Layout and Formatting
  - Reduce clutter.
  - Use bullet and numbered lists.
  - Create white space.
  - Use hyperlinks instead of the full URL. Match the link name to the article or web page title, so learners read where they're going as they click. If you provide citations for readings, place them in a separate References section.
  - Less is more. Avoid excessive highlighting, bolding, italics, font sizes, and decorative images. "If you want to grab visual attention quickly, then remember that less is more" (Weinschenk 2020, p. 14).
- Organization and Content
  - Group information into chunks. Break down information by topic or logical groupings. Instead of an hour-long lecture video, create 5-10 minute videos by topic. Chunking makes information easier for learners to find, retain, and review. It also provides space for reflection, brief activities, or feedback.
  - Create simple tables with a header row and no split or merged cells. Avoid using tables for layout, such as the appearance of columns.
  - Plain Language
    - Use the clearest and simplest language appropriate for the content.
    - Use active voice. Avoid wordy sentences. Instead of "Students are required to read the first three chapters" try "Read chapters 1-3".
    - Clear, descriptive headings create white space, improve readability on mobile devices, and help learners quickly locate content. Use proper heading styles to

make them accessible.

- Put information when and where students need it. If it helps to have information up front (for example, assignment instructions), try to keep them in one place, clearly stated, so students aren't confused later about where they saw that information or instructions.
- Be consistent. Be predictable. Keep the challenge away from access and navigation and with the learning.

### **Conclusion**

The design principle of simplicity threads through research-based and established best practices as well as universal standards for creating online content that is accessible, usable, and inclusive.

Keeping course design simple is not a hard-and-fast rule. A repeated introductory phrase to the learning objectives may benefit your students. You may find it necessary to provide the same course information in several different places. The content of a course may not logically fit into a consistent, standardized format. Simplicity is not a static best practice but rather a considered, better practice toward improving the online experience for as many learners as possible.

In these uncertain times of changing circumstances and fluid learning environments, it may just help to KISS.

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