

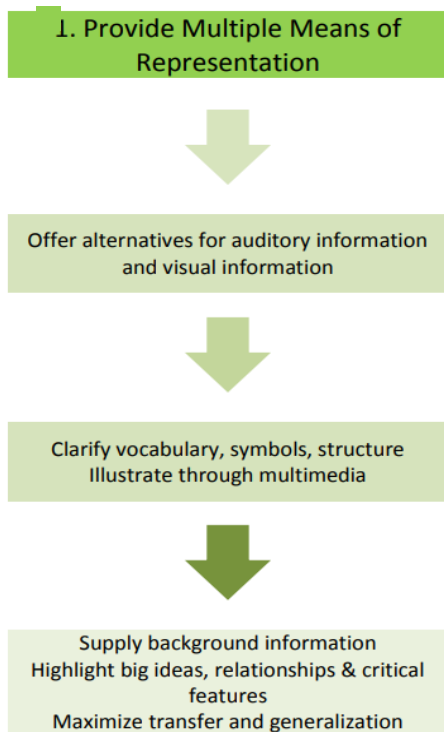
# DESIGNING ONLINE MATERIALS

## MAKING THEM WORK FOR STUDENTS

- \* HANDOUTS
- \* SLIDESHOWS
- \* ASSESSMENTS (QUIZZES, TESTS, EXAMS)

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### General Design Principles (Universal Design)



Instruction developed in this way (UDL) maximizes inclusion and minimizes the need for accommodations for specific students with disabilities. It also benefits students with disabilities who do not disclose their disabilities and students with a variety of learning styles & other characteristics. (Burgstahler & Moore, 2009).

Legal requirements for websites recognize the need to present information in an accessible way for all users, even those with disabilities. It is not a legal requirement for handouts but it is considerate to do the same with handouts, slideshows, and other teaching materials.

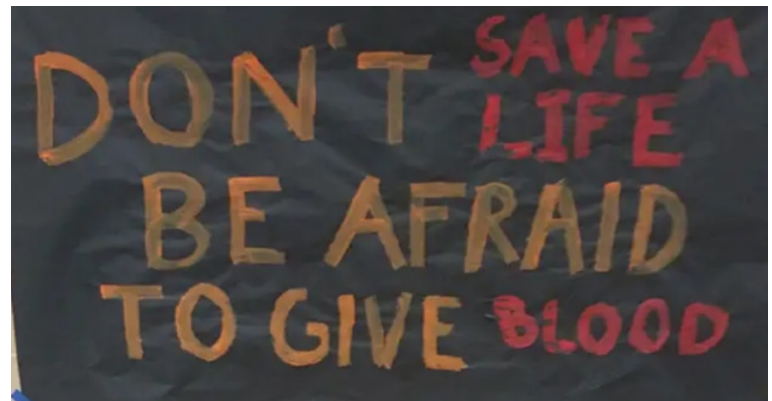
Designing for online presentation requires a different approach to other types of academic writing (journal articles, books, theses, etc.).

## Basic Rules of Readability for Handouts and More

*Figure 1*


*This is what happens when the hierarchy doesn't work.*

*Students cannot tell what "goes together" because the visual cues are misleading.*



**Ground rule:** There is a difference between “**heading text**” and “**paragraph text**” (otherwise known as “body text”). This difference must be visibly noticeable by the reader. The rules for heading text are different from the rules for paragraph text.

1. COUNTERINTUITIVELY, PRESENTING INFORMATION IN ALL CAPS DOES NOT MAKE IT EASIER TO READ, NOR DOES IT HIGHLIGHT CRITICAL INFORMATION. IT PROVIDES FEWER VISUAL CUES AS TO MEANING AND IS INTERPRETED AS “YELLING”. AVOID PUTTING **PARAGRAPH TEXT** INTO ALL CAPS, PLEASE. (All caps is okay for headings.)
2. Also counterintuitively, sans serif fonts (like the one used in this handout) are more difficult to read than serif fonts (serif fonts have little tails like this font). Why do so many designers use sans serif fonts for paragraph text, then? Because they have a cleaner, more “modern” look. If your handout is text-intensive, consider using Times Roman or a similar serif font.
3. Centered text is okay for titles and major headings but is difficult to read and should not be used for paragraph text.
4. The easiest text alignment to read is “left-aligned, ragged-right”. This is the way you see the text in this handout.

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5. Your eye prefers to follow a short text line preferably less than four inches (4") across. That's optimal for readability, but most handouts don't follow this rule exactly (newspapers and paperback novels do, though). You can read text in narrow columns more easily than text that is spread from one edge of the page to the other, so use large left and right margins for your handouts.
  
  6. Establishing a hierarchy of information on the page is essential. That means students must be able to distinguish parts of the reading material that "go together". *See Figure 1 above.*
    - a. Visually represent the hierarchy by systematically varying the size of headings, from the largest (title), to large (main headings), to smaller (secondary headings), to smallest (paragraph text).
    - b. Headings must be visually closer to the paragraph text that they "go with". In other words, you need more space above headings than below headings.
    - c. You can also make headings stand out by changing the **colour of the text**, **changing the font of the text**, or making the font **bold**.
    - d. Rather than running lists of information into paragraphs, consider using bullet points or numbered points, formatted as shown in this handout (hanging paragraph format), to increase readability.
  
  7. White space is very important. Cluttered, verbose slides and handouts do not allow content to be read and understood easily. Better a longer handout or slideshow than a shorter one that will not be read.

## Handouts

In preparing handouts to be read on screen or downloaded by your students, the basic rules of typography explained above should be followed to ensure that the content in your handouts is read and understood easily by your students.

Here are some other tips that may help you to create useful, readable handouts:

1. Leave a very big (2" or more) empty margin on the right or left-hand side if you want students to take notes on your (printed) handouts.
2. Make your Word handouts into PDFs. This way, students can access them even if they don't have MS-Word on their device. Also, PDFs cannot easily be edited (changed) by students.
3. Number the pages of your handouts, so students know if anything is missing.
4. Handouts that do not need to be printed can use colour to help visually emphasize the reading hierarchy.
5. Paragraph text needs to be "chunked" into short, pithy paragraphs. Remove unnecessary words where possible. Background info can be provided through links to online pages (like Wikipedia).
6. Where possible, provide charts, diagrams, photographs, and other visual representations that re-state or illuminate the content.
7. Model professional spelling and grammar for your students.
8. Simplify, simplify, simplify.

## Slideshows

1. 7x7 rule: No more than 7 bullet points on a slide; no more than 7 words in a bullet point. The point is NOT to read directly from the slides – a slideshow should not be a script that you talk through.
  - a. Never use sentences – phrases only! Tiny chunks of info.
  - b. Your own commentary will flesh it out. Talk about the terms and phrases on the slide – the purpose of a slide is NOT to provide you with a script (a memory-jogger, maybe).
2. PowerPoint and other presentation software suggest the following, and usually you shouldn't override their suggestions (unless PowerPoint is squishing words or lines of text together):
  - a. A font for headings
  - b. A font for bullets and paragraph text
  - c. A linespacing setting
3. Keep the background plain.
4. Avoid fancy transitions and old-school clipart (students make fun of these!).

## Assessments

Many of your students are not fluent readers. Three years of testing showed that about one-third of my (Susan's) students read at a Grade 7 level or below.<sup>1</sup> Some students read too quickly, and skip over important parts of the material. Using the tips below may help improve the readability of your assessment instruments (quizzes, tests, assignment instructions). As teachers, we don't want our assessments to *primarily* challenge our students' reading comprehension skills, so we aim to make our words as clear and easy to understand as possible.

1. You can check the reading level of your writing directly in MS-Word. Find out how to do it here: [Get your document's readability and level statistics - Word \(microsoft.com\)](#) . This webpage also tells you how to evaluate the readability results that you get.
2. When using a negative in a question, emphasize that negative (by bolding, using a different colour, etc.). For example: "Which of the following is **NOT** an example of social deviance?" This suggestion also applies to constructions like the following: "Which **TWO** of the following marsupial sub-classes display eucalyptus-avoidance behaviours?"
3. Use parallel construction in the answers to multiple-choice questions. Here is an example:

Edmund Hillary was world-renowned for which activity below:

- a. Skiing
  - b. Mountain climbing
  - c. Long-distance running
  - d. His trek to the South Pole
- To be parallel, this answer should be "Trekking to the ..."

4. I always tended to make the second choice in my multiple-choice questions the correct choice. To avoid my tendency to do this, I alphabetized my answers.
5. All options (answers) should be approximately the same length.
6. All-of-the-above and none-of-the-above aren't recommended ways to construct a multiple-choice question.<sup>2</sup>

<sup>1</sup> Testing done on Office Systems Management students at JAC in the 1990s. I think the internet has probably increased students' reading speed and comprehension over the past 30 years.

<sup>2</sup> "Researchers over the years have investigated the role of answers like "all of the above" and "none of the above". Most agree that "none of the above" questions increase cognitive load (Tollefson, 1987), and don't actually assess

## Further Information

There's a lot of info on line on this topic, but FOST found the following to be very helpful:

[Creating More Effective Course Handouts - Faculty Focus | Higher Ed Teaching & Learning](#)

[How to create excellent handouts - 10 tips EF TeacherZone Blog](#)

[Preparing student handouts \(lanecc.edu\)](#)

[teaching-learning-handouts.pdf \(equalityanddiversity.net\)](#)

[\(PDF\) An Evaluation of the Effectiveness of Handouts in Enhancing Teaching and Learning in Higher Education \(researchgate.net\)](#)

[\(PDF\) What happens when teachers do not give students handouts? \(researchgate.net\)](#)

[Handouts in the Classroom: Is Note Taking a Lost Skill? \(nih.gov\)](#)

[Tips for Making Effective PowerPoint Presentations \(ncsl.org\)](#)

[The Use of Classroom Handouts \(cmedbd.com\)](#)

[Making Better PowerPoint Presentations | Center for Teaching | Vanderbilt University  
Presentation Zen](#)

[https://www.chronicle.com/blogs/profhacker/improving-powerpoint-style-presentations?sid=at&utm\\_source=at&utm\\_medium=en](https://www.chronicle.com/blogs/profhacker/improving-powerpoint-style-presentations?sid=at&utm_source=at&utm_medium=en)

[Strategies and Tips Regarding Writing Multiple Choice Questions - Teaching Assistants' Training Program \(utoronto.ca\)](#)

[Designing Multiple-Choice Questions | Centre for Teaching Excellence | University of Waterloo \(uwaterloo.ca\)](#)

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what the students know, but only test that they know the options are NOT correct. Recently, this research has also extended to “all of the above”, showing that only under very limited circumstances do answers like “all of the above” produce strong assessment validity (Paneerselvam & Callendar, 2016)” [Strategies and Tips Regarding Writing Multiple Choice Questions - Teaching Assistants' Training Program \(utoronto.ca\)](#)