Mitigating Information Overload

When presenting information to a class either through lectures, videos, or written materials, it is important to remember our working memory has a finite capacity. Cognitive Load Theory explains that effective learning involves managing the complexity of information, minimizing unnecessary distractions, and optimizing the cognitive effort needed for meaningful understanding. In your time-constrained and information-rich classrooms, students can find themselves overwhelmed with a multitude of tasks, stimuli, and information. This cognitive overload can hinder learning, impede comprehension, and contribute to stress. Below are four tips to help mitigate information overload when presenting information.

- **Avoid decorative fonts:** Use sans serif fonts for digital materials to increase readability, allowing students to process textual information more readily. Use increased font size, changing the color of the font or bolding only to highlight or group information.

- **Present one piece of information at a time:** Whether that is a new idea, a step in a process, or instructions for an assignment presenting one new piece of information at a time will make the information more readily digestible to a novice in the field.

- **Replace text with verbalization:** Too many visuals at once splits attention, making it difficult to understand all the diagrams, labels and explanatory text presented. However, our memories do separate visual and auditory memories and can process them simultaneously. Consider replacing some of the explanatory text on your materials with oral and audio explanations.

- **Provide guided notes:** Note taking is a cognitively demanding task as students need to both listen and write information at the same time. Consider providing shared or guided note sheets, your full notes or worked examples so that students can focus on the class discussion or materials being presented.

Resources

Sweller, J. (2011). Chapter Two - Cognitive Load Theory. In J. P. Mestre & B. H. Ross (Eds.), *Psychology of Learning and Motivation* (Vol. 55, pp. 37–76). Academic Press.

Kosslyn, S. M. (2007). *Clear and to the point: 8 psychological principles for compelling PowerPoint® presentations* (pp. 61-97). Oxford University Press.

Clark, R. C., Nguyen, F., & Sweller, J. (2005). *Efficiency in Learning: Evidence-Based Guidelines to Manage Cognitive Load* (First Edition). Pfeiffer.

For more information or to discuss how you might incorporate these ideas into your courses, contact the Reinert Center by email at cttl@slu.edu.