Teaching Tip Tuesday

Reducing Cognitive Load

The **working memory** of the human brain is similar to computer RAM; it is the short-term memory that is available during any specific cognitive function. Learning involves transferring content from the working memory to the long-term memory. For effective learning to occur, the **cognitive load** of a task, or the amount of memory required to complete the task, must be within the limits of the working memory. If the cognitive load exceeds the working memory, retention, understanding, and motivation are decreased.

Instructors' choices affect students' cognitive loads. Here are some tips for reducing the cognitive load students experience, so that you can facilitate learning.

Reduce Content

Large amounts of information easily overwhelm students, exceeding their working memory. Focus on the key take-aways or learning outcomes. By presenting LESS at one time, student learn MORE.

Chunk Content

Break tasks into small, manageable pieces. This reduces the number of items that must be juggled in the working memory, facilitating transfer to long-term memory.

Simplify Powerpoints

One point per slide. Include only the minimum key terms and relevant images. Ensure adequate contrast and unassuming color schemes. Simple slides are more memorable, and require less processing.

Avoid Extraneous Content and Flash

Use only words and graphics that are relevant to the learning goals. Extra animations, transitions, and decorative images intended to increase aesthetics inadvertently increase required processing.

Avoid Overlapping Verbal Forms

Reading material written on slides inhibits retention, because student reading speed is faster than yours. The result is that students must simultaneously process two out-of-sync verbal information streams.

Use Friendly Vocabulary

Reinforce definitions of new terms. Avoid acronyms and abbreviations that are new or unfamiliar to reduce the number of items in use in the working memory.

Center For Inclusive Teaching and Learning (CITL)
University College

University of Wisconsin
Stevens Point