MCG MEDICAL EDUCATOR MINUTE

#11

Understanding How We Learn

BACKGROUND

Understanding basic learning science provides teachers with a framework for creating an optimal learning environment.

SUGGESTIONS

1. **Emphasize the building of knowledge and less the telling of information.** Learning is optimal when learner is active or interactive rather than passive in the learning process.
2. **Identify clearly-defined goals or target behaviors.** Having clear objectives provides learner and teacher with a standard to compare learner's current level which promotes motivation and aids in decisions on how to assist.
3. **Assist learners based on their developmental needs**.

Zones of development (Vgotsky)

1. what learner can do independently,
2. what lean re can do with assistance,
3. what is beyond the learner at this time.

Scaffolding

A teacher can provide temporary support, guidance, cues to assist learner at edge of their abilities (aka "scaffolding")

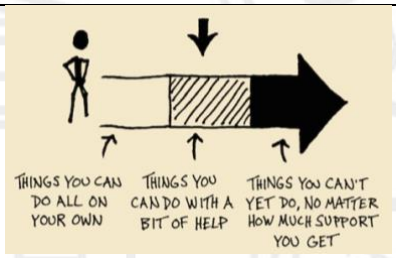

Photo source: https://www.verbaltovisual.com/visualizing-the-zone-of-proximal-development-vtv

4. **Minimize noise/distraction** (external) in a learning setting to reduce devoting mental resources that do not contribute to learning. And, given this is not possible in a clinical teaching setting, assist learners where to direct their attention in the clinical context to avoid being overwhelmed with information.
5. **Break down complex behaviors or concepts into appropriate "chunks."**
6. **Maximize use of helpful cognitive structures** to promote acquiring and storing new schemata into long-term memory. Enables learner to hold together three seemingly disparate bits of information under one larger category which is less taxing on limited working memory.
7. **Minimize stress in learning.** Stress tends to narrow attention and reduce problem solving and critical thinking. As learners progress in their understanding and skills, the environment in which they are practicing can be more complex. Teach at the level learner is ready rather than at the level they need to end up.

Note: While the inverted curve model for optimal performance by stress level (Yerkes-Dodson) has been misapplied in teaching, there is evidence that learning diminishes as a learner becomes more overwhelmed.
Photo source: https://www.gq-magazine.co.uk/article/how-to-handle-stress

WANT MORE? Adult learning theories: Implications for learning and teaching in medical education: AMEE Guide No. 83

REFERENCES

Sweller J Paul Chandler P. Evidence for Cognitive Load Theory. Cognition and Instruction, 1991.8:4, 351-62, DOI: 10.1207/s1532690xci0804_5