USU
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Techniques for Creating an Effective Learning Environment

The AGES Model (Davachi et al., 2010; Davis et al., 2014)

A – Attention: The learner must be paying attention to the content in order to learn. Teaching techniques for gaining / retaining attention include:

- Simulations – relevance
- Social media – relevance
- Problem based learning – relevance
- Games – competition
- Provide content in small chunks – overall attention
- After 15-20 minutes, downtime or something new (discussion, clicker, peer teaching, etc.)

G – Generation: Memories are made up of vast webs of data from across the brain all linked together. The more associations connected to a memory, the thicker the web is, and, therefore, the easier it is to find a memory later. Teaching techniques for gaining / retaining attention include:

- Use self-testing / quizzes/ask questions – be sure to provide feedback
- Have students teach others
- Student reflections - Have students evaluate new information, compare new information to previous knowledge, personalize the information, apply knowledge in different contexts

E – Emotion: Learning happens in many complex layers, with emotion being one of the more important regulators of learning and memory formation. Teaching techniques for drawing on emotion include:

- Draw on personal associations
- Stay positive (fear generally interferes with learning)
- Provide positive feedback
- Use humor

S – Spacing: Distributing learning over time is better than cramming learning into one long study session. In addition to the 'active part' of the learning, spacing allows the brain to further digest new content and over time build and wire new connections, even when learners are at rest. Teaching techniques for using spacing:

- Review sessions
- Tests
- Revisit material at least three times - after a couple of days, a week, a month

Lessons from Neurobiology (Friedlander et al., 2011)

- **Repetition**: Repeat key concepts at appropriate intervals to enhance retention and connections between concepts.
- **Active engagement**: Functional changes in neural circuitry that are associated with learning occur best when the learner is actively engaged.
- **Multisensory processes**: Get all senses involved in learning.
- **Multitasking**: Use multiple modes to provide the same/complementary information, not unrelatead information.
- **Visualization**: For experienced learners, visualization can provide extra practice.
- **Reward and reinforcement**: Try to make sure learning is seen as intrinsically rewarding; work with the learners' view of rewards.
- **Stress (optimum)**: Moderate stress levels can enhance learning.
- **Fatigue**: Make sure intense activities are followed by less intense ones.
- **Active Involvement**: Doing is learning.

Resources

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