uBEATS Teacher's Guide:

Efficient Strategies for Learning

(Grades 9-12)

This teacher guide is a supplementary text to support the use of the uBEATS Efficient Strategies for Learning module for grades 9-12.

To help students develop the knowledge necessary for an incredible future in health care, we created UNMC Building Excellence in Academics Through STEM (uBEATS), an online health science resource for Nebraska students.

UNMC uBEATS modules are short (15 minutes or less), interactive online health science modules to supplement curriculum taught in grades 6 – 12. These do not replace curriculum, but are a supplement for teachers and students incorporating evidence-based information and UNMC expert guided material. Each module is chunked into sections with formative and summative assessments with immediate feedback provided.

Tips on how to utilize uBEATS modules:

- Internet access is required to view uBEATS modules.
- For those who have access to one-to-one technology, modules can be used in or outside of the classroom as a topic introduction, extension, or review.
- For classrooms without individual student devices modules can be used in whole group instruction. Formative assessment questions can use the teacher's preferred call and response method and summative assessment questions can be displayed on the board and answered individually by students or printed and distributed to students after viewing the module.

Objectives

1. Define cognitive flexibility, active recall, and active learning, and understand why each is important to effective learning.

2. Define the testing effect and how it can be used to benefit the learner.

3. Understand how mindfulness and meditation influence components of learning including cognitive flexibility, attentional performance, and auditory attention.

Introduction

How are you at multi-tasking? Students and workers in healthcare professions must be able to remain focused while switching tasks. People who can adjust their behavior according to a changing environment are more likely to be better readers, more creative, and experience a better quality of life. This module discusses techniques for improving cognitive flexibility on the way to becoming a more effective learner.

Prior Knowledge

Before beginning this module, the teacher should understand:

- Next Generation Science Standards (NGSS) featuring Three-Dimensional Learning.
- Nebraska Standards for Career Readiness Pg. 13

1. The career-ready individual applies appropriate academic and technical skills.

    A. Academic Attainment

        1. Demonstrates proficiency in the academic core standards. (Mathematics, English/Language Arts, Science, Social Studies).

        2. Reads and comprehends written material in a variety of forms and levels of complexity.

        3. Completes secondary courses to meet high school graduation requirements.

        4. Assimilates and applies new learning, knowledge and skills.

Key Terms/Vocabulary

Cognitive flexibility, active recall, active learning, creativity, resilience, effective learning, testing effect, feedback, mindfulness, therapeutic technique, meditation, contemplation, reflection, attentional performance, auditory attention.

Science Standards

Nebraska Science Standards Pg. 3

Content Area Standards Structure

Extensions of the lesson

To help students become more familiar with the Key Terms of this module, the teacher can use the vocabulary list for a classroom Word Wall or integrate the vocabulary into classroom word games during review sessions. As the students work to complete this module, they will encounter these Key Terms. They will have a learning advantage if they already have a sense of meaning for each term.

Encourage students to check current events for the latest news involving study habits.

As student misconceptions become apparent, the teacher may need to reinforce these important concepts:

- The information presented in this module is directed toward graduate students. However, these strategies are also useful for high school students preparing for college.
- State and national content standards list the "what" of a student's learning experience. This module provides support for "how" the learning can be accomplished.
- The testing effect uses testing as an active element of learning. This is a study technique that challenges the learner to retrieve information without assistance. That is why multiple-choice questions, which show the correct answer as one of the choices, are not as helpful as studying with a partner who gives open-ended questions, followed by feedback regarding the correct answer.
- Study sessions involving the testing effect do not require that the learner get every answer correct. What matters is that the feedback provides the information needed to reinforce the learning.
- Mindful meditation can make study time more efficient, allowing the learner to gain more understanding in less time.

Enrichment

UNMC offers Wellness Resources that include Mindfulness & Meditation. These can be used to improve study habits, as well as to relieve study stress. See Mental Health Resources.

The UNMC Office of Interactive e-Learning offers additional modules about Study Skills among their Online Science Education Resources. See uBEATS for details.

For more information about study strategies, see Strategies for Success.

For classroom activities about study skills, see Top 10 Study Skills for High School Students .

To learn about the study-skills transition from high school to college, see Study Smarter Not Harder.