I was privileged to be allowed to attend the AAC&U conference entitled "General Education, Pedagogy, and Assessment" in February 2020. Although there were many break-out sessions with interesting examples of general education and their successes (and failures), one of the most notable experiences was from Saturday morning's keynote speaker. Terry Doyle, Professor Emeritus at Ferris State University delivered a speech entitled "The learner Centered Approach to Teaching General Education Courses" in which he stressed keeping in mind what learning is, what it is for, and how to focus on getting it.

> Learning is the ability to use information after significant periods of disuse and it is the ability to use the information to solve problems that arise in a context different (if only slightly) from the context in which the information was originally taught. (Bjork, 1994)

Dr. Doyle brought teaching to learn back to the basics, by posing three key questions to ask when teaching (about learning):

1) What Should We Teach?
    a. Teach only what you would care that your students could remember a year from now. Don't get (them) lost in the details that don't really matter.
2) What learning can students do on their own?
    a. It is active learning which is remembered, so students must care and be at the center of the learning process.
3) What are the best ways to facilitate long-term learning?
    a. Make sure that students are there to learn (that they have done the things that will make them most able to learn.
    b. there are four crucial ways students need to ready their brains for learning:
        i. Staying hydrated (drink a glass of water before class
        ii. Proper diet (make sure that the brain has the proper glucose to engage in learning
        iii. Exercise
        iv. Sleep
            - Adults need (on average) 7-9 hours of sleep each night.
            - Key need for sleep is to recalibrate the specific brain cells that are used in the process of making memory.
            - When we sleep, the brain sends important information to storage and clears unimportant information to ready the brain for more learning.
            - The brain practices motor skills in our sleep to improve the learner's performance.
    c. Key things that get in the way of these four things are caffeine and alcohol. Both chemicals interrupt the brain's processes for sleep in a negative way in terms of learning.

Once we have ensured that the students are showing up and ready to learn, we then need to tap into processes that most greatly promote long-term learning. Most of us know that the more senses that are used in learning, the more chances for understanding and long-term recall. Use of visual images such as cartoons, emotional examples, movie clips, and personal references reinforce the new learning. Using

cognitive maps to show connections between new ideas and prior learning also helps. Specific examples to include in teaching that will specifically promote these learning processes include:

1. Annotation when reading
2. Cognitive mapping
3. Using a smell as a memory cue
4. Drawing a picture/image/diagram
5. Listening to lectures more than once
6. Taking notes
7. Visualizing while listening

Studies show that when people don't recognize patterns, we can get lost, stressed, anxious or fearful. Clustering is a type of patterning used to organize related information into groups and is essential for increased learning. Information that is categorized becomes easier to remember and recall. To highlight this, 90 % of the time, the first sentence of a paragraph is the main Idea. Further, examples make up ½ of all textbook material. Anything that required learners to put things into their own words results in better learning. The more elaborately students encode new information at the moment of learning, the stronger the memory. Students need to make their new learning detailed, multifaceted, and emotional.

An excellent way to help students practice recalling newly learned information is through practice tests and quizzes. The key is that they ask for recall from memory—so no multiple choice,true and false, etc. A major key to a learner-centered approach is to use our passion for our content and our passion for the teaching process to connect with students. The simple fact is if we are excited about our content, our students are much more likely to be excited about our content. Our brains evolved to see emotional information as important. Rewards are simply more effective than punishment in producing learning.

Natural selection developed a human brain to solve problems of survival in outdoor, unstable environments while in almost constant motion. A brain in motion is a brain better able to learn. Studies show that students who are more active exhibit better focus, faster cognitive processing, and more successful memory retention than students that spend the day sitting. Even mild movement, like walking, sitting on balance balls or working a stationary bike all improve learning. Try walking discussion groups to try to implement this in your class at a simple level.

In a recent study by Psychologist Danielle McNamara, she found it is not effort, intelligence or attention that reign supreme, but what a student already knew about the topic, that had the biggest effect on learning. The more prior knowledge a student has, the easier new learning usually is for them. This is a major problem for many of our students here at Lincoln University. Simple methods such as giving students regular feedback as to their successes and challenges, failures, and errors, is crucial for students if they are to improve their learning and study practices. The value of feedback in improving students' learning increases when it is given quickly following a learning or assessment activity and is in the form of actions that can be taken to improve. This is a key takeaway for us as instructors to under-prepared students. Failure is important, but must be couched in a way that there is a positive pathway for success. This is a simple, yet truly powerful message to bring back to the Lincoln community!