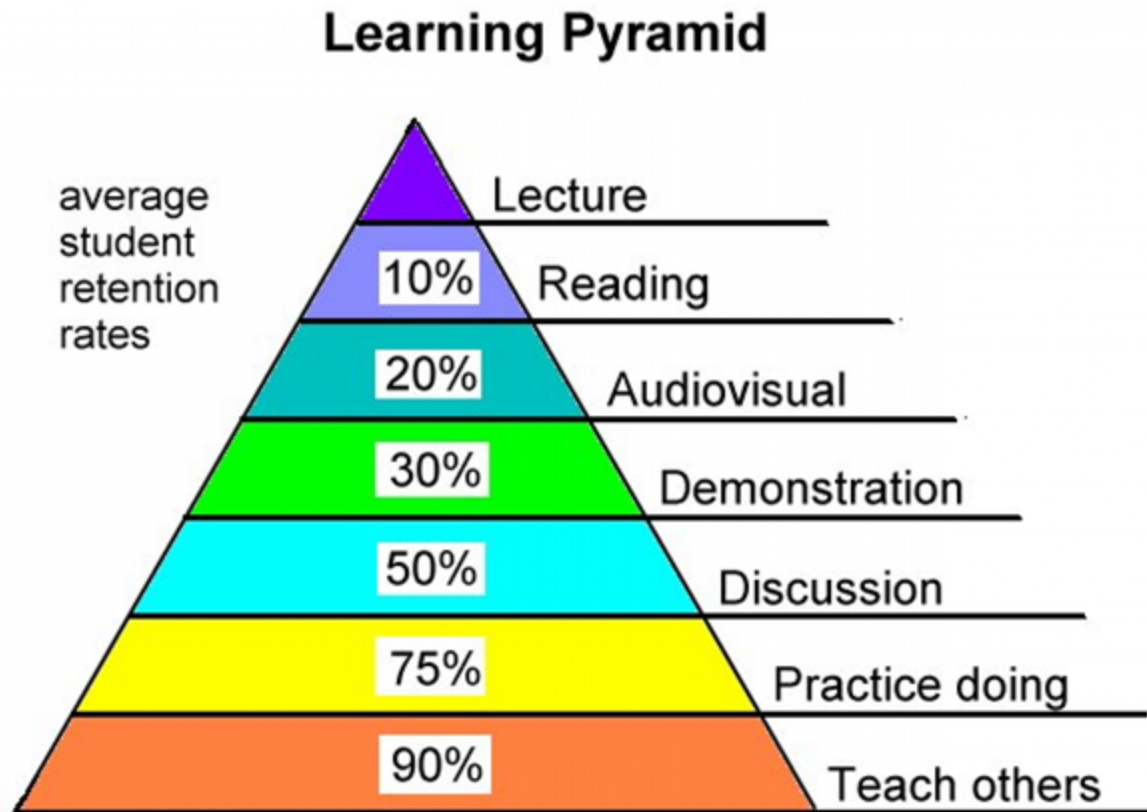


# Students Teaching Students

Students who spend time trying to understand a concept well enough to teach it back to their peers are forming brain connections that result in deeper learning.



Source: National Training Laboratories, Bethel, Maine

“You don’t know it until you’ve taught it”. This is sage advice for teaching professionals. When you teach someone, you concentrate more energy on the topic and learn it at a much deeper level. The process forces your brain to organize your thoughts differently to anticipate problems and prepare possible answers in order to make a cohesive presentation to the learners. To teach, you have to take the data you know about something, sort it out, repackage it and organize it in a way that someone else can understand. As a result, you will inevitably find gaps in your own understanding of a topic and develop mastery of the topic you are teaching. This is very different from “parroting” where a student will listen to another student who understands a concept and then immediately state it back to the student.

The best evidence to support this concept is work done by Chase et al, 2009. They developed a computer-based learning environment where a group of middle-school children were divided into two groups; learning biology as a learner or instructing a character called a Teachable Agent (TA) on biology. The TA was able to reason based on how it was taught by the students. The group that used the TA demonstrated the *protégé effect* which implied that students make greater

effort to learn when they teach the TA's than they do when learning only for themselves. The TA students spent more time on learning activities and learned more about the topic.

**Suggestions to incorporate “teaching for learning” into the college classroom include:**

- Assign broad topics and ask students to creatively teach what they have learned to their peers. In a Functional Development class, students are divided into groups at the beginning of the semester and asked them to research gross motor, fine motor, cognitive/language, self-help and social/play development from birth through 5 years of age. They present their findings toward the end of the semester in creative, engaging formats, including video parodies of TV shows, interactive game shows and skits. In addition, they list their findings in an easy to read bullet-point paper and these are bound together so they have a quick, easy developmental reference booklet designed by their own class.
- Assign high-level analysis questions in class or lab and have a small group of students present their work back at the end of lab. In Kinesiology lab, students are responsible for working on 10-15 high-level analysis questions. In addition, they are assigned one question to present back to their peers. They make sure they fully understand that one concept more than others as they work through the lab.
- Hints for studying – ask students to study in groups. Insist that they do not assume a passive listening role which often results in thinking they have a full grasp of a concept when they really don't (these are the students who typically struggle). Students need to choose groups that allow each member to teach back a topic to the group.

***References***

Chase CC, Chin DB, Oppezzo MA, Schwartz DL. Teachable Agents and the Protégé Effect: Increasing the Effort towards Learning. *J Sci Educ Technol.* 2009;18:334-352.