

Four Essential Teaching Strategies to Start Now to Raise Achievement

Start your year by incorporating practices that have been revealed by Educational Neuroscience to raise achievement. These strategies can be adapted to every grade level.

1. **Give practice tests and daily quizzes.** Research looking across many studies reveals that this is the best learning strategy. I think that means it is the best study/learning strategy in an environment where we must give tests as measures of achievement. As a neuroscientist, I see a value beyond just the practice test making the test familiar. I believe the practice test is valuable because it uses the expressive pathway in the brain, in which the student must reassemble and output the information. Too often we study just by repeating the receptive pathway; firing and wiring it, by having students see or hear the material repeatedly. That is not very effective. We want students to activate their neural network and **recreate, reassemble, and retrieve** the information. We want them to use the speaking and writing expressive pathway, also. These tests do not need to be graded. Furthermore, teachers who gave daily quizzes had higher achieving students than those who did not. Let's not do pop quizzes for grades, but rather offer daily quizzes at various points during the lesson to fire and wire the material and to tell the brain that this information needs to be encoded in long-term memory.
2. **Teach executive function.** Frontal lobe executive functions develop throughout the child's educational life, from the earliest through ages 18-25. Of course, we can still improve them after that, but they remain plastic longer than any other brain region and are easiest to develop during those years. Frontal lobe executive function is not only critical to academic success, but to life success. In fact, observation of the early executive functions of controlling behavior (standing in line, raising one's hand to talk) in first grade predicted 17 years later achievement, income, drug use and criminality. Executive functions extensive but include self-regulation, planning, organization, budgeting time, using judgment, and metacognition. They include the skills higher on Bloom's taxonomy. However, sometimes teachers test critical thinking and other higher order skills without teaching them. Start the year off by teaching and emphasizing one executive function at a time. For example, teach planning for deadlines by providing a calendar with interim deadlines such as "begin studying for the test", "read first section of the chapter" and so forth. Young children can be taught to plan ahead by teaching them how to think about that. Have a discussion about what they might need to bring to school on a certain day or how they would plan for a field trip. As you design lessons, include activities that teach them to use executive functions. Teach them to think! (For a professional development workshop on this topic, [click here](#))
3. **Create a positive emotional climate.** I am not talking loosey-goosey, but a climate of mutual respect and positive emotion. This starts with showing them that you see them as a person and one way to do that is to learn their names quickly and use them often. For younger students or smaller college classes, play the name game during the first week. Tell them that they have X minutes to learn everyone's name (number of students divided by 2 so 30 students = 15 minutes). Tell them you are removing yourself from this (younger students - sit in the back; college students – leave the room). They find this exciting and use a number of powerful

learning strategies to accomplish this – strategies they do not realize they know. For example, some use association, associating the name with something else. Some use repetition and say the names over and over. Some write them on paper and rehearse. Some classes write them on the board. When you return, have each student name all the names of the students as best they can. Now this is when you get numerous repetitions so you can learn their names! Win, win! After that, ask them how they prepared for this “test” and write their strategies on the board as they tell them. Then ask them to write down these strategies and begin using them to study the material in the course. For large college classes, bring fairly stiff paper and have students fold it in half like a place card and write their name in large letters. Allow them to decorate and personalize it with the stipulation that you can still read it from the front of the room. Students are required to bring it daily and set it up. Hey, if Harvard can do this in a lecture hall of 400 students, so can you!

4. **Teach them how their brain learns and that they can change their brain.** This is the most important and was the topic of [my last newsletter](#). When students learn that IQ is not fixed and that they can change their brain, achievement rises, even in low-performing students. If you need help with this, here are some reputable resources:
 - a. dana.org
 - b. BrainFacts.org
 - c. *Six Weeks to a Brain Upgrade: A Student’s Quick Start Guide to Using Brain Research to Boost Learning*. I made this small supplemental textbook for students to help you teach this information along with research-based study strategies that work for grades 8-college. \$15 per student. It is not too late to order to use this semester. [Order here](#) (You can also get a version organized by “six chapters” rather than weeks, but you must contact me directly.)

I believe that these practices are critical to learning and hope that you will have time to focus a little on them and to incorporate them throughout your lessons. I wish you a very successful school year and look forward to crossing paths with many of you at my upcoming workshops and keynotes!

Warm regards,
Janet Zadina