Teaching Statement

My approach to teaching is grounded in the memory and attention research that serves as the bedrock for my research interests. When I design courses, my ultimate goal is to create situations that maximize the likelihood that: (1) the information I am providing is relevant and accessible to the students and, (2) they will retain the information after the class has concluded. In order to ensure that we are focusing on materials that are pertinent to the students, I frequently solicit the students for their interests and cater the focus of subsequent classes accordingly. This can be challenging in large undergraduate classes like Brain & Behavior, where it is important to cover certain materials (e.g. action potentials) even if few of the students are enthusiastically asking to address these topics. In cases where topics that need to be covered do not align with students’ interests, knowing their learning goals helps shape how I frame these topics. One example of this approach is using videos and stories involving neuropsychiatric patients (which many students find fascinating) to contextualize the importance of the dopaminergic pathways in the brain (which most students do not find so fascinating). I apply this approach of catering the class to student interests in my graduate teaching as well. I teach my graduate level neuropsychology class by focusing on the different methods are employed in this field. In this class, I ask the students to complete a survey of what neuroscientific methods they are most interested in and specifically highlight those methodologies throughout the class. This means that the class is different each time I teach it, allowing the topics covered to more closely align with the students’ interests.

My hope is that this focus on making the materials relevant naturally results in more material being retained by the students. There is also a wealth of research from cognitive psychology researchers like Dan Schacter and Hal Pashler that demonstrates that a variety of simple techniques which facilitate active learning result in improved retention of course materials. Repeated testing has been shown to be more effective than spending the same amount of time teaching or reviewing the same materials. As a result, I make an effort to quiz my students frequently on new materials they have learned. An added benefit of this approach is that it provides all students with an indication about how well they understand the materials we have covered in class so that they may seek additional help on the material prior to larger examinations. I also strive to find active learning exercises that will more fully engage the students. Some examples of this approach include asking undergraduates to debate what structures of the brain may be impaired in the zombies of ‘Walking Dead,’ and pitting teams of graduate students against each other in ‘Neurotransmitter Taboo’ games. These activities make it more likely that students will access prior knowledge during learning and encourage them to retrieve relevant information rather than simply recognizing the correct answer.

While there is a tendency to focus on rote learning of a compendium of facts during many neuroscience classes, I have found that these efforts to cater my course materials to students’ interests and engage students with active learning exercises shifts the emphasis towards more ‘real world’ applications of the material. I find that this emphasis informs my own research, as I am continually searching for new ways to apply my neuroscience background to more applied questions. Ultimately, this has led to a mutually beneficial interaction between the overlapping fields of my teaching and research interests.