

The Brain and Learning: Guiding Teaching and learning through and understanding of the Brain

The goal of this presentation is to share a unique paradigm for education, using understanding of the neurobiology of learning and its application to designing instruction to meet the diverse learning needs of students in the classroom.

Abstract

Although teachers are presented with a variety of children with diverse challenges that arise from neurological dysfunction, few teacher education programs adequately prepare teachers to understand, recognize and address these needs. The University of Findlay requires candidates in the post- baccalaureate program to take a course entitled Neurobiology of Learning. This course was developed to offer preservice teachers of special education insights into the underlying neurobiological causes of learning and behavioral challenges experienced in the classroom, and to ensure that they are exposed to a level of rigor that will enable them to become expert caregivers. A child neurologist teams with a professor in the college of education to provide the content for the five components of the course, a feature that distinguishes it from related course offerings in other Colleges of Education. This presentation discusses the importance of including neuroscience in the curriculum of preservice teachers, so that they may be better prepared to deliver services to children with special needs.

Fisher et al (2007) emphasize the fact that it is time for education, biology, and cognitive science to join together to create a new science and practice of learning and development. Education continues to ignore the wide range of state of the art technology, powerful brain imaging tools, and the explosion of new discoveries in the study of genetics, as well as new and not so new methods for assessing cognition and behavior. As a result of this, many children are labeled erroneously, medicated inappropriately, and inadequately serviced because teachers are not trained to see beyond observable behaviors.

Ideally, every teacher should be equipped to help every child learn and reach his/her full potential. This presentation offers a model that will facilitate this goal and at the same time help teachers understand and appreciate neurodiversity while recognizing the uniqueness of each individual. This is a daunting task. This model presents a paradigm that emphasizes commonalities of brain function in children of all abilities, looks at the underlying neurological conditions that promote certain puzzling behaviors, and shows how the teacher can target total brain stimulation, at the same time knowing how to differentiate instruction to meet specific needs.