

Any new theory is first attacked as absurd. Then it is admitted to be true, but obvious and insignificant. Finally, it seems to be important, so important that its adversaries claim they themselves discovered it.

—William James

Is teaching an art or a science? The long-standing debate over this question continues to rage among educators. Those who believe the former argue that teachers are born, not made, whereas proponents of the latter believe that a deliberate approach to students and curriculum built on enthusiasm and zest can, indeed, create great teachers. The truth is, of course, that teaching is both an art and a science, but science plays a particularly important role when it comes to secondary education.

Secondary teachers face the challenge of dealing with a unique type of science: the psychology and biology of adolescence. When confronted with “tweens” and teens’ glaring indifference to well-planned lessons, teachers, unsurprisingly, begin to question whether the task at hand—namely, reaching their students—is possible. Many conclude that reaching all of their students simply isn’t realistic and instead settle for the handful who do respond.

We believe, however, that the Holy Grail of reaching all students is attainable by understanding the adolescent brain and knowing how to energize and engage it. We offer no magic wand, no bag of tricks or set of procedures that will work under all conditions for all teachers. Rather, our goal is to give teachers new strategies to use in the classroom as well as new insights into the ever-changing adolescent brain, and to suggest what the implications may be for designing teaching and learning experiences.

Some critics believe that we do not yet know enough to bridge the gap between neuroscience and education, arguing that although the research is certainly promising, we are not ready to apply it to the classroom. Others discount neuroscience’s relevance altogether, contending that it has little to say to desperate educators seeking solutions to complex problems. In sum, they posit that, guided by the best of intentions, educators may adopt ineffective or even counterproductive strategies based on unfounded claims that they are proven by brain research.

The critics are correct on at least one point—we still have much to learn about the way the brain works. Essentially, we are in the Model T era of brain research. What we do know, however, is that in terms of storage the

Teaching the Adolescent Brain

eight different intelligences and allows for the strong possibility that even more exist. Understanding and utilizing multiple intelligences in the classroom opens the door for academic success for adolescents.

4. **The adolescent brain is not fully developed.** Educators once followed the widely accepted assumption that, in terms of brain development, students entering puberty are essentially adults. But scientists have discovered that adolescents do not gather and process information in the same way adults do. In fact, neuroscientists have discovered that adolescents' brains continue to change well into their 20s. What this means for teaching and learning depends on educators' keeping up with new discoveries in brain research and considering how to apply this knowledge in the classroom.

The primary purpose of this professional development series is to focus on effective teaching practices that optimize the vitality and unique characteristics of the adolescent brain. The series will look at the structural and functional changes that occur in the developing brains of healthy teens and explore the implications these physical changes might have for changes in teens' cognition and behavior.

The secondary purpose of the series is to provide information that teachers can share with their students about teen brain development and how that development relates to learning to function as a self-regulating adult.

This video-based staff development series consists of four video programs and a facilitator's guide. It is intended to support teachers, administrators, students, and other stakeholders interested in learning about the adolescent brain and to offer effective approaches to reaching adolescents in the classroom. This guide includes detailed agendas and activities for seven workshops—two workshops for each of the first three video programs and one workshop for the fourth video program—as well as handouts, overheads, and additional readings and resources.

Program 1, *Almost Adults*, sets the context for exploring the role of the brain in the teen years in terms of academic learning and behavioral choices. Through interviews with neuroscientists, cognitive psychologists, educators, and students, participants explore the intricacies of the adolescent brain and the implications for effective teen-specific teaching practices.

Purpose of the Series

About the Series