Miami Dade College

Course Description

EDF4993 | Brain-Based Teaching: The Bilingual Brain | 3.00 credits

The student will learn how P-12 English Language Learners' (ELLs) brain processes information. The student will acquire research-based and best practices for teaching, differentiating instruction, and assessing ELLs.

Course Competencies

Competency 1: The student will explain the parts of the brain and their functions as they relate to the teaching and learning process by:

1. Describing the basic anatomy and functions of parts of the brain involved in learning and emotions
2. Identifying the role and importance of neurotransmitters in the learning process
3. Discussing how neuroplasticity impacts the acquisition of new information
4. Examining how emotions impact learning (ex: Positive Psychology as it relates to optimism, empathy, stress, and anxiety)
5. Explaining the interrelationship between cognitive and social-emotional domains in the learning process

Competency 2: The student will examine the relationship among educational neuroscience, cognitive research, teaching and learning, as well as assessment in bilingual and ESOL by:

1. Comparing and contrasting how emergent bilinguals (English Language Learners [ELL]) are taught today and how they were taught in the past
2. Summarizing current educational neuroscience and cognitive research related to ESOL instructional practices
3. Recognizing the misunderstandings and misapplications of research in neuroscience as it relates to ELL and ESOL teaching and learning
4. Critiquing current ELL entry/exit tests to ascertain integration of educational neuroscience and cognitive research
5. Evaluating commercial tests for cultural biases and alignment with educational neuroscience research

Competency 3: The student will develop a repertoire of instructional strategies and best practices that reflect educational neuroscience, cognitive, and bilingual/ESOL education research by:

1. Identifying ELLs' language differences and educational needs
2. Understanding ELL's to refer to home language as they acquire a second language (ex: process of language transfer, code switching, etc.)
3. Describing the role of emotions when acquiring a second language
4. Explaining ELL needs as it relates to gifted and special education
5. Developing culturally responsive/sensitive, age-appropriate, and linguistically accessible lessons for ELLs of diverse backgrounds and varying English proficiency levels
6. Evaluating culturally responsive/sensitive, age-appropriate, and linguistically accessible materials for ELLs of diverse backgrounds and varying English proficiency levels
7. Integrating culturally responsive/sensitive, age-appropriate and linguistically accessible materials into lessons for ELLs
8. Differentiating instruction to meet the needs of all students from diverse backgrounds and varying English proficiency levels
9. Implementing teaching strategies and techniques that develop ELLs' English listening, speaking, reading, and writing skills

10. Identifying educational neuroscience and cognitive research practices for ELLs for families to support home learning

Competency 4: The student will employ best practices in educational neuroscience assessment for ELLs by:

1. Discriminating whether formative and summative assessments for ELL grounded in educational neuroscience and cognitive research-based best practices
2. Developing culturally responsive/sensitive, age-appropriate, and linguistically accessible formative and summative assessments that align with standards and lesson objectives
3. Communicating the importance of student assessment data with students and families
4. Utilizing assessment data to promote the academic achievement of ELLs

Learning Outcomes:

- Communicate effectively using listening, speaking, reading, and writing skills
- Formulate strategies to locate, evaluate, and apply information
- Create strategies that can be used to fulfill personal, civic, and social responsibilities