Affective Learning: Evidences from Neuroscience

Abstract:
Many researches indicated that the cognitive dimensions could promote students' learning achievements, but to improve the whole efficacy of science education must integrate the consideration of students' learning and teachers' teaching with affective dimensions. The difficulties of affective dimensions measurements are been solved by using neuroscience technologies. In this presentation, the concept of affection and categorizes the affective dimensions in science education will be discussed. The evidences from neuroscience which included topographic EEG mapping, the α and δ power value, and the P300 amplitude and latencies of frontal lobe will be illustrated in the issues of affective learning.

Biography:
Dr. Liu is currently the Dean of College of Science of National Kaohsiung Normal University in Taiwan. She is also the director of Neurocognition Laboratory in University. Her research interests are conceptions change and learning processes, scientific thinking, cognitive psychology in science education, experimental research design in cognitive psychology, and neuropsychology and science learning. Her instruments in this laboratory include Neuropsychological testing system, Electrophysiological recording system, Behavioural analysis equipment, and Eye tracker machine (Hi-speed workstation with iView X). Currently, Her research group is investigating multiple representations in science education, and visual and spatial Modes in science education by ERPs and eye tracking techniques. This group also cooperates with Kaohsiung Veterans General Hospital to explore the early diagnosis of some brain dysfunctions.