International Conference on Research in EDUCATION, TEACHING and LEARNING

21 - 23 November 2025 Copenhagen , Denmark

"it Is All in the Brain": a Neuropedagogical Framework for Young Learners

Orna Huri

Tel Hai
University Of Kiryat Shmona On Thee Rise, Israel

Abstract

Recent international studies and curricula highlight the growing recognition of introducing young children to basic concepts about the brain's workings. Research suggests that such exposure can enrich cognitive, emotional, social, and motor development. Yet, despite this recognition, no comprehensive model has been systematically developed to help teachers and early childhood educators translate brain science into daily practice. This paper presents the "It Is All in the Brain" model, designed as a practical and teacher-friendly framework that enables kindergarten and primary school teachers to integrate simple, age-appropriate knowledge of brain functions into everyday routines without requiring a formal background in neuroscience. The model incorporates Flavell's metacognition theory (1978), proposing that when children develop awareness of their thinking processes, they strengthen self-regulation, problem-solving, and reflective learning skills. The model is structured around three applied principles: (1) the use of metaphors and visual tools to represent brain processes, (2) short reflective activities embedded in classroom routines, and (3) teacher scaffolding that connects brain knowledge to children's daily experiences. Preliminary feedback from a pilot with kindergarten teachers indicated increased teacher confidence in addressing brain concepts and children's spontaneous use of self-regulatory strategies. The model contributes theoretically and practically by bridging neuroscience and early childhood pedagogy, offering educators accessible tools for fostering young learners' metacognitive and emotional growth.

Keywords: Executive Functions, Metacognition, Neuropedagogy, Learning Sciences, Self-Regulation