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PLAYand Brain Awareness –The missing link in STEM education

This article motivates and describes how play could be implemented at school, home and during therapies to help young children not only master maths concepts, but develop a positive study orientation towards maths and science. Research findings indicate that emotional intelligence, study orientation, motivation, resilience can predict not only the mathematics achievement of middle adolescents, but are also linked to increased likelihood of taking advanced mathematics courses. Developing emotional intelligence and study orientation in mathematics may be a vital missing link in maths achievement and should start at a very young age when the brain is still developing. Children learn through play. Most of the young child's thought processes are non-verbal and pictures and images are the most effective teaching media. Young children also need to be creative when discovering the world of maths. Children must touch maths and they need a variety of activities to keep their attention, and to help them develop concentration.

Keywords: mathematics; play; emotional intelligence; mathematics achievement; mathematics anxiety; metacognition; .play therapy; puppet therapy; brain development, biblio-therapy; resilience: study orientation in mathematics.

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