

Soft Skills, Executive Functions and Montessori Education



“The study of executive functions has a long history in psychology and has lately become prominent in child development as we have discovered that executive function (or self-control or self-regulation) is an extremely important predictor of life outcomes - more important than intelligence, and above and beyond other key influences such as parent income and education.”

- Dr. Angeline Lillard, Montessori: The Science Behind the Genius 3rd Ed.

“Success” is not an endpoint, but rather a lifelong journey which requires creativity, focus, problem-solving skills, and the ability to set and achieve goals through self-discipline and open-mindedness. These “soft skills” are controlled by mental processes called “executive functions,” which occur in the Frontal Lobe of the brain. These “executive functions” underlie the capacity to plan ahead and meet goals, display self-control, follow multiple-step directions even when interrupted,

and stay focused despite distractions, among others. This part of the brain has the task of guiding and monitoring goal-oriented behaviours to ensure success key.

The link between the development of Executive Functions and success in life is a topic of great interest in recent years. Longitudinal research has recently shown that measurement of strong Executive Functions at age 4 are closely related to positive life outcomes including success in relationships, career, and better health, while weaker scores in childhood were strongly related to negative outcomes. Children with strong executive functions early on do better in mathematics and reading competence throughout their school years, and they also tend to become successful in later life as they are inquisitive, driven, lifelong learners.

With such an important link between brain function and success, the educational approaches towards developing Executive Functions become critically important, especially those that foster focus and ability to sustain attention. Executive Functions can be improved in an academic context, particularly, in a Montessori environment, which is designed to cultivate these skills.

“...the environments provided at each plane of Montessori education support the formation of essential aspects of cognitive capabilities known as "executive functions." These capabilities are necessary for the creation of curious, creative, moral, inspired, and inspiring adults—people in whom the light of identity burns bright and warm.”

- Dr. Steve Hughes, Developmental Neuroscientist

Psychology defines a number of characteristics that are known to influence the development of Executive Function in a learning environment:

Academic Content	Active Hands-On Learning	Scaffolds for Success
Socio-emotional Content	Child to Child Tutoring	Virtually Never Reprimands
Connects Cognitive, Social and Emotional Development	Individualized Pacing and Instruction	No External Rewards
Character Development Emphasized	Planning by Child is Emphasized	Play is given Prominent Role
Particular Focus on Oral Language	Dynamic Assessment	Executive Functions Challenged All Day
Self Talk Encouraged	Extensive Teacher Training	**Labelling and Identifying Feelings Emphasised

The Montessori curriculum at IMS meets all but one of these factors** (Diamond, Lee)

Executive Functions also include delaying immediate gratification in order to meet a goal. With so many opportunities for instant gratification in the age of the internet, there can often be very little motivation to maintain self-control. Children become used to immediate satisfaction and so, have a more difficult time setting long-term goals and remaining disciplined to meet that goal. This is why it is so vital, now more than ever to develop these Executive Functions at an early age to provide children with the tools they need to chase their ambitions, and succeed, now and in the future.

“When the child develops his attention, he changes completely ... solidifies and strengthens his inner self ... [and] passes from disorderliness in his acts to orderliness .”

- **Maria Montessori (1997, p. 152)**

Dr. Maria Montessori’s concept of Normalisation defines what a successful child looks like in a Montessori context. A Normalised child is able to concentrate deeply, has a love of work, has self-discipline, and positive social behaviour. From this description, a Montessori child *must* have developed Executive Functions in order to thrive in this environment. Our curriculum is designed to stimulate the frontal lobe to provide the child with the self-regulation skills needed at each development stage from Foundation to Upper Elementary to continue the lifelong journey of success. In Montessori education, the emphasis is on helping children to build self-control, so each child independently becomes responsible for his or her own behaviour.

A stimulating environment strengthens cognitive flexibility; the ability to switch between ideas or concepts, which is a key Executive Function. The ability to speak another language has a similar impact. At IMS, we are committed to an authentic Montessori dual-language environment. Children easily switch between languages, and so are often drawing from two different pools of language-related knowledge. This can help children to comprehensively link two seemingly unrelated concepts, compare and evaluate information as well as allow them to seamlessly switch between languages.

These characteristics are deeply ingrained into all aspects of Montessori learning. Research is now showing what we have witnessed in our own classrooms for years: the effectiveness of the Montessori method in encouraging children’s amazing capability to reason, to creatively solve problems, and to think laterally.

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[Benefits of Bilingualism](#)

[Montessori & Brain Development: Success in Learning & Life](#)