

VOICES OF AMI TRAINING

Support for the Development of Executive Functions in the First Three Years of Life

Alejandra Rosas, AMI 0–3 Trainer

All parents want the best for their children, and we often fall into the temptation to follow new social trends that dictate that we must enrol our children in countless extracurricular classes. However, full development does not depend on these activities or excessive financial spending; the secret lies in the daily activities carried out at home and in our Montessori environments.

Through the daily activities we do to care for ourselves and our environment, children absorb their culture and adapt to it. They learn how things are done in their environment and gradually become active contributors who do things for themselves, for their own benefit and that of their community. One of the reasons this is possible is because, in the activities we do every day at home, our children, in addition to living with us, develop complex cognitive skills that gradually lead them to be masters of their thoughts, impulses, and decisions.

These complex cognitive skills are known as executive functions, or higher-order mental processes. They help us plan, control our thoughts, emotions, and behaviours, adapt to different environments or situations, achieve goals, and develop critical thinking. There is growing evidence that executive functions, such as decision-making and our ability to inhibit impulses, are stronger predictors of our success in life than IQ tests.

So, how do daily living activities contribute to this development?

There are three executive functions that serve as the foundation for all the others. These are working memory, impulse inhibition, and cognitive flexibility. Children are not born with these skills; they are born with the potential to develop them.

Our ability to self-control, for example, begins to develop in the first years of life, even during the first few months, but it isn't fully established until after adolescence and early adulthood. This ability allows us to suppress the impulse to abandon a task, especially after failure, and to continue working toward the goal without giving up. While it's true that this ability is partly genetic and matures naturally with age, environmental experiences where children can practice it help strengthen and develop it exponentially.

The same is true of working memory and cognitive flexibility. Both mature through environmental experiences where they are repeatedly required to use them. Working memory is the ability to retain information in our minds while working on a task, such as, following the sequence of steps required to peel and slice an egg. Cognitive flexibility is our ability to flexibly shift the focus of our attention to adjust to unexpected situations, for example, knowing that we can solve the same problem using different strategies, depending on the circumstances. In children, this ability predicts how quickly they will learn to read, solve math problems, and generally have greater academic success.

These three cognitive skills (working memory, cognitive flexibility, and impulse inhibition) help children, and eventually adults, plan, prioritise, persist at a task even when they encounter obstacles, self-regulate, and adjust to the demands that arise along the way; ultimately, to succeed in whatever we set out to do. For example, being able to solve math problems using different strategies, training for a competition without giving up, completing a difficult project at school even though we're eager to go to a party and have run out of the necessary materials, or deciding to stay in a challenging job because we know it will lead to a promotion and a better quality of life.

When a child performs an activity in daily life, such as preparing a menu, cooking, or washing dishes, they are putting their developing cognitive skills to work. When washing dishes, the child must memorise and follow a long sequence of steps to be successful (working memory). They must adjust to unexpected situations to solve problems. For example, if they use too much soap, they must find a way to rinse the dishes despite this. This demonstrates cognitive flexibility. Finally, even if they are in a hurry to finish, they must walk slowly so as not to spill water when carrying a bowl. This demonstrates impulse inhibition. With repetition and practice, they will increasingly regulate their impulses to avoid using too much soap or wasting water, make decisions to find a more efficient way to wash the dishes, and apply their knowledge to washing different dishes depending on their size and soiling. All of this requires the use of different executive functions that will eventually lead to critical thinking, which is a great gift for our children.

It is important that experiences offer the child the opportunity to direct their own actions, so the adult must be able to connect the child with the activity and step back to allow them to explore, make mistakes, make decisions to resolve them, and focus their attention to regulate their impulses and complete the activity successfully. Continuous adult intervention hinders the development of these skills. With older children, once the activity is completed, the adult can encourage reflection on how things were done and look for new ways to do it next time. But everything should come from the child, not the adult. This reflection directly contributes to the development of cognitive flexibility.

In addition to these activities, it is important for adults to model how to self-regulate and cope with stress successfully. Children in the early years of life learn from the people around them and make these experiences their own.

Finally, there are shared experiences that encourage creative play and social connection, such as conversation, reading books, doing puzzles as a family, and playing board games for toddlers. All of these experiences together are undoubtedly the best way to help your child develop their executive functions from a young age. Remember that early experiences help build the foundation of your child's personality, which contributes to their well-being and happiness.

ABOUT THE AUTHOR

Alejandra Rosas is an AMI Trainer for Comunidad Infantil y Nido (Children's Community and Nest) and Director of Training at the Stoppani Montessori Institute in Tijuana and San Diego, California.

Alejandra has been part of the Montessori community for over 30 years. In addition to being an AMI trainer for ages 0–3, Alejandra is a Casa de los Niños (Children's House Guide) and has worked at both levels, collaborating with countless young children and their families.

She holds a degree in Early Childhood Education, is a Child Care Professional, and holds a Master's degree in Education. She is a member of the AMI Scientific Pedagogy Group and the AMI consulting committee in the United States. She also works internationally, offering guidance courses and workshops for parents and school administrators, in addition to serving as an examiner and consultant for AMI internationally.

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