



ARTICLE 3

MAIN COMPETENCES CHILDREN SHOULD HAVE BEFORE STARTING PRIMARY SCHOOL: ENHANCING SCHOOL READINESS AND FACILITATING A SMOOTH TRANSITION FROM ECEC TO PRIMARY SCHOOL



CARE2LEARN

Link between Motor Skills and Achievement in School

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PROJECT INFORMATION

PROJECT ACRONYM:

CARE2LEARN

PROJECT TITLE:

Supporting the Transition from Early Childhood Education and Care to Primary School

PROJECT NUMBER: 2021-1-HR01-KA220-SCH-000034443

SUB-PROGRAMME OR KA:

KA2 – STRATEGIC PARTNERSHIP FOR SCHOOL EDUCATION

WEBSITE: CARE2LEARN.EU

CONSORTIUM:

Coordinator:

Partners:

Emphasys
CENTRE



University of Zagreb
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Link between Motor Skills and Achievement in School

Motor skills are associated with learning in early childhood. Motor skills are not only the movements, they also include the cognitive processes that give rise to movements. All people have gross and fine motor skills.

Gross motor skills use the large muscles in the body to allow for balance, coordination, reaction time, and physical strength, so that people can do bigger movements, such as walking, running, and jumping.

Fine motor skills involve coordinating small muscle movements needed for tasks like drawing, speaking, writing, cutting with scissors, playing an instrument etc. Gross motor skills are important in children's developing social competences in preschool and school, including doing sports, games and social activities. Fine motor skills are associated more with academic achievement.

Researchers highlight three interrelated cognitive processes during motor assessment: Motor Coordination, Executive Function and Visuospatial Skills. When children perform motor actions, they must be focused and be able to shift their attention, and inhibit maladaptive movements to meet their goals. Visuospatial Skills include perceiving spatial relations, visualizing objects using cognitive representations in 2D or 3D space, and manipulating those representations. Visual processing and fine manual control are important parts of school performance, especially in STEAM fields. Some motor skills, like visuospatial processing are involved in domain-specific learning, such as math. In some studies children with fine motor skills in the classroom, rated by their teachers, had more effective attention and executive function.

General successful behavior in the classroom is complex and requires perceptual, spacial, executive and motor processes that interrelate and build each other. Many studies showed a positive relationship between motor coordination and academic performance. That could be a reason to strengthen the role of the physical education area even before primary school. It was found recently that early fine motor skills in kindergarten were a predictor for reading and math achievement during primary school. One explanation of this finding is: In terms of neuronal wiring, there are some areas in the brain that are involved in both the processing of motor information and cognitive tasks (e.g., prefrontal cortex).

We can conclude that the more motor skills children develop in preschool, the more motor experiences they have, they will be better-prepared cognitively for their later academic careers.



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