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**EDUCATING THINKING CORPOREALITY
AS A PRACTICE OF EMBODIMENT
COGNITION AT SCHOOL**

**THE ROLE OF CORPOREALITY IN THE TEACHING
AND LEARNING PROCESS AT SCHOOL**





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INTRODUCTION

An innovative action–research approach that integrates corporeal pedagogy, embodied cognition, and enactive teaching to transform science teaching in Italian secondary schools, consistent with ESF funding and the Next Generation EU priorities for the tangibility of intangible variables. This action–research explores the integration of generative AI and embodied cognition in language education, proposing an innovative theoretical–practical framework. Theoretically, generative AI is conceptualized not as a mere computational tool but as an extended cognitive artifact (Clark and Chalmers, 1998) that mediates body–mind–environment interaction according to the principles of embodiment cognition (Varela *et al.*, 1991). The research draws on the modular theory of mind (Fodor, 1983) and the bio–ecological model of development (Bronfenbrenner, 1989), integrating trait emotional intelligence (Petrides, 2011) as a moderating variable of teaching effectiveness. Two experimental conditions were implemented with 54 secondary school students: Group 1 experienced embodied sensory remodeling sessions before using generative AI for text production; Group 2 used generative AI with a traditional enactive teaching approach. Evaluation tools include TEIque–AFF questionnaires (Petrides, 2009), sociograms, and qualitative analysis of language production. Preliminary results suggest that integrating embodied practices significantly improves metacognitive awareness in the use of AI, reducing “digital dementia” (Spitzer,

2012) and promoting critical and creative use of generative tools. The proposed model offers implications for European educational policies (Next Generation EU) and represents an original contribution to evidence-based language teaching.

KEYWORDS: Embodied Cognition, Digital Thinking Education, Trait Personality Model, Visual Training, Open Innovation, Embodied Learning Lab.

CHAPTER I

1.1. Introduction, Embodied Bits: An Integrated Vision

The “Embodiment Bits – Digital Bodies: Pursuing Innovation, Practicing Embeddedness” training program offers an integrated pedagogical response to the challenges of the digital age. It focuses on embodied pedagogy and digital creation, fostering teachers’ profound awareness of the connection between body, mind, and the technological environment. This project adopts an experimental and reflective approach to address crucial issues: the conscious use of technology, the personal and professional well-being of educators, and the prevention of critical phenomena such as cyberbullying and technology addiction among students. Within the framework of the Educational Ecosystem, the training program is divided into structured phases: Teacher Training: In-person start for teachers; experimental teaching as practical application in the classroom; reflective observation, including structured monitoring of activities; and shared feedback with students and families, creating a coherent and participatory educational ecosystem. The Strategic Alignment with European and National Priorities includes RAV and School Well-being as activities suitable for contributing to the construction of a new ethic of online behavior, closely connected to the physical and relational dimension of the person, in line with the priorities of the Self-Assessment Report relating to school well-being.

Within the scope of the European Key Competences, the project in question develops European key competences through an embodied approach that integrates digital, personal, social and lifelong learning skills in an innovative and scientifically based framework. The goal of the Next Generation EU development plan is in line with the objectives of the National Recovery and Resilience Plan and the Next Generation EU program, in particular as a project aimed at promoting educational innovation and the digital transition through evidence-based methodologies that place student well-being at the center (Council of Europe, 2020, Common European Framework of Reference for languages: Learning, Teaching, Assessment. Companion Volume with new descriptors, Education Policy Division (<https://www.coe.int/en/web/common-european-framework-reference-languages> – Italian translation Barsi, Lugarini, Cardinaletti, work of Reference for Languages: Learning, Teaching, Assessment). Each public or private company is equipped with a Performance Management and Total Reward practice by virtue of an Integrated Evaluation Model of progressive and ecological objectives in the person–organization dyad. The main objective is to relate the virtuous experience in the union of the Embodiment Education (Embodiment Bits) and Enactive Teaching projects with the Principles of Artificial Intelligence, in order to educate thinking in the digital age and effectively guide students in contemporary schools. The project is part of the Second International Conference on Embodiment Education, promoted by S.I.P.E.D. (Italian Society of Pedagogy), of which the teacher in charge is a co-opted member, thus ensuring a solid anchor in the national and international scientific community.

1.2. Theoretical Foundations: Embodied Cognition

What is Embodiment Cognition? Narrative Medicine serves to teach how to take care of consciences in school where all the shrimps have been conger eels. Embodied cognition represents a fundamental paradigm shift in understanding the learning and teaching processes applied to literary, classical, and scientific disciplines in high schools. Unlike traditional views that consider the mind as a computational