

A cura di  
CATIA GIACONI E NOEMI DEL BIANCO

# E-HAND. EMPOWERING CHILDHOOD HANDWRITING



TRAIETTORIE  
INCLUSIVE

**FrancoAngeli** 



# TRAIETTORIE INCLUSIVE

COLLANA DIRETTA DA  
**CATIA GIACONI, NOEMI DEL BIANCO  
SIMONE APARECIDA CAPELLINI**

La collana “Traiettorie Inclusive” vuole dare voce alle diverse proposte di ricerca che si articolano intorno ai paradigmi dell’inclusione e della personalizzazione, per approfondire i temi relativi alle disabilità, ai Bisogni Educativi Speciali, alle forme di disagio e di devianza. Si ritiene, infatti, che inclusione e personalizzazione reifichino una prospettiva efficace per affrontare la complessa situazione socio-culturale attuale, garantendo un dialogo tra le diversità.

I contesti in cui tale tematica è declinata sono quelli della scuola, dell’università e del mondo del lavoro. Contemporaneamente sono esplorati i vari domini della qualità della vita prendendo in esame anche le problematiche connesse con la vita familiare, con le dinamiche affettive e con il tempo libero. Una particolare attenzione inoltre sarà rivolta alle comunità educative e alle esperienze che stanno tracciando nuove piste nell’ottica dell’inclusione sociale e della qualità della vita.

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I “*Quaderni Operativi*”, invece, documenteranno esperienze, progetti e buone prassi e forniranno strumenti di lavoro per professionisti e operatori del settore.

La collana si rivolge a tutti i professionisti che, a diversi livelli, si occupano di processi inclusivi e formativi.

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## Introduction

by *Noemi Del Bianco, Catia Giaconi, Lucia Borsini, Ilaria D'Angelo, Aldo Caldarelli*

Based on the “E-Hand. Empowering middle childhood Handwriting”<sup>1</sup> project, this work aims to reflect on the theme of Specific Learning Disorders (SpLDs), addressing central issues in the current scientific and pedagogical debate.

In Italy, the growing interest and widespread attention to the protection of the rights of persons with SpLDs have led to a series of measures, culminating in Law 170/2010, which introduced new rules on Specific Learning Disorders and the related “Guidelines for the right to education of pupils with SpLDs” (2011). This legislative intervention has given impetus to information and training initiatives, including national projects, as in the case of the initiative discussed in this volume, which have contributed over time to raising awareness in various areas, from schools to the territory and even to families themselves.

Taking charge of SpLDs requires, in fact, a strong educational and multidisciplinary alliance, where school, professionals, and families collaborate with competence and mutual respect for the educational success of the child.

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Specifically, the school has a central role in the prevention, early identification, and design of personalised interventions for pupils with SpLDs, through systematic observations and targeted educational actions. People with SpLDs do not have intelligence problems, but experience significant difficulties in reading, writing, and calculating, affecting basic instrumental skills, which are essential for learning and many daily activities.

For these reasons, the educational path of these people can be difficult, especially if the educational context is not adequately prepared to recognize the early signs of SpLDs and to intervene in an appropriate way for prevention.

For example, as we will see in the pages of this volume, the transition from kindergarten to primary school is a crucial phase for developing reading, writing, and numeracy skills; therefore, the early detection of risk signals through screening practices is vital to monitor any difficulties. Timely interventions are essential to prevent the development of the disorder and to promote the positive development of the child. It is essential, however, to distinguish between temporary learning difficulties, which can be overcome with appropriate interventions, and Specific Learning Disorders, which require specialized diagnoses.

Adequate training of teaching staff and educational co-responsibility are crucial to avoid late diagnosis, which could compromise the effectiveness of the intervention and the evolution of the disorder. From the early stages of training, future teachers, educators, and pedagogists must be made aware of the conceptual and operational guidelines relating to SpLDs. These professionals must acquire skills to work in synergy with other specialists involved in the diagnostic process to achieve an integrated approach and adequate care. In addition, it is necessary to orient oneself in a complex landscape, where there are divergent positions on intervening. For this reason, professionals in training must be up-to-date through the most authoritative sources of the scientific community and have practical skills to deal with learning difficulties. Among the most relevant aspects, there is a need for targeted training to identify early risk signals and initiate timely interventions that can prevent the severity of the disorder. The awareness and preparation

of professionals are, in fact, key elements for an effective intervention, which takes into account the specific needs of each person.

Starting from these considerations, the volume puts screening paths at the center of the pedagogical debate with particular attention to writing requirements. This choice is also in line with recent data published by the Ministry of Education and Merit (September 2024), which shows an increase in dysgraphia certifications over the last nine years (from 30,000 in the 2013/2014 school year to 111,000 in the 2022/2023 school year). This trend highlights the urgent need to strengthen prevention/early intervention practices and teacher training. Timely screening in the 5-6 year age group makes it possible to identify writing-related difficulties and their prerequisites, such as fine motor control, visual-motor coordination, and spatial organisation.

For these reasons, the volume opens with a focus on Specific Learning Disorders, to frame the phenomenon as a whole. In the first chapter, an overview of SpLDs allows the reader to appreciate the conceptual boundaries of Disorders, namely dyslexia, dysgraphia, dysorthographia, and dyscalculia, to provide theoretical and operational tools able to recognize difficulties at an early stage and implement targeted interventions.

In the second chapter, however, attention will be paid to the specific dimensions of dysgraphia. As Giaconi and Capellini (2015) point out, addressing the complexity of dysgraphia requires an in-depth knowledge of the physiology of the writing process. Our analysis proposes a conceptual path that starts from identifying the prerequisites and processes involved in writing. Then it analyzes the state of the art on standardized tools and screening protocols to detect predictive signs of dysgraphia.

It is, instead, in the third chapter, that an operational trajectory of how novel technologies based on the concept of adaptive tutoring can be helpful to design innovative training aids to improve writing and intervene at an early stage for possible dysgraphia issues will be shown. In this direction, the recent PRIN 2022 “E-Hand. Empowering middle childhood Handwriting” project is, therefore, a significant example of current research perspectives in this field.

The book concludes with a reflection on inclusive trajectories, highlighting the centrality of continuous and specialist training for teachers, the importance of integrating innovative teaching technologies, and the need for a concrete alliance between school, family, and professionals. The conclusions also underline how an integrated and collaborative approach can guarantee an effective management of Specific Learning Disorders, promoting training processes for all students.

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