Effective Teaching Strategies for Dyscalculia and Learning Difficulties in Mathematics

Perspectives from Cognitive Neuroscience



MARIE-PASCALE NOËL AND GIANNIS KARAGIANNAKIS

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Effective Teaching Strategies for Dyscalculia and Learning Difficulties in Mathematics provides an essential bridge between scientific research and practical interventions with children. It unpacks what we know about the possible cognitive causation of mathematical difficulties in order to improve teaching and therefore learning.

Each chapter considers a specific domain of children's numerical development: counting and the understanding of numbers, understanding of the base-10 system, arithmetic, word problem solving, and understanding rational numbers. The accessible guidance includes a literature review on each topic, surveying how each process develops in children, the difficulties encountered at that level by some pupils, and the intervention studies that have been published. It guides the reader step-by-step through practical guidelines of how to assess these processes and how to build an intervention to help children master them.

Illustrated throughout with examples of materials used in the effective interventions described, this essential guide offers deep understanding and effective strategies for developmental and educational psychologists, special educational needs and/or disabilities coordinators, and teachers working with children experiencing mathematical difficulties.

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Contents

General introduction vi
Acknowledgments viii

1 The bases of a cognitive intervention for math learning difficulties or dyscalculia 1

2 Basic numerical skills 36

3 Base-10 representation 72

4 Arithmetic 106

5 Word problem solving 195

6 Rational numbers 236

Index 295