

Education and Treatment of Calculation Abilities of Low-Achieving Students and Students with Dyscalculia: Whole Class and Individual Implementations

Daniela Lucangeli, Patrizio Tressoldi, Chiara De Candia

Advances in Learning and Behavioral Disabilities

2005, **Vol:18, Issue: 18, Start Page:199**

Abstract:

Italian epidemiological data reveal a large discrepancy between the incidence of learning disabilities in mathematics and simple difficulties in mathematics. The incidence of dyscalculia (specific learning disability in mathematics) is about 2%, whereas the incidence of students with difficulties in arithmetic is surprisingly greater, estimated by teachers to be about five students out of 25 (that is, 20%). This unexpectedly high number of students with difficulties invites serious consideration of its cause and remedy. In this chapter, we try to answer to these questions in the light of two educational studies aimed at improving calculation abilities and the outcome of an intervention with three single cases with dyscalculia using the model and the materials of an innovative arithmetical curriculum. The results suggest that for most children, their arithmetic difficulties are simple consequences of their math instruction, which may be remediated by integrating traditional math curricula with information derived from the research on the cognitive arithmetical architecture and its development. There are also implications that even the arithmetical difficulties of dyscalculic children may be improved with special training focused on their specific impairments revealed after a detailed assessment.