

## A COGNITIVE APPROACH TO MATHEMATICS EDUCATION

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**Abstract:** The early gaps in children's cognitive abilities may not necessarily be large, but inattention on the part of mathematics teachers to those gaps bears severe consequences in the children's future learning. What makes it difficult is that known fact that it is always possible that the difficulties students have with mathematics are masked by the appearance of rote learning, because students who are not developmentally ready to learn certain concepts have little recourse but to memorize and reproduce what they are told. It is therefore critical that teachers recognize the importance of a cognitive approach to mathematics education and regularly analyze their students' errors and their students' learning. In this paper I first analyze the cognitive challenges of mathematical thinking, particularly at the primary school levels. Then I offer the example of number sense to illustrate how the number sense is cognitively challenged.