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Fractions from the perspective of elementary school teachers and students. (A fração nas perspectivas do professor e do aluno dos dois primeiros ciclos do ensino fundamental.)

Bolema 21, No. 31, 23-40 (2008).

Summary: The aim of this study is to discuss teaching and learning of the concept of fractions in the early elementary grades based on findings from a diagnostic study applied to 70 elementary school teachers and 131 3rd and 4th grade students. Analysis of the results suggests that the teachers, in general, have a prognosis of students' performance that is far from true, with a tendency to overestimate the number of correct answers, mainly of 4th grade students. A possible cause for this discrepancy could be related to the fact that the different meanings of fractions are not clear to most of the teachers, which leads them to employ teaching strategies that do not always help students overcome false conceptions regarding the concept. Such strategies can be summed up in the use of concrete materials and drawings to facilitate perceptual comparisons, in detriment to teaching order and equivalence, which are operative invariants that are needed to understand the concept. The students' performance, in turn, was inadequate in dealing with many of the problems, mainly those problems in which the meaning of "number" was related with that of "multiplicative operator".

Classification: C70 D30 D40 F40

Keywords: concept of fraction; elementary education; elementary school teacher; prognostic; teaching strategy