

ZMATH 2011a.00622

Fernández, Ceneida; Llinares, Salvador; Modestou, Modestina; Gagatsis, Athanasios

Proportional reasoning: How task variables influence the development of students' strategies from primary to secondary school.

Acta Didact. Univ. Comen., Math., No. 10, 1-18 (2010).

Summary: This study explores the development of students' strategies from primary to secondary school when solving proportional and additive problems. Its goal is to identify characteristics of the development of proportional reasoning and how the use of integer and non-integer ratios and the discrete or continuous nature of quantities influence this development. The findings indicate that primary school students use systematically the additive strategy in proportional and additive situations and that secondary school students present a wider variety of strategies, which are also used systematically. The type of ratio and the nature of the quantities influenced differently the development of these behaviors.

Classification: F93 F83 C33 D23 K93

Keywords: proportional reasoning; proportional strategies; additive strategies; grades 5-10; problem solving; empirical investigations; educational research; CHIC; implicative statistical analysis