

ZMATH 2016d.00574

Kar, Tuğrul

Analysis of problems posed by sixth-grade middle school students for the addition of fractions in terms of semantic structures.

Int. J. Math. Educ. Sci. Technol. 46, No. 6, 879-894 (2015).

Summary: This study aimed to investigate how the semantic structures of problems posed by sixth-grade middle school students for the addition of fractions affect their problem-posing performance. The students were presented with symbolic operations involving the addition of fractions and asked to pose two different problems related to daily-life situations for each item, which could only be solved using the given operations. The problems posed were analyzed in terms of their semantic structures and conceptual validity. The results of the study showed that students who posed problems using the two different structures ‘part-part-whole’ and ‘join’ demonstrated higher performance in problem posing. The performance of the students using only one category – join or part-part-whole – was lower, with the latter being the lowest.

Classification: F43 D53

Keywords: problem posing; addition of fractions; middle school students; verbal problems

doi:10.1080/0020739X.2015.1021394