KOTTS in enhancing primary pupils' problem solving abilities in addition and subtraction operations of measurement

ABSTRAK

This research aimed to examine the effectiveness of using 'Kit Operasi Tambah Tolak Sukatan' (KOTTS) in enhancing primary pupils' problem-solving abilities in addition and subtraction operations of measurement. In particular, the significant difference between the pretest mean scores and the posttest mean scores was investigated. The mean time taken by the pupils to complete the pretest and the posttest was also compared. The quasi-experimental research design was used in this research whereby KOTTS was used as an intervention teaching and learning tool. 176 Year 5 and Year 6 primary pupils and 62 Form 1 secondary school students were selected from eight primary schools and four secondary schools in the Tuaran district of Sabah using the purposive sampling technique involved in this research. A self-developed pretest and posttest were used to measure primary pupils' problem-solving abilities in addition and subtraction operations of measurement. The Wilcoxon signed ranks test was used to test the identified null hypotheses at alpha =.05. This research revealed that there was a significant difference between the pretest mean scores and the posttest mean scores. Primary pupils' posttest mean scores were significantly higher than their respective pretest mean scores. It was also found that primary pupils spent less time (60.5%) completing the posttest as compared to the pretest. It was evident from this research that 'Kit Operasi Tambah Tolak Sukatan' (KOTTS)(with an exemplar provided in Appendix) is an effective teaching and learning tool to enhance primary pupils' problemsolving abilities in addition and subtraction operations of measurement. KOTTS provides an alternative teaching and learning tool for mathematics teachers to enhance problem-solving abilities in 'addition and subtraction' operations of measurement among primary pupils. Based on the findings of PGPK and PMPK by respondents of quantitative and qualitative studies and conclusions that have been made, it is appropriate that such innovative materials can be further expanded so that students can learn through the use of KOTTS. In general, this KOTTS is able to attract and have learning elements that are very useful to mathematics remedial students. Hopefully this KOTTS innovation material can be used to make hands-on knowledge delivery a trend, just like the active learning pedagogy by Curriculum Development Division.