Mathematical Thinking of the Lower Basic Stage Students in Jordan

Dr. Sumailah Ahmad AL-Sabbagh

AL-Balq'aApplieel university
Jordan

Abstract

The study aimed at determining the aspects of mathematical thinking for first, second and third basic grades and how they are affected by class level and gender.

The study tried to answer the following main question :

Will the mathematical thinking aspects differ with respect to class level and gander?

The sample of the study consisted of (240) students at the schools of Jordan equally distributed from grades first, second and third. They performed a test prepared by the researcher on (6) aspects of mathematical thinking as follows: Expressing in numbers; Modeling; Induction; Deduction; Generalization; Conjecture. The test consisted of (35) items at the end of the second semester of the academic year 2004 . The credibility of the test was guaranteed as well as the validity of it.. The reliability coefficient of the mathematical thinking test was (0.92).

The results of MANCOVA test showed a significant difference at the level of significant (α =0.05) between the students' performance according to class level. To pinpoint which mathematical thinking aspects contributed to this result, a Tukey test was used . The result showed that all six mathematical aspects increased significantly over the class level at the level of significanll (α =0.05) .

The results of MANCOVA test showed that there is no significant difference at the level of significant (α =0.05) between the students' performance according to gender or the interaction between gender and class level .

Recommendations were made to the teachers to pay more attention to the aspects of mathematical thinking while teaching. Also it is recommended that more training for teachers must concentrate on mathematical thinking, And conduct more studies by a verification to develop mathematics curriculum and teachers' training.

For the paper in Arabic see pages (477-509)