

A Study of Variables Affecting on a Quality Assessment of Mathematics Subject in Thailand by Using Value Added Analysis on TIMSS 2011

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Abstract : The purposes of this research were to study the variables affecting the quality assessment of mathematics subject in Thailand by using value-added analysis on TIMSS 2011. The data used in this research is the secondary data from the 2011 Trends in International Mathematics and Science Study (TIMSS), collected from 6,124 students in 172 schools from Thailand, studying only mathematics subjects. The data were based on 14 assessment tests of knowledge in mathematics. There were 3 steps of data analysis: 1) To analyze descriptive statistics 2) To estimate competency of students from the assessment of their mathematics proficiency by using MULTLOG program; 3) analyze value added in the model of quality assessment using Value-Added Model with Hierarchical Linear Modeling (HLM) and 2 levels of analysis. The research results were as follows: 1. Student level variables that had significant effects on the competency of students at .01 levels were Parental care, Resources at home, Enjoyment of learning mathematics and Extrinsic motivation in learning mathematics. Variable that had significant effects on the competency of students at .05 levels were Education of parents and self-confident in learning mathematics. 2. School level variable that had significant effects on competency of students at .01 levels was Extra large school. Variable that had significant effects on competency of students at .05 levels was medium school.

Keywords : quality assessment, value-added model, TIMSS, mathematics, Thailand

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