

##C340292 : MAJOR STATISTICAL EDUCATION

KEY WORD: ACHIEVEMENT/MULTILEVEL/OLS SEPARATE EQUATION/HLM

WARAPHON WIHOKTO : MULTILEVEL REANALYSIS OF VARIABLES AFFECTING MATHEMATICS LEARNING ACHIEVEMENT OF UPPER SECONDARY SCHOOL STUDENTS : A COMPARISON BETWEEN THE OLS SEPARATE EQUATION AND THE HLM TECHNIQUE. THESIS ADVISOR : ASSO. PROF. SIRICHAJ KANJANAWASEE Ph .D. 164 PP. ISBN 974-583-562-5

The purpose of this study was to compare the analysis result of variable affecting mathematic achievement of upper secondary level students in Bangkok which obtained from multilevel analysis by OLS separate equation technique and HLM technique. The sample consists of 649 students in Mathayom Suksa 4 of the academic year 2531 and 21 teachers. The data were analysed by two-level analysis. The major results were as follows:-

1. When the obtained data were analysed by OLS technique. The student-level data, intelligence, attitude and motivation were significantly affected the mathematics achievement in some rooms but the average were not. The HLM technique gave the different result by shown that intelligence and attitude were significantly affected the mathematics achievement. The class-level data that gave result significantly affected to the intercept in both methods were experience of teaching and size of school.

2. The multi level analysis by OLS technique had to prepare data for analyse 2 times, student-level data and class-level data. The HLM technique could done only one time. Beside this HLM technique could cross check significant of variable variance before did each level of analysis meanwhile OLS technique could not.