Manassanan Maksavad 2010: Relative Validity of the Ability Estimates from the Truncated Pyramid Adaptive Testing. Master of Education (Educational Research and Evaluation), Major Field: Educational Research and Evaluation, Department of Education. Thesis Advisor: Associate Professor Sujin Liengjaroonrat, Ph.D. 113 pages.

The purpose of the research was to study the relative validity the estimating ability in integrated science process skill of the truncated pyramid adaptive test based on the estimating ability in three methods. The subjects of the study consisted of 127 students of Matayomsuksa 4, Science-Mathematics program the second semester of the academic year 2009, Setthabutbumphen School, under the office of Bangkok Education Service Area Zone 2. The research instrument was integrated science process skill test, which composed 2 steps: inventing and developing the test, and doing research in order to test hypotheses. The content validity was proved by the experts, and the result was first tested with the group of 150 students, analyzing the quality of the test by conventional test theory. The result was, then, second tested with the group of 554 students, calculate the item parameter which yielded Cronbach Alpha coefficient reliability 0.84. The doing research in order to test hypotheses step, the researcher had the subjects do the test in 2 ways: writing the answers by the conventional test of 54 items and answering through computers of the truncated pyramid adaptive test. The hypotheses of the research was that the correlation between the estimating ability in the truncated pyramid adaptive test by the estimating ability of average difficulty of the correct answers, the estimating ability of average difficulty of all the items done and the estimating ability of the level of difficulty of the last item done with the estimating ability of conventional test significantly related at the level of .01 according to Pearson's correlate coefficient which was the relative validity.

The result of the research was the correlation between the estimating ability of the truncated pyramid adaptive test in three methods with the estimating ability of conventional test was significantly related at the level of .01.

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