

KEY WORD : A DEVELOPMENT OF THE DIAGNOSTIC/MATHEMATICS/MATHAYOM SUKSA ONE STUDENTS

MRS.NANTANA SINGWATANASIRI : A DEVELOPMENT OF THE DIAGNOSTIC TEST IN MATHEMATICS FOR MATHAYOM SUKSA ONE STUDENTS. THESIS ADVISOR : ASSOCIATE PROFESSOR YAVADEE VIBULSRI, Ph.D. 158 PP. ISBN 974-581-621-3

The purpose of this research was to develop the reliable and valid diagnostic tests in Mathematics for mathayom suksa one students. As the first step of test construction, a Subjective survey test was used as a tool for finding out defects responses then, 7 diagnostic tests of 4 - alternativ multiple - choices were made, by consisting of 24 items about solving equation problems; 13 items about common factor, 9 items about fraction, 9 items about decimal, 12 items about percentage, 10 items about the areas of the rectangular, and 10 items about the volumes of the rectangular shape.

The samples were 1,409 Matayom 1 students of academic year 1989, randomly selected from five amphures in Samuthprakarn province. Data analysis was computed : the arithmetic means, the standard deviations, modes, skewness and kurtosis, while the reliabilities were computed by the Binomial Formular. In finding Validity, tests were developed to maintain Content Validity and Diagnostic Validity and were examined by the Rovinelli and Hambleton Method and Predictive Validity were tested by using a correlation between the scores of the diagnostic tests and the Mathematic scores of achievement in the first semester of academic year 1990.

As a result of this research diagnostic tests were produced with qualifications as follows :

1. Item Discriminating ranged from .10 to .88. Item Difficulties ranged from .27 to .86.
2. Reliabilities of the seven tests were 0.9383, 0.8461, 0.9110, 0.6795, 0.9418, 0.8437 and 0.8323 respectively.
3. The Predictive Validity were 0.6738, 0.5113, 0.4261, 0.6445, 0.7074, 0.5397 and 0.6106 respectively at the significance level of .05.
4. The criteria as the passing point of 7 tests were 19, 10, 7, 7, 10, 8 and 8 respectively.