Thesis Title	Construction of Diagnostic Tests in "Equation" for Mathayom Suksa 2
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Abstract

The purposes of this thesis were to construct diagnostic tests on equation for Mathayom Suksa 2, to find out their quality, and to construct the test manual. The construction began with analyses of content and learning objectives which resulted in subtopics identification. The following steps were : forming behavioral objectives, writing up the procedural and completion test (called the survey test) according to the behavioral objectives, testing 1,050 students to survey errors and to collect incorrect responses, changing the survey test to four-choice diagnostic tests using commonly incorrect responses as alternative choices. The tests were then applied to another group of 1,050 students for the first tryout. 163 test items were selected. The remaining items were revised and new items were added. The revised test was then given to 600 students

for the second tryout. 37 items were selected as the result. The selected items were then combined to be 200 items and divided into 7 subtests to give to 3,304 students. These diagnostic tests were then tested to ensure their quality. The test manual was constructed.

The 200 items of these 7 subtests covering 20 behavioral objectives can be used to diagnose students' learning handicaps in order that remedial teaching can be accurately provided. The Difficulty, Discrimination, and Reliability of the tests are between .65-.91, .05-.68 and .63-.73 respectively. The Content Validity and Index of Congruency between the behavioral objectives and the tests, rated by 10 experts, are between .60-1.00, .70-1.00 respectively. The test manual provides all essential details for implementing the tests constructed.