

Thesis Title : Construction of Criterion-Reference Tests in
Mathematics for Prathom Suksa 6 Students

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Abstract

The purposes of this study were to construct and analyze the quality of Criterion-Reference tests in Mathematics for Prathom Suksa 6 students, and to make guideline for the tests too. The criterion scores of the tests were determined by Berk's method. The subjects were 1990-1991 Prathom Suksa 6 students of National Primary Education Office in Chiangrai municipal areas. Among all of the subjects, 140 students were purposive sampling for the improvement and selection of the tests while 582 students were simple random sampling for the finding of criterion scores, reliability and standard error of the tests.

The results and the findings of the studies were as follows:

Subtest 1 The Length and the Area of Triangle consists of 30 items. The criterion scores was 17. The discrimination values ranged from .03 to .73. The reliability was .913. The standard error was ± 2.192 . The time allowed to complete the test was 50 minutes.

Subtest 2 The Length and the Area of the Circle consists of 18 items. The criterion scores was 8. The discrimination values ranged from .03 to .88. The reliability was .902. The standard error was ± 1.500 and the time allowed to complete the test was 30 minutes.

Subtest 3 Figures and Capacity consists of 26 items. The criterion scores was 19. The discrimination ranged from .17 to .94. The reliability was .821. The standard error was ± 1.835 and the time allowed to complete the test was 40 minutes.

Subtest 4 Orderpair consists of 20 items. The criterion scores was 18. The discrimination values ranged from .80 to 1.00. The reliability was .841. The standard error was $\pm .986$, and the time allowed to complete the test was 20 minutes.

Subtest 5 Charts and Graphs consists of 30 items. The criterion scores was 25. The discrimination values ranged from .11 to .84. The reliability was .845. The standard error was ± 1.374 and the time allowed to complete the test was 40 minutes.

The study also found that criterion scores of Criterion-Referent Test were positive correlated with construct validity of the tests, and criterion scores of Criterion-Referent Test were negative correlated with time, as well as the criterion scores and standard error were negative correlated.