

THE VALIDITY  
OF THE BETHEL MIDDLE SCHOOL  
SEVENTH GRADE MATHEMATICS EVALUATIVE CRITERIA TEST

AN ABSTRACT OF  
A THESIS  
PRESENTED TO THE GRADUATE FACULTY  
OF  
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IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE  
MASTER OF SCIENCE

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This study was undertaken to determine whether or not the seventh grade mathematics evaluative criteria test was a valid measure to test a student's achievement. The questions and topics were analysed to estimate the test's content validity.

The achievement test used was a newly created Bethel school system seventh grade end-of-the-year test. It was given for the first time in June 1977 and then in June 1978. It was not being used as a placement test, but students were given this test for the purpose of recording a mark of competency or noncompetency in each of nine areas. 80% and above were the criteria for competency in an area. The subtests were:

1. Fractions (greater, lesser)
2. Fractions, reduce to lowest terms
3. Add and subtract unlike denominators
4. Multiplication and division of fractions
5. Decimals, addition, subtraction, and multiplication
6. Exponents
7. Integers
8. Fraction, decimal, percent chart
9. Percent (finding percentage, rate or base)

The subjects for this study were 506 students who took this test in either June 1977 or June 1978. The results were recorded in their permanent record files. In this study, each student's scores were recorded as were their sex and composite grade for seventh year mathematics.

Treatment of the data included an item easiness index, an item discrimination index, and a point biserial correlation on the separate items. A t-test compared the results of this test with student's final composite grades in seventh year mathematics. The seventh grade mathematics teachers rated the curriculum to prioritize the topics listed.

The results showed that all of the items were computed between .20 and .80, which is the acceptable range according to the item easiness and the item discrimination indexes. Subtest One had a 76.67 item easiness index, which is quite high and perhaps that question should be rewritten.

Other results found  $t = 210.179$  with 1010 degrees of freedom. This showed a significant statistical difference between the test scores and student's composite grades. This evaluative criteria test is not an accurate test in which to base student's yearly work.

The teachers gave all the topics which were covered on the test high priority ratings, but certain items not tested also received high ratings and therefore should have been on this test for it to have content validity. These topics included computation of whole numbers and word problems. Some subtests tested more than one concept and that caused difficulty in establishing what the student was competent in.

Recommendations are made to review this test and its results in future years.