

ABSTRACT

An Investigation Into Psychometric Properties and Technical Characteristics
Of the Fourteen Plus Examination in Mathematics in Trinidad
and Tobago, 1985 to 1988

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Psychometric properties and technical characteristics of 14+ Mathematics Examinations taken during 1985 to 1988 were investigated. Scores of 4950 candidates randomly selected out of a total of 49,843 14 to 15 year-old Junior Secondary School leavers from thirty schools in Trinidad and Tobago were examined. Examination papers of the four years were also analysed.

Results show the following:

Content validity of the examination papers was fairly satisfactory;
Inter-item reliability was high, ranging from .71 to .87;
Less than 5% of the school leavers were successful in the examination in any one year;
Item difficulty values ranged from 11% to 78%;
Discrimination indices ranged from .24 to .35.

There were better performances in the Arithmetic and Algebraic-based items of the papers, more than on the Geometry and Statistics-based items. Problems presented mainly numerically and symbolically were more often answered correctly than problems with verbal content. Overall, there were negligible differences in students' scores on the "traditional" and "modern" Mathematics items. The scores on items of cognitive levels - knowledge, comprehension, application and analysis - were also similar.

It is recommended that results of item analyses of each year's examination should be used to revise and improve the examination paper for the following year.