THE OPTIMAL STRUCTURE OF A MULTIPLE CHOICE TEST WHEN SELECTING A SMALL PROPORTION OF STUDENTS FROM A LARGE NUMBER OF EXAMINEES

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Selection of students using a multiple choice type test has been considered in this study. The test that maximises the expected mean ablity of the selected proportion of students has been determined theoretically. Simulation studies were also performed and it was found that their results tally with the theoretical results.

In this study, it has been found that an optimal test should have at least 50 items ans that the items should have a well chosen single level of difficulty. Even if the items are of different difficulty levels, equal weights are still best in estimating the abilities of the students. Finally, it was found that the threshold score with the optimal level of difficulty is approximately two thirds of the total number of items in the test.

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