Name(s)

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Project Number

S1405

Project Title

A Comparison of Test Scores Using Modeling and Bayesian Statistics

Abstract

Objectives/Goals
The objective of this project was to find a good way to compare scores from tests with varying numbers of questions.

Methods/Materials
A model of test-taking was created where every test-taker had a fixed but unknown chance to answer any of the questions correctly. Bayesian statistics were then used to find the probability distribution of this chance based on a certain test score. The expected value of this chance was then calculated. This number was used to compare among scores.

Results
The expected value for someone#s chance to answer a questoin correctly was the number of questions right plus one, divided by the number of questions total plus two.

Conclusions/Discussion
This shows that there is a good way to directly compare scores from tests with different numbers of questions. My objective was completed successfully.

Summary Statement

Comparing different test scores to each other.

Help Received

Mother helped print out and attach papers, Project adviser read initial work and gave advice