

Use of Z-scores for the admission to Sri Lankan universities

T. R. Ariyaratne and S. R. D. Rosa

Department of Physics, University of Colombo, Colombo 3

Suitability of adopting Z-Scores instead of the aggregates of raw marks scored by the candidates for the admission to Sri Lankan Universities has been investigated. The investigation was carried out by using the data published by the Department of Examinations pertaining to the G.C.E. Advanced Level Examination for last 17 years. The Z score is calculated by dividing the deviation of individual scores from the population mean, by the standard deviation. Investigation revealed that the distributions of marks for science subjects do not follow the normal distribution, and it is very much so in the case of mathematics. One of the major causes for such a deviation was found to be the absence of a M.C.Q. type paper for mathematics subjects. Analysis also shows that the standard deviation is subject dependent and it is a constant for a given subject. It does not show appreciable variation with the mean of the distribution. Standard deviation of Mathematics subjects has a value closer to 20 where as for Physics and Chemistry it is around 15. Investigation also revealed that the reason for having a large value of standard deviation for mathematics subjects is due to the absence of a M.C.Q. paper, and the nature of the subject for which a special talent is needed to perform well in the subject. Because of the dependence of the standard deviation on the nature of subjects, students doing well in subjects having a large value of standard deviation will have a disadvantage when the aggregated is taken under the Z score method.