

Multivariate Assessment of Mathematics Test Scores of Students in Qatar

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Abstract : Data on various aspects of education are collected at the institutional and government level regularly. In Australia, for example, students at various levels of schooling undertake examinations in numeracy and literacy as part of NAPLAN testing, enabling longitudinal assessment of such data as well as comparisons between schools and states within Australia. Another source of educational data collected internationally is via the PISA study which collects data from several countries when students are approximately 15 years of age and enables comparisons in the performance of science, mathematics and English between countries as well as ranking of countries based on performance in these standardised tests. As well as student and school outcomes based on the tests taken as part of the PISA study, there is a wealth of other data collected in the study including parental demographics data and data related to teaching strategies used by educators. Overall, an abundance of educational data is available which has the potential to be used to help improve educational attainment and teaching of content in order to improve learning outcomes. A multivariate assessment of such data enables multiple variables to be considered simultaneously and will be used in the present study to help develop profiles of students based on performance in mathematics using data obtained from the PISA study.

Keywords : cluster analysis, education, mathematics, profiles

Conference Title : ICMEELS 2019 : International Conference on Mathematics Education and Learning Sciences

Conference Location : Sydney, Australia

Conference Dates : January 30-31, 2019