Multidimensional Rasch Analysis for Vocational Education Assessments

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The results show that the class willing to work in industry achieved 0.293 logit scores better than the “stay in house” class with the residual variance of 0.055. The reliability is relatively low while unidimensional procedures are statistically inefficient when data is truly multidimensional (Cheng, Wang & Ho, 2008) because of the use of Unidimensional Item Response Theory models that may not adequately describe the data.

The construct of “Motivation” found in the module of Engineers in Society together with other constructs such as the “Communication Skills” could be applied under the within-item Multidimensional Model in order to increase the reliability and validity of the test. The insight is to extend the application of the within-item model to within-module model. This is of great interest in the applicability to reduce the number of assessments to students for the outcome-based curriculum design.

References:


