

Using Rasch model and confirmatory factor analysis to assess instrument for Clothing Fashion Design Competency

ABSTRACT

The study aimed to determine the validity, reliability, polarity and fitness of the items, as well as to confirm the measurement model of Clothing Fashion Design Competency (CFaDC). Winsteps software was used to test the validity and reliability of the instrument, meanwhile AMOS was used to verify the measurement model. The results show the index of the items, the reliability of the individual (person) and high separation of the items and individual isolation. The results also show that the instrument is consistent, valid, stable and reliable if being administered into another sample with similar characteristics. Polarity items indicate that there were 4 knowledge items that measured other constructs and the items were dropped. A total of 31 knowledge items and 16 skills items were detected as misfit and were also dropped. Measurement model was fitted to the data and was accepted based on the suitability index (Fit Indices) that has been achieved, namely: CMIN $\chi^2 = 1306,979$, with degrees of freedom (df) 680, CMIN/df = 1.922 (< 5.0), CFI = 0.941 (> 0.90), IFI = .941 (> 0.90), TLI = 0.935 (> 0.90) and RMSEA = 0.053 (< 0.08). The instrument has been proven to be a good instrument and passed the psychometric standards.

Keyword: Knowledge; Rasch model; Structural equation modelling; Skill