

Construct Validation for an Instrument to Measure Clothing Fashion Design Competency Knowledge (CFaDCK) using Rasch Model

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ABSTRACT

The purpose of this study was to validate an instrument to measure clothing fashion design competency knowledge (CFaDCK) using Rasch model. A random sampling technique was used to select 330 teaching staff in fashion design. The Rasch measurement model was used to analyze the items and the respondents' reliability, the items and respondents' separation index, the items' fit, the levels of items' difficulty and the respondents' ability. The findings showed that the items' reliability index was 0.99 and the respondents' reliability index was 0.84. These values were relatively high which indicated the instrument possessed high internal consistency. The items' separation index was 8.38, which explained that there were eight different levels of items' agreement in this study. Meanwhile, the respondents' separation index was 2.25, which indicated that there were two levels of respondents' ability in this study. The results also found that 31 items were misfit to the Rasch measurement model and were dropped based on the values of outfit/infit MNSQ and the z-standardized index. Knowledge construct indicated that there was a uniform distribution between easy, medium and difficult items. This can be seen as many items were available along the continuum scale of the measurement. The statistical analysis provided a strong evidence to support the validity and reliability of the scale. Therefore, CFaDCK instrument can be used as a placement tool for the admission into the fashion program, to identify the effectiveness of the application of competencies in teachings and also to train new instructors.

Keywords: Clothing fashion design competency, instrument validation, Rasch measurement model, separation index, Malaysia