

Cognitive Diagnostic Assessment of a Reading Comprehension Test Battery for Formative Diagnostic Feedback

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A critical issue in cognitive diagnostic assessment (CDA) lies in the dearth of research in developing tests for cognitive diagnostic purposes. CDA of formative language assessment that aims to inform instruction has not been conducted in foreign language learning contexts. During recent years, researchers have attempted to provide more practical results beyond a simple average grade in order to improve learning. This study explored how developing a reading comprehension test based on a cognitive framework could be used for diagnostic purposes. To validate the developed test items, a Q-matrix that specified the relationships between test items and target attributes was theoretically developed. Student think-aloud verbal protocols and content rater judgment were used to help construct the Q-matrix. Finally, to diagnose the participants' strengths and weaknesses, the test was administered to 1986 students of a GE course at the University of Tehran and Fusion Model analysis was used to obtain learners' skill mastery profiles. The obtained results can be very beneficial for formative diagnostic feedback.

Key words: Attributes; Cognitive Diagnostic Assessment; Cognitive Diagnostic Model; Formative Diagnostic Feedback; Fusion Model; Q-Matrix.

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