Cognitive Diagnostic Assessment for Education

With the current push toward educational reform, there is great potential for innovation and change, particularly in large-scale testing. One area where change is possible is in cognitive diagnostic assessment (CDA). Researchers in educational measurement and cognitive psychology are finally in a position to design tests targeted specifically to providing valuable information about students’ cognitive strengths and weaknesses. This book organizes into one volume what is known about CDA in education, including its conceptual and philosophical basis, methods, and applications. The complete list of topics includes educational demand, philosophical rationale, construct validity, cognitive methods, test construction, statistical models, and unresolved issues (e.g., how to best translate diagnostic information into teaching practices). The book presents a comprehensive and up-to-date examination of CDA in education.

Dr. Jacqueline P. Leighton is Associate Professor of Educational Psychology at the University of Alberta and a registered psychologist by the College of Alberta Psychologists. Her specialization is cognitive-based assessment, in particular the design of educational and psychological testing instruments to measure higher-level thinking skills. Professor Leighton’s current research is focused on examining the usability of cognitive models for informing educational tests. She is a member of the American Educational Research Association, National Council on Measurement in Education, and Canadian Society for the Study of Education. Her research is funded by the Social Sciences and Humanities Research Council of Canada and the Natural Sciences and Engineering Council of Canada.

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