Conference on Diagnostic Assessment
Final Report

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In response to the growing need for alternative diagnostic assessments that can help diagnose instruction and training needs so that individuals can achieve basic levels of mastery, a conference was organized that brought together researchers, educators, and policy makers from diverse areas interested in new forms of assessment. The goal of the conference was to educate presenters and the audience on the strengths and limitations of diagnostic assessment.

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In addition to the conference participants, the ideas shared at the conference will reach a broader audience through an edited book of the conference proceedings. A contract for publication of the book has been signed with Lawrence Erlbaum Associates. The book now has 14 chapters and two chapters may be added. Publication of the book is expected in 1994. The following is a list of titles and authors now in the book.

Title: Assessing design activity in complex CMOS circuit design
Authors: Gautam Biswas
         Vanderbilt University
         Susan Goldman
         Vanderbilt University

Title: Student modeling in the ACT programming tutor
Authors: Albert T. Corbett
         Department of Psychology
         Carnegie-Mellon University
         John R. Anderson
         Department of Psychology
         Carnegie-Mellon University
         Alison T. O'Brien
         Department of Psychology
         Carnegie-Mellon University
Title: Using clustering methods to explore the structure of diagnostic tests
Author: James E. Corter
Teachers College
Columbia University

Title: Unified cognitive/psychometric diagnostic assessment likelihood-based classification techniques
Authors: Louis V. DiBello
University of Illinois at Urbana
William F. Stout
University of Illinois at Urbana
Louis A. Roussos
University of Illinois at Urbana

Title: A measurement model for a complex cognitive skill
Authors: Karen L. Draney
School of Education
University of California-Berkeley
Peter Pirolli
School of Education
University of California-Berkeley
Mark Wilson
Graduate School of Education
University of California-Berkeley

Title: Adapting cognitive methods to real world objectives: An application to job knowledge testing
Authors: David DuBois &
Personnel Decisions Research Institute
Valerie L. Shalin
State University of New York-Buffalo
Title: Diagnostic assessment of troubleshooting skill in an intelligent tutoring system
Authors: Drew H. Gitomer
         Educational Testing Service
         Linda S. Steinberg
         Educational Testing Service
         Robert J. Mislevy
         Educational Testing Service

Title: Similarity, structure and knowledge: A representational approach to assessment
Authors: Peder J. Johnson
         Department of Psychology
         University of New Mexico
         Timothy E. Goldsmith
         Department of Psychology
         University of New Mexico
         Kathleen W. Teague
         Department of Psychology
         University of New Mexico

Title: ASPM2: Progress toward the analysis of symbolic parameter models
Authors: Thad A. Polk
         Department of Psychology
         University of Pennsylvania
         Kurt VanLehn
         Learning Research & Development Center
         University of Pittsburgh
         Dirk Kalp
         School of Computer Science
         Carnegie-Mellon University

Title: Some suggestions for alternative assessments
Author: Sandra P. Marshall
         Department of Psychology
         San Diego State University
Title: A Bayesian approach to cognitive assessment
Authors: Joel Martin &
         Learning Research and Development Center
         University of Pittsburgh
         Kurt VanLehn
         Learning Research & Development Center
         University of Pittsburgh

Title: Probability-based inference in cognitive diagnosis
Author: Robert J. Mislevy
        Educational Testing Service

Title: A cognitive diagnosis method using latent trait models: Competency space approach and its relationship with the unified cognitive/psychometric diagnosis model
Author: Fumiko Samejima
        Department of Psychology
        The University of Tennessee-Knoxville

Title: Architecture of knowledge structures and cognitive diagnosis: A statistical pattern classification approach
Author: Kikumi Tatsuoka
        Educational Testing Service