

## Evidence Centered Design using Bayesian Networks

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The goal of educational assessment is to draw inferences about the knowledge, skills, and abilities of a potential learner. Evidence Centered Design is a new way of thinking about assessment design that emphasizes the evidence each task provides for potential claims which can be made about the learners' proficiencies. Focusing on the evidence enables the assessment designer to craft performance situations---tasks---in which learners can appropriately demonstrate their proficiency. It also provides a set of guiding principles for designing much more complex assessments, ones which measure multiple proficiencies with complex performance tasks yielding multiple observed outcomes.

This talk reviews the basic models of Evidence Centered Design. It then talks about an ECD design using Bayesian network scoring for a simple example: a performance based language assessment. This example emphasizes the points of communication between test authors and psychometricians rather than looking at specific psychometric or test design issues. In particular, it looks at the important design decisions which must be made when constructing a Bayes network model for an assessment.