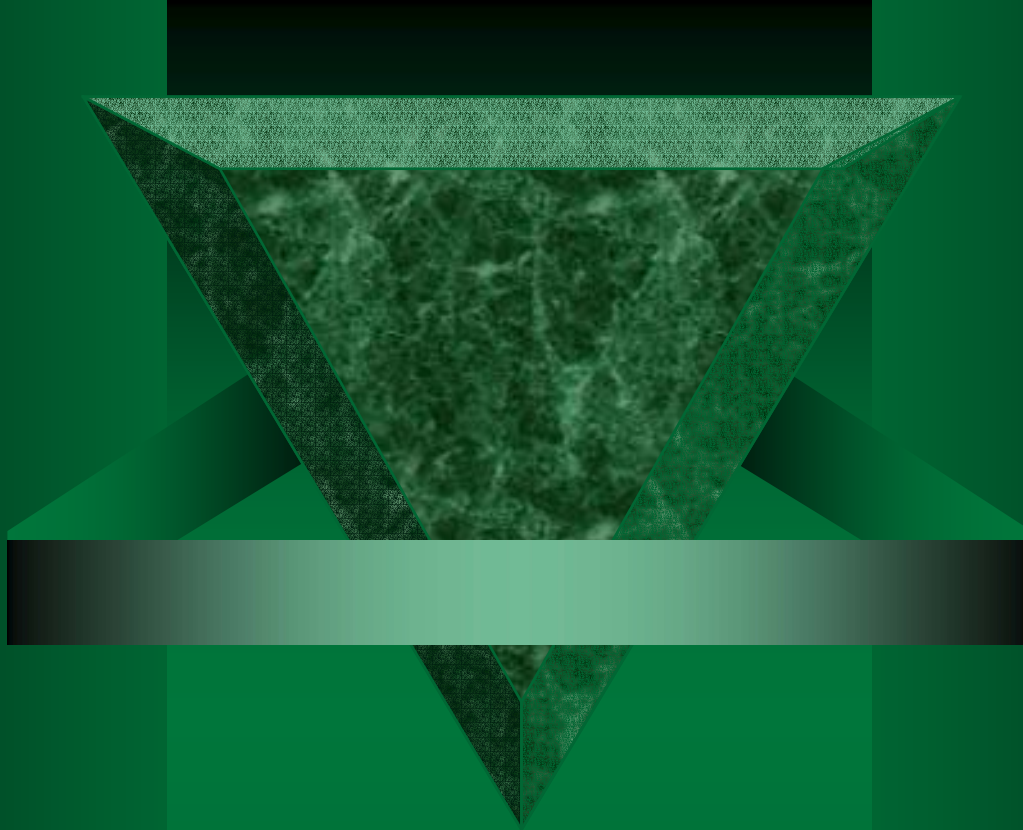




# Ins and Outs of Computerized Testing

Brian D. Bontempo

Fall 1998



# Computer Based Testing (CBT)

It's a good idea, can we do it?





# Why do you want to move to CBT?

- ✓ Better Measurement
  - (Nobody simply moves from paper-and-pencil to CBT, they want to improve their program!)
- ✓ Convenience to Examinees
- ✓ Convenience to Staff
- ✓ Keeping up with the Jones



# Better Measurement – Defining the Latent Trait measured with CBT

- ✓ **What do you want to measure?**
- ✓ **What *specifically* do you want to measure?**
  - Get more specific than competency
  - For example, *clinical decision making* competency
- ✓ **How do you find out what you want to measure?**
  - Do an extensive job analysis
    - Criticality
    - Frequency
  - Find out what people do
  - Find out what people don't do well



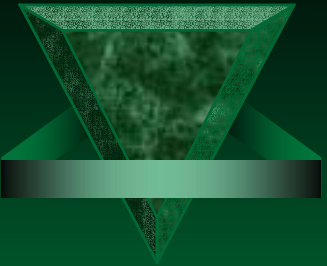
# Better Measurement – Item Types

- ✓ **What item types best assesses that latent trait?**
  - **Multiple Choice Questions (MCQs)**
    - Linear
    - Adaptive
  - **Performance Assessment**
    - Constructed Response (Essay)
    - Simulation
    - Text Entry
    - Virtual Reality
- ✓ **How do I know which item types will best assess that latent trait?**
  - Cognitive Psychology
  - Knowledge of the profession under assessment
  - Consultants



# Convenience to Examinees

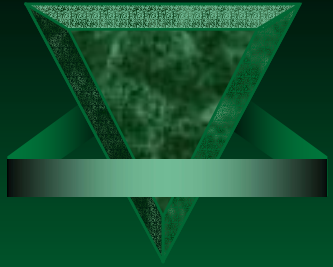
- ✓ Test at private center
- ✓ Test at convenient time
- ✓ Test all year round
- ✓ Test locations may be better/worse than at present
- ✓ Shorter examination (CAT)
- ✓ More Realistic (Virtual Reality)



# Convenience to Staff (Yeah right!)

- No more Scantron forms
- No more Board administration
- How much “control” do you want/need?
- How much do you “trust” your test service?
- What is your legal responsibility to examinees and public, and what can you afford to do?





# Keeping up with the Jones

- ✓ Everyone is going to do it eventually, so start preparing now!



# Now that we've decided why we want to move to CBT, how do we get there?

- ✓ Figure out what you “need” to build, then adjust the candidate fees & organizational revenue to get there
- ✓ Figure out how much money you have available and compromise the “quality” of the examination to accommodate that budget

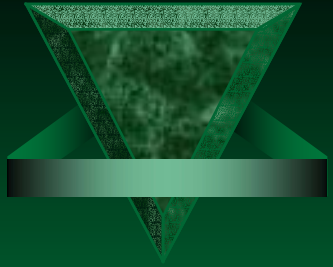


The move from Paper-and-Pencil to  
CBT is an opportunity to change  
your field!



# A Simple Formula

Cost/Test = Needs of Public Safety + Salary with  
Certificate - Financial capability without  
certificate accounting for educational costs



# Three other factors

- ✓ Supply/Demand
- ✓ Organizational Risk
- ✓ Educational Background of Test Takers



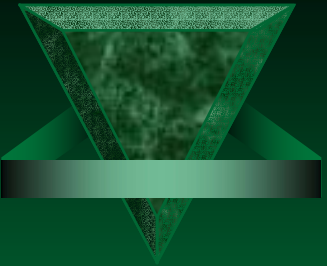
# Needs of Public Safety

- ✓ Establish the degree of psychometric precision necessary for your license or certificate
  - If you're not changing your examination then this is generally pre-established
- ✓ Identical Testing Conditions



# Consdérations

- ✓ Proceed step by step through the “things” necessary to accomplish the “reasons” for moving to CBT emphasizing:
  - Tasks
  - Costs
  - Drawbacks
  - Staffing



# Once you decided what you can do

- ✔ Set up a timeline
- ✔ Make progress step by step
- ✔ Execute all big changes all at once
- ✔ Select a test service
- ✔ Prepare you stakeholders by communicating to
  - Organization
  - Examinees
  - Public