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**Measurement
Essentials for
Assessments that Work**

Measurement

Enduring Themes:

- What to measure
- How to measure

Measurement Essentials

Current focus in the measurement community is on securing
QUALITY & FAIRNESS
in all forms of assessment
including large scale assessment
and classroom assessment

Measurement Essentials

- QUALITY** ✓ Accuracy
✓ Reliability
- FAIRNESS** ✓ Balance
✓ Validity

Quality: Accuracy

1. Clearly define your purpose
 - a. Progress Monitoring (formative assessment)
 - b. Objective/Instructional Feedback
 - c. Grading (summative assessment)
 - d. Placement

Quality: Accuracy

2. Create an assessment blueprint
 - a. Content to be covered
 - b. Cognitive tasks to be assessed
 - c. Format of items
 - d. Number of items (given time limits)

Quality: Accuracy & Reliability

3. Design effective items & tasks
 - a. Use accepted principles of item writing
 - b. Trial use of new item types
 - c. Review items prior to use – peer review
 - d. Review items after use

Quality: Reliability (Item Review)

- 3.d. Item Review
 - a. Item Difficulty
 - Proportion that correctly answers item
 - b. Item Discrimination
 - Item-Total correlation (point-biserial)
 - Upper Score Group v. Lower Score Group

Quality: Reliability

4. Assessing score reliability
 - a. Test-retest consistency
 - b. Internal consistency
 - c. Inter-rater agreement
 - d. Person×Task variance (G-Theory)

Fairness: Balance

- ✓ Preparation
- ✓ Bias
- ✓ Accommodations
- ✓ Recourse
- ✓ The Good, the Bad, & the Ugly

Fairness: Validity

- ✓ Content related validity evidence
- ✓ External Criterion related validity evidence
- ✓ Construct related validity evidence
- ✓ Consequential aspects of validity

Some Final Advice

- Plan ahead
- Clarify expectations and standards
- Document procedures
- Talk with others (peers and students)
- Listen to others (peers and students)

... and ... take a measurement class...

Go forth and measure...

www.edmeasurement.net
