How does a teacher decide what to put on a test?

- **Consulting Published Sources** –
  - Using test questions from a publisher can lead to high-quality tests or very low quality tests;
  - Typically checked for errors or potential problems (not true all the time, however!)
  - May not adequately reflect the material that was taught.
  - May not test at level YOU want or need
- **Using Instructional Objectives** –
  - Ideally, a test should cover the ALL objectives of the class.

The When and How of Testing

- **More Frequent, Shorter Tests**
  - Students tend to leave their studying until just before the test; the more often they are tested, the more they will study.
- **Consider Testing Conditions**
  - Poor conditions can depress test performance. Be attentive to the conditions the student will face.
- **Ensure Clear Directions**
Objective vs. Subjective Items

• What is the difference between:
  – Closed-ended (objective) and
  – Open ended (subjective) items?

• Which type is better?

• Objective (closed-ended) types of items:
  – Multiple-Choice Items
  – True/False Items
  – Matching Items
  – Short answer/Fill-in-blank

• Subjective (open-ended) types of items:
  – Various forms of performance/authentic assessment
  – Essay/paper

• There is no consistent advantage of one over other. One is not inherently superior to the other.
• Select the item type that provides the most direct measure of the intended learning outcome.
**Advantages of Authentic Assessment**

- Motivation increases
- Teach to “real life”
- Assessment and educational product are the same
- External validity
- Utilize energy
- Student understanding of their work increases
- Tap higher level thinking & problem solving

**Disadvantages of Authentic Assessment**

- Often contrived assessments
- Increased cost, material
- Increased time
- More difficult to score reliably
- Capture only a small part of academic achievement
- More things to consider for classroom management and planning
Should a classroom assessment instrument be very hard, very easy, or somewhere in between?

- When assessments are too easy, students may not study very much and therefore may not learn as much as we would like
- When students become accustomed to passing assessments with minimal effort, they may be easily frustrated in later years when they encounter more challenging material and do have to work hard

Should a classroom assessment instrument be very hard, very easy, or somewhere in between?

- When assessments are too easy, teachers and students alike may think students have mastered something they haven’t really mastered at all. In other words, the assessments are not a valid measure of students’ learning
- When assessments are too difficult, students may become discouraged and believe they are incapable of mastering the subject matter being assessed
Creating Your Own Assessments:

- Remember, it takes a lot of practice to develop good assessment instruments and items!
- Ideally you should consider measuring outcomes in multiple ways (e.g., multiple choice, projects, homework, etc.)
- Don’t fall into the “either/or” thinking

A brief introduction to test construction

- Why would you use a true-false type item?
- What are the pros and cons to this type of item?
- What makes a good T/F item?
True false items

• Benefits:
  – Can quickly assess a bunch of objectives/efficient
  – Easy to score

• Disadvantages:
  – 50% of items correct by random chance
  – Limited amount of info gained
  – Emphasizes rote memorization without understanding
  – Low diagnostic capability

True or False:

All Ivy League schools are located on the east coast of the U.S.?
How to write GOOD T/F items

• Attempt to test something other than rote memorization
• Avoid specific determiners– words that give away the answer
  – E.g. always or never, impossible
• Make each statement UNEQUIVOCALLY true or false- no room for argument or interpretation
• NO double-barreled items---unless the item is intended to show a cause and effect relationship the item should contain only one idea

How to write GOOD T/F items

• If an opinion is used it should be attributed to someone
• One strategy is to create a list of true statements from the material and then convert approximately half of them to false statements
• Avoid simply “stealing” statements from a textbook
• True and False statements should be approximately the same length (true statements may tend to be longer--qualifiers)
• Avoid ambiguous terms or statements
Short answer/completion Questions

- When would you use these types of questions?
- What are the advantages & disadvantages?

Advantages
- Measure RECALL instead of RECOGNITION—reduces guessing
- Easy to construct

Disadvantages
- Not suitable for complex learning outcomes
- More difficult scoring
  (spelling/handwriting/diversity of answers—e.g., Where was George Washington born?)
Writing GOOD short answer items:

- Generally, one blank per question
- Stem needs to indicate the expected response
- NOT:
  - IQ is ______
  - ___ is a better _____ of _____ than ______
- But:
  - The term IQ is an acronym for what phrase?
  - Regression is a better way of analyzing continuous data than ______
- Ask direct questions rather than incomplete statements--they are more natural to students and generally better structured

Matching Items

- Advantages
  - Compact form/measure a lot at one time.
  - Ease of construction (for the most part)
- Disadvantages
  - Restricted to factual information
  - Difficulty of finding homogenous material
Creating Matching Items

- Use homogenous material (e.g., famous tennis players)
- Include unequal number of responses and premises & responses may be used more than once
- No more than 10 items in either column

A brief introduction to test construction

- Why would you use a multiple-choice type item?
- What are the pros and cons to this type of item?
- What makes a good multiple-choice item?
Multiple choice items

- **Benefits:**
  - More versatile than T/F in assessing higher cognitive levels
  - Can quickly assess a bunch of objectives
  - Easy to score

- **Disadvantages:**
  - 25% of items correct by random chance (if 4)
  - Limited amount of info gained
  - Emphasizes rote memorization without understanding
  - Very time-consuming to write

Types of Essay Questions

- **Extended-Response -- open ended, more freedom on the part of the student on what to include**
- **Advantages--allows for creativity, encourages independent organizational skills**
- **Disadvantages--samples only limited amount of content, scoring criteria less defined, scoring may be unreliable**
Types of Essay Questions

- Restricted-Response -- more clearly defined parameters on how to respond, narrows response options
- Advantages--measures factual material, scoring is clearer than with extended-response
- Disadvantages--reduces independent organization skills and may reduce problem to supply-type