

## Use of Item Analysis

### 1. Check Point Biserial values.

This value can range from -1.0 to +1.0. Positive values above .20 indicate that students who scored high on your test correctly responded to an item and students who scored low responded incorrectly to that item.

Because this value is restricted in range for items that are very easy (>.90 p-value or 90% correct), don't worry about Point Biserials for items that 90% or more of the students get correct.

If an item has a Point Biserial below .20, and especially if negative, check the item stem for clarity and that the wrong answers are really wrong. If a popular wrong answer is a common misconception for higher scoring students, then the item is probably okay.

### 2. Look at the wrong answers.

- What is stopping all students from answering correctly?
- What is the most popular wrong answer?
- Is the most popular wrong answer a common misconception?
- Does this misconception have instructional implications?
- How about the second most popular?
- Does this wrong answer have instructional implications?

### 3. Are there answers that were not selected by any students?

If you have a 4-choice item and one choice is obviously wrong, then students have a 33% chance of guessing the correct answer.

If two answers are obviously wrong, the students have a 50% chance of guessing the correct answer.

So, if a wrong answer was not selected by any students, you may want to rewrite that wrong answer before you administer the item again.