

## Post Exam Review Policy

### Point Biserial Correlation Coefficient

The point biserial correlation is the preferred method for measuring the effectiveness of a test item's ability to discriminate between those who have mastered the examination material and those who have not ([http://www.jalt.org/test/bro\\_12.htm](http://www.jalt.org/test/bro_12.htm)). The point biserial correlation coefficient is an analysis only applied to multiple choice and true/false question types that have only one answer with weight 100%, and all others with weight 0%. In other words, it assesses question quality correlation between the score on a question and the exam score. It determines which students knew the content.

Similarly to the discrimination index, the point biserial correlation coefficient relates individuals' quiz scores to whether or not they got a question correct. It ranges from -1.00 to 1.00, with high values indicating a "good" question, and low values indicating a "bad" question (Information taken from D2L).

### Discrimination Index

The discrimination index indicates how well a question differentiates between high and low performers. It can range from -100% to 100%, with high values indicating a "good" question, and low values indicating a "bad" question.

The item discrimination index can take on negative values and can range between -1.00 and 1.00. Consider the following situation: suppose that overall, half of the examinees answered a particular item correctly, and that all of the examinees who scored above the median on the exam answered the item correctly and all of the examinees who scored below the median answered incorrectly. In such a situation the Point Biserial = 1.00 and the item is said to be a perfect positive discriminator. Many would regard this outcome as ideal. It suggests that those who knew the material and were well-prepared passed the item while all others failed it ([http://www.jalt.org/test/bro\\_12.htm](http://www.jalt.org/test/bro_12.htm)).

Purpose: Post-Exam Review of Exams promotes and documents student learning. Most students need clear short-term incentives to compel them to spend the time and effort necessary to learn the immense body of knowledge and skills required to become an effective nurse. They also need periodic feedback telling them to what degree their study efforts are successful and where they need to devote more attention. Finally, instructors and nursing schools must make certain that learning is taking place so that their graduates will be adequately prepared for the NCLEX-RN licensure exam.

What are my responsibilities as an ETSU nursing faculty member when grading exams?

Step 1: Review the “Total %” and highlight (in one color) questions in which 70% or less of students get it correct.

Step 2: Review and highlight questions (in a different color) with “Point Biserials” less than 0.3.

Step 3: Review questions where both step 1 and step 2 have been highlighted.

Step 4: Look at the highlighted Point Biserial values.

- a) For the values 0.3, close to 0.3, or greater than 0.3 no points shall be given back. Rationale: These are good questions. Although 30% or more missed the question (reflected by the 70% or less correct), the question has good distractors. This also demonstrates that the strong students continue to be strong.
- b) For the values further away from 0.3 on the lesser side, these questions need to be reviewed.
- c) For students who get the original answer correct, full credit will remain. No “extra” points will be given if the student already got the question correct.

Step 5: If credit is given, it shall be worth the full value of the question.

- a) If points are given back after this review has been completed, justification must be documented on the paper exam, along with which questions are given back.
- b) Change the correct answer (if the answer was mis-keyed)
- c) Add an additional correct answer (only if a second answer is truly correct).
- d) Eliminate a question from the exam (no points given for correct answer). This means the point value for each question will change. For example, if one question is “thrown out” on a 50 question exam that is worth a total of 50 points, the exam now has 49 questions worth 1.02 points each.
- e) EXCEPTION: For questions/answers that fall outside of the above guidelines, faculty must send the exceptions to the appropriate program director for approval. The director will sign and date the exam, along with approval or disapproval of the request.

Step 6: For questions that are “Select all that apply” (SATA) or Alternative Format (AF):

- a) Each individual answer will be reviewed.
- b) If 30% or more incorrectly chose an answer, it will be reviewed.

- c) If the faculty decides to give a SATA or AF question back, it must be for the full credit. NO partial credit is given for SATA questions.

**The faculty responsible for the exam must have the assigned faculty peer reviewer to review post exam analysis. The faculty peer reviewer will sign and date the paper copy of the exam.**

Point biserial	Evaluation	Action
Above 0.4	Very good	Ok
0.3 – 0.39	Good	Ok
0.29 – 0.2	Fair	Review question
Below 0.2	Poor	Review/revise question

McGahee, T. & Ball, J. (2009). How to read and really use an item analysis. *Nurse Educator*, 34(4), 166-171