The Student-Developed Quiz (or Exam): Scaffolding Higher-Order Thinking

Introduction

Active learning can facilitate students' absorption and integration of classroom material (See, for example, Myers & Jones, 1993; Prince, 2004). Active learning can include problem-solving exercises, group work, case studies, and roleplaying, among other activities. In these strategies, however, the assessment of such learning typically remains the domain of the instructor. The dynamic is clear: students learn, teachers assess. In employment situations, however, students must regularly assess their own competencies and performance. For example, employees must continually assess their on-the-job performance and, when given new projects, must assess the extent to which their current knowledge is sufficient. Teaching students how to assess their own knowledge and learning, therefore, is a valuable skill.

One way to teach student how to assess is to invite students to build their own quiz or exam. The act of creating a quiz is both a fun in-class activity and, also, a valuable pedagogical practice. Including students in the process of developing a quiz or exam invites students to higher-order thinking: Rather than just memorize or apply the material, they must think about how to evaluate the material (For more information, see Bloom, 1956). This activity provides what Hogan and Pressley (1997) describe as scaffolding: instructional support that encourages students to function at their highest cognitive capacity.

Procedure

This Teaching Tip outlines one procedure for having students build their own quiz. This procedure was designed for a large undergraduate classroom. The steps are as follows:

Step 1: Approximately two class periods before the quiz or exam, instructors should provide a brief in-class review of the material to be covered on the quiz or exam. Then, give each student an index card, preferably a card that is at least four inches by six inches. Instruct students to create one potential quiz question each, and to write that question on the notecard. The question may be of any format (i.e., multiple choice, true/false, essay, etc.). Students must also write the answer. Students may work alone or in pairs, but must write their name on the card. When finished, students turn in the index cards to the instructor. The cards can be used to note attendance and/or award participation points.

Step 2: During the next class period, the instructor can use the students' suggested questions to help students prepare for the quiz or exam. This can be done by displaying the best questions on a PowerPoint and discussing the answers as a class. The instructor should take care to praise the students' questions and to note any patterns the instructor observed when reviewing the students' questions. For example, the instructor might note that many of the questions revolved around a particular topic or theme, or that none of the questions addressed a particular topic or theme.

Step 3: Develop and administer the quiz. In developing the quiz, the instructor will want to use as many of the students' suggested questions on the quiz as possible. Of course, the instructor may edit, adapt, and/or combine the students' suggestions as needed.

Step 4: During the class period immediately following the quiz, ask students about their experience developing and, then, taking the quiz. Some students will appreciate the learning challenge and will feel a sense of accomplishment. Some students will appreciate the shift in dynamic from teacher-driven assessment to student-driven assessment. Other students will be uncomfortable with this process and the ambiguity inherent in such a shift in roles. Take care to encourage both positive and negative responses, and to validate all students' experiences.

This procedure may be modified as appropriate. For example, students could work in small groups of three to four students to develop a number of quiz questions (e.g., 10 questions per group).

Assessment

This teaching exercise is effective on three levels. First, it is engaging. Students enjoy the challenge of thinking up quiz questions and the pride of seeing their questions on the actual quiz. They often find that it is harder than they would have imagined. Second, the process is itself a form of assessment. The type and difficulty of the questions generated by students give instructors another opportunity assess students' comprehension. For example, instructors may see areas where students are still confused or, alternatively areas where students may be encouraged to think more critically. This information can be used to review material or update teaching methods. Finally, this exercise improves students' analytical skills. In thinking about potential quiz questions, students must approach the course material from a fundamentally different perspective—that of the evaluator or assessor.

References

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