'Get Your Test Back? Whatja Learn?"

"OLD TESTS ARE BEST FORGOTTEN!" At least that is what most students believe. "You finish your test, your teacher 'gives' you your grade and you'll never have to remember that stuff again!" It's too bad that students regard testing so narrowly. But aren't such attitudes cultivated by the popular treatment of tests (and grades) as ends in themselves? For example, when is the *last* time you studied the traffic safety rules for your state? Probably it was the *first* time you studied them in preparation for your driver's license exam. When you passed the test, did you seek out the correct answers to the ones you missed? Probably not; it would have seemed unnecessary (despite the potential value to you and others), since you "passed." Ever wonder about the questions that surgeons or airplane pilots missed, but failed to inquire about afterwards?

Our purpose is to suggest that testing can and should serve many purposes. Surely they are useful for grading students' study habits, and even increase learning. Let us consider these test functions, starting with what may be, for some teachers, the only one ever emphasized.

EVALUATING STUDENTS

This is the most common use of tests. All too often, however, it amounts to measuring what students don't know. The end product may be a score recorded in a gradebook, with no remedial steps taken for those who did poorly. Further, corrected papers may be returned under the assumption that if students "see what they missed," steps will automatically be initiated to remedy the situation (which all too frequently doesn't happen). When this situation persists, we "produce" students who take little responsibility for their own learning. Poor grades are attributed to external causes ("the teacher gave me an "F"; "the test was unfair") or to internal deficiencies ("I'm no good at tests"; "I can't learn that stuff"). Students must be taught to view grades as something they must earn and over which they do have control.

A partial remedy to this situation is to create testing conditions that build *responsibility* for learning. Two suggestions for doing this are (A) Incorporate criterion-referenced testing (evaluation on the basis of reaching a standard) in your grading system rather than grading strictly on a curve. Think of how students feel when they study hard for an exam and get a C just because their scores were low *relative* to others. They probably feel that their efforts have little effect; that the teacher *gave* them a grade. Make tests so that everyone who knows the material can get a good grade. (B) Concentrate on making your tests *valid,* that is, measuring what they are designed to measure. If tests are to be used for evaluation, students who know the material should receive the good grades and vice versa. In this sense, grading practices that favor the student with the beautiful handwriting, the large vocabulary, the capacity for memorizing everything (but understanding little), etc. may deliver the wrong grades to the wrong people. This, too, reduces the students' feeling of control, leading to attitudes like, "I thought I studied what I was supposed to; she tripped me up again!"

EVALUATING TEACHING

Recently a colleague of ours had a student protest a grade on a test. The student thought she deserved an A and informed the teacher. His response was that there was no way she could have gotten an A since he only TAUGHT A B's WORTH OF MATERIAL! This emphasizes a second function of testing — evaluating teaching. All teachers have given at least one test on which results were disappointing. The easy explanation in those instances it to blame the students: "Well, they blew it" or "Students today are not what they were when I went to school." But are the students totally at fault? Poor test performance can easily reflect poor teaching, fuzzy instructions, invalid test questions, inadequate incentives, and so on. In such cases, the blame for low test grades is something teachers and students must share.

Could poor test results be a consequence of your teaching? Examine the items that were most difficult and reconsider how you taught the content they cover. Most important, talk to students! Go over the test in class, and let them discuss their thoughts and feelings about the questions. Such sessions show students you care; tests thus become less mechanical and cold. Give these a try. We'd like to think that if our colleague would use tests to evaluate his teaching, next time both he and his student can turn their B grade into an A!

IMPROVING STUDY BEHAVIORS

A third function of testing is to improve study behavior. Teachers seldom provide any training in this area. As a result, many students never learn how to study. For many students, studying means staying up late the night before a test and "cramming." The results are usually negative — little is learned and test anxiety is increased. Thus, study activity is associated with feelings of stress or panic and continues to be avoided whenever possible.

There are a number of ways to help alleviate these problems. The first involves the scheduling of tests. The whole anxiety study cycle is triggered by one bit of information — knowing when the test will be. Evidence indicated that randomizing test administrations (the infamous "pop-quiz") improves study habits; students are more likely to stay on top of their assignments. But how can pop-quizzes — one of the most thoroughly detested and feared class room events — reduce anxiety and increase studying? We have found an answer to this riddle, but discussion of that will come later. For now, think about random scheduling as a means of influencing students to distribute their study activities rather than massing them in one-night cramming sessions.

A second thing the teacher can do to improve study habits is to provide immediate test feedback. A long time ago we learned the simple psychological principle that rewards or punishments work best when they immediately follow the behavior we want to encourage or discourage. But too often students don't receive test results until weeks after the test was taken. By then there is little likelihood that they will make the connection between study habits and grades. So

by returning the tests at the earliest possible time, we let students know how effective their study habits were when these activities are still fresh on their minds.

A third factor to consider is the type of test employed. Students pattern study behaviors to their expectancies about a test. If you give only objective-type tests stressing highly specific knowledge (e.g., "The number of pilgrims wearing hats at the first Thanksgiving dinner was _____ "), then you can expect study activity to become mostly memorization or "rote learning." If you give very global questions (e.g., Explain World War II) students may try to "bluff" their way through without studying much at all. Consider the type of learning outcomes you want on different parts of a lesson, and tailor the test questions asked (e.g., essay, multiple choice) to those outcomes. But once you've made those decisions, don't keep them a secret. By telling students in advance what to expect, you may reduce some of their anxiety and increase useful study. And, there is even another advantage. Varying test modes is fairer to students, as it gives them a chance to experience the form of testing on which they do best.

INCREASE LEARNING AND KNOWLEDGE

A fourth and probably most important function of testing is to teach. It amazes us to hear students talk about receiving their grades on a test, but never getting the chance to see what they missed. If a piece of information is important enough to be selected for testing, isn't it important enough for students to know before they leave the lesson? A well planned and executed testing procedure should teach as much as a lesson of equal length. Here are some example applications of "tests that teach."

(1) *Give the same test twice.* Recently, one of the authors gave a difficult test to his students, graded and returned them the next day, and asked for questions. There were none even though students missed many questions. The following day he surprised the students by giving them the same test again, offering them the highest of the two grades. Only two students did better the second time (and interestingly, two did *worse).* Apparently, the class was "finished" with the test upon turning in the answers; learning what they missed wasn't very important. Trying to hold on to the idea that old tests should keep on teaching, he passed back the retests, asked for questions, and the next day gave the same test a third time! This time the improvement rate shot up to *three* students. At that rate, it would take 22 retests and a much longer school year to get improvement from the entire class. But, some positive signs are already appearing. Students are asking more questions about tests, and it's a safe bet that more are looking up answers the night *after* the test. (For insurance purposes, items from previous tests sometimes make their way onto new tests; this again provides incentive for learning correct answers.)

(2) *Class/test take home test.* Give a class test and the same test for a take-home test. Let the grade be the average of the two. You should expect a much better score on the take-home test (averaging around 99.9%), but that would be directly in line with the goals of "tests that teach." Students would complete the lesson with their last responses being correct ones, a most desirable condition in anyone's gradebook.

(3) Group test/class test. The fact that some students might try to cheat produces a dilemma for take-home type tests. How about presenting students with a situation where the more they "cheat," the more they don't? A day after giving the regular test, organize "study groups" made up of students of varying abilities. Let them review the test in a group and then take a retest *individually.* If the group average on the retest exceeds some criterion (e.g., 90%), each member of the group receives bonus points added to their original grade. Group members are put into a situation where they must share information, mutually select a best answer, and then ensure that all members of the group know that answer (remember, the retest is taken individually). At the same time, you've provided a review of the original test and given them a chance to improve their grades — all for the price of learning what they missed. All that, and you don't even have to make up a new test!

(4) *Student-made test items.* One of the best ways to get students to really learn the material is to have them write questions about the content being tested. Teachers can provide incentive for writing good questions by using student-made items on tests. The student feels proud for having written it and usually gets it right too! This works especially well for true-false and multiple-choice items. For essay items, have students work in groups. Each group can be assigned one unit or lesson and can write an essay covering its major points. The teacher can collect these, modify them, and pass them back as study guides. Tell students you will choose two of them to be answered in class. What will be gained? Students know what will be on the test; thus anxiety will be reduced. But they will need to prepare for all questions since only the teacher knows which will be chosen. Best of all, teachers will be spared the chore of making up the test and will only have to read two answers. Everyone wins!

Before closing, let us not forget our promised solution to the riddle of pop-quizzes. How can you use them so that students have a positive incentive for keeping up rather than a fear of getting "popped"? Our suggestion: make them count for *extra credit* only. The procedure we've used is to announce that a quiz is "available." Whoever wants to take it is welcome to do so, with a score of 80% needed to earn a bonus point on the next test. Failure to reach the 80% or to take the quiz in the first place brings nothing bad. The quiz still serves the same purpose as the conventional pop-quiz, only we avoid the negative side effects. Which perspective would you rather your students have: Hope ("If I keep up with my work, I can earn an extra reward"), or Fear ("If I don't keep up, I'll get a zero!")?

These are but a few ideas about how teachers can tap into one of the greatest unused teaching and learning tools — a test. If we work at it, our tests can teach students that old tests are not best forgotten (along with the information in them). Rather, they can keep on teaching!

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