

WHAT IS THE IMMEDIATE FEEDBACK ASSESSMENT TECHNIQUE (IF-AT)?

You may have recognized some limitations with the traditional multiple-choice testing system. While the traditional system broadly assesses students' level of understanding, it does not correct student's misunderstandings and actually reinforces them by not providing timely feedback. Typical multiple-choice testing procedures do not permit students to know if their answers are correct, not at the time of testing and often not at all. Students may receive feedback 24 or 48 hours later, but, even then, professors often return answer forms without the questions. This critical aspect of the learning process - the role of feedback and its timing - has frequently been ignored by educators.

As an instructor, you would like students to carefully consider the questions and answer choices and to "reason through the problems" -gaining knowledge even while being assessed. You would also like students to be challenged rather than intimidated by the evaluation process, knowing they are valued as learners, not simply as test scores. These goals can be accomplished by implementing the IF-AT system.

To address these issues, a new multiple-choice assessment system, the "IF-AT", or the Immediate Feedback Assessment Technique, has been developed. This revolutionary learning system allows instructors to give partial credit for proximate knowledge. More importantly the IF-AT provides immediate affirmation and/or corrective feedback on a question by question basis, while a student is taking a test or quiz, ensuring that a student's last response is the correct one. The IF-AT teaches while it assesses, facilitating learning and improving retention.

IMMEDIATE FEEDBACK ASSESSMENT TECHNIQUE (IF-AT)					
Name		Test #			
Subject				Total	
ERASE WITH OFF COVERING TO EXPOSE ANSWER					
	A	B	C	D	Score
1.					2
2.					4
3.					4
4.					2
5.					1
6.					4
7.					2
8.					4
9.					4
10.					2

WHY USE THE IF-AT?

IF-AT is a learning system and an educationally sound practice -testing without providing immediate feedback is not. Studies have repeatedly shown that students "commit" to the answer they give on a test. Without immediate corrective feedback, students often learn the wrong information based on what they answer on a test! The IF-AT addresses this problem by providing immediate affirmation and/or corrective feedback to the student while taking a test. Students always "exit" a question having selected the correct answer.

IF-AT Improves Learning. Students initially tested with IF-AT show a 20% increase in the number of correct responses when retested a week later on the same or similar material. Students initially tested with traditional multiple-choice forms show a slight decrease in the number of correct answers upon retesting. Research has indicated that with IF-AT, more than 60% of initial mistakes are answered correctly on follow-up tests. Without immediate feedback, initial errors are "learned". Without immediate corrective feedback, students repeat errors 70%-85% of the time. In addition, studies reveal that developmentally delayed children initially tested with IF-AT retain as much or more, correct information one and three months later than do non-delayed children initially tested with traditional multiple-choice forms.

IF-AT is FAIR: Instructors can give partial credit for proximate knowledge. Partial credit for proximate knowledge is allotted on essay examinations; now it is also possible with multiple-choice examinations.

IF-AT is FAST: Students can score their own tests and they can determine their scores before they leave the classroom.

IF-AT is ACTIVE and FUN: Students "work through" mistakes to arrive at correct answers. Active learning is an important component of learning and retention - plus, IF-AT has game-like qualities, capturing students' attention.

IF-AT is RESPECTFUL: IF-AT communicates to students that the instructor "cares" that he learns, that he is not just a test score. Traditional multiple-choice tests communicate that the score is of paramount importance; the student is allowed to walk away from the test in ignorance of many correct answers and, in fact, commit to incorrect ones.

IF-AT builds on knowledge. Since the IF-AT allows students to learn while they are being assessed, instructors can create unique tests in which later questions "build" on information from earlier questions without unfairly "penalizing" students for prior mistakes.

HOW DO I USE IT?

Accompanying your IF-AT forms is an answer key for each version of the test form. Instructors apply the IF-AT system to a set of questions -whether a test, quiz, study guide, or exercise, creating a list of questions and arranging the answer options for questions to correspond to the forms being used (a key for each version of the IF-AT form is provided). The number at the bottom of the form identifies the particular version of the form.

HOW DOES IT WORK?

1. Students read a multiple-choice question and the series of answer options. They then select the rectangle (marked A, B, C, or D) corresponding to their answer choice and scratch off the thin, opaque covering. If the answer is correct, a star appears somewhere within the rectangle, and the student receives full credit.
2. If the student selects an incorrect answer, the rectangle below the covering is empty. The student is instructed to re-read the question and the remaining options, and to try again. If the second choice is correct, a star or symbol appears beneath the covering, and a student may earn partial credit (amount determined by instructor). The student knew enough to be able to narrow the options, distinguishing him/her from another student who is simply guessing.
3. If a student's second choice does not uncover the star, he/she is again instructed to re-read the question and the remaining answers, and to once again "try again."
4. The process continues until the student uncovers the correct answer, even if it requires that the student scratch off all possible boxes. The instructor determines the number of points allocated for correct responses on first and later attempts.

	A	B	C	D	Score
1.	[star]	[]	[]	[]	2
2.	[]	[star]	[]	[]	4
3.	[]	[]	[]	[star]	4
4.	[]	[]	[]	[]	2
5.	[]	[]	[]	[]	1
6.	[]	[]	[]	[]	4
7.	[]	[]	[]	[]	2
8.	[]	[]	[]	[]	4
9.	[]	[]	[]	[]	4
10.	[]	[]	[]	[]	2

KEY POINTS TO NOTE:

- Because a student "exits" each question knowing the correct answer, the IF-AT evaluation process also serves as a learning experience. Misconceptions are corrected and replaced with knowledge.
- Research has shown that students remember (and tend to repeat) the last answer selected for each question - even if the answer is incorrect! With the IF-AT, the correct answer is always the most recent choice. Students learn the correct answer for EVERY question AS THEY TAKE THE TEST.
- As an instructor, you will have a "window" into students' thought processes and response patterns. The IF-AT scoring system allows you to allocate partial credit for proximate knowledge and to more accurately assess students' levels of understanding and gaps in knowledge.
- Our research at all educational levels has reliably demonstrated that "EDUCATING WHILE EVALUATING" with the IF-AT increases students' performance on subsequent tests of related material. Students also rate the IF-AT higher on fairness, satisfaction, and ease of understanding than traditional multiple-choice tests.
- Some students may worry that IF-AT commits them irrevocably to an answer (one cannot "un-scratch a scratch"). However, students quickly grasp the system and learn to read questions carefully and thoroughly before they answer. They are also reassured by the opportunity for partial credit for second or third choices. Thus, the IF-AT also teaches good test taking and reading strategies.
- An additional advantage of the IF-AT system is that the instructor can construct and organize test questions that build on previous questions. These "carry over" test questions permit the instructor to follow a student's line of reasoning and to determine more precisely the location of "gaps" in a student's knowledge.
- We are confident that the IF-AT system will prove as effective for your students as it has for thousands of others. As an educator you are committed to improving your students' education and the IF-AT is a powerful tool to accomplish just that.

SEVEN SUGGESTED USES

Numerous studies have shown the effectiveness of using the IF-AT to teach while testing. However, the IF-AT has many more applications. Instructors might find this packet helpful in incorporating the IF-AT system into their classroom lesson plans. Included is a brief discussion about the IF-AT and some suggestions for its use. We encourage you to experiment with alternative ways in which the forms can be used to enhance the teaching/learning process for your students and for you! Share your ideas with each other and with us (see the contact information above).

I. CHAPTER TEST - UNIT TEST

Typically, 25- or 50-item IF AT forms are used. Note that no valuable class time is lost for review because students have already received feedback and corrected mistakes during the test. Students can score themselves

II. INDIVIDUAL STUDY - PRACTICE AND REVIEW (AT HOME OR IN CLASS)

Use of the IF-AT for individual study is especially useful because parents as well, as instructors can note students' understanding/retention of a relatively small body of information such as one chapter or topic. In addition, the IF-AT gives students the chance for more awareness of what they "know and don't know". Students score themselves. Parents and/or instructors can "eyeball" results because students cannot "un-scratch" a scratch -the number of exposed boxes indicates the student's degree of understanding. This strategy generally calls for using the 10- or the 25-item IF-AT answer sheet.

III. QUICK QUIZ

Most instructor s use a 10- or 25-item IF-AT answer sheet. Students can keep score themselves and turn in answer sheets for recording.

IV. PYRAMIDAL - SEQUENTIAL - PROCESS QUIZ

Test questions are arranged according to the steps of a thinking process that the instructor wants the student to "pin down." Here, the correctly mastered first question is the basis of the next question, and so on, as in the case of algebraic equations, geometry theorems, chemical analysis, etc. The instructor and student can pin-point the stage in the thinking process that the student misses; the IF-AT informs and corrects, and the student progresses to the next step of the "pyramid." Most often, the 10- or 25-item IF AT is used. The instructor can identify common areas of difficulty among students and review a step in the process.

V. END-OF-QUARTER TESTS; END-OF-SEMESTER TESTS; END-OF- COURSE TESTS

Typically, one or two SO-item IF-AT answer sheets are used. The great advantages of using IF-AT forms is that both students and instructors see that the learning from prior homework, review quizzes and mid-marking period tests carries over to the final examination . Research has shown far greater retention of information, EVEN when test items have been reworded, if IF-AT test forms are used throughout the course. In addition, students also learn that the instructor is not merely interested in their test scores but expects students to learn, even during the final exam.

VI. TEAM-BASED LEARNING (TBL) – COOPERATIVE LEARNING

(Note: go to the IF-AT website (www.epstelineducation.com) to view an informative video on using the IF-AT for Team-Based Learning) "TBL" has become one of the fastest growing teaching techniques in the classroom. Usually, groups of four to six students discuss complex issues - for example, diagnoses of symptoms or causes and or consequences of events and phenomena. Normally, the instructor appoints a group Moderator, a group Scribe, a group Reader, and a group Tabulator. Typically, 10-item or 25-item IF-AT test forms are used. The Reader reads the questions and options to the group. The Moderator focuses discussion and summarizes findings. The Scribe "uncovers" the group's answers and reports results. The Tabulator keeps score. A great advantage of using IF-AT

forms in group learning is that it quickly becomes apparent to participants that "loud and forceful" is not always "right"; each member is empowered by knowledge rather than personality.

VII. STUDY-BUDDY LEARNING (COMBINED WITH DISCUSSION AND WRITING)

Study- Buddy learning usually uses the 10-item or 25-item IF-AT test form. Two students are paired, often, the instructor might match a stronger with a weaker student. Taking turns, students read questions and options for answers. If members of a pair disagree on an answer, they "argue" in support of their responses. Once the correct answer is uncovered, both students then discuss why the answer is correct. This method combines thinking, speaking, reading, writing, and cooperation about correct information with motivation and partial credit

PARTIAL CREDIT AND THE LEARNABLE MOMENT

In classrooms today motivation can be very low for students. As such, all instructors strive to achieve maximum engagement for their students. One of the most powerful tools a teacher has to accomplish this is to capitalize on the "learnable moment" - that golden moment at which a mind is most receptive to learning. This occurs when students are confronted with a problem which they consider, answer, and are then given immediate feedback. In addition, another equally powerful force in engaging students while test-taking is the ability to earn partial credit.

This revolutionary system keeps students motivated to persist within this learnable moment by offering not only immediate feedback, but also partial credit for "proximate" knowledge and continued effort. A student who can narrow down a correct choice to, let us say, "a" or "b" knows more than one who merely guesses. This validation increases motivation. Thus, a student remains in the "learnable moment" throughout the answer-until-correct process of the IF-AT exam.

Just as instructors reward partial knowledge in essay exams, the IF-AT acknowledges a second, third, or even a fourth choice that is correct, decreasing credit at the instructor's discretion. A student is motivated to read carefully, re-read and re-consider, and then to emerge from the challenge with the correct answer (indicated by uncovering a star).

Research has shown that awarding ANY amount of partial credit is a motivator - this is the crucial issue. Teachers concerned about grade inflation not accurately reflecting a student's deserved score may do well to consider the bigger picture as well - that test score inflation is insignificant contrasted with increased engagement, boosted confidence, and seized learning moments.

<p>On a 4-answer choice form (A-D):</p> <p><u>Example A</u> 5 Points - first choice 2 Points - second try 1 Point-third try 0 No credit - fourth try</p> <p><u>Example B</u> 5 Points - first choice 3 Points - second try 2 Points - third try 1 Point - fourth try</p> <p><u>Example C</u> 5 Points - first choice 3 Points - second try 2 Points - third try 0 No credit - fourth try</p>	<p>On a 5-answer choice form (A-E):</p> <p><u>Example A</u> 10 Points - first choice 5 Points - second try 2 Points -third try 1 Point-fourth try 0 No credit - fifth try</p> <p><u>Example B</u> 5 Points - first choice 3 Points - second try 2 Points - third try 1 Point- fourth try 5 Point - fifth try</p>	<p>NOTE: On Modifying tests:</p> <p>To modify tests, e.g., for IEP students, you might want to use a 4-answer choice form (A-D), but offer students only 3-answer choices:</p> <p><u>For Example</u> What is the name of the school you attend? a. CCMS b. ----- c. CCHS d. NKU</p> <p>5 Points - first choice 3 Points - second try 1 Point- third try</p>
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CONTACT:

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If you would like to use the IF-AT forms, please contact Renilde van Seters at p.a.m.vanseters@utwente.nl