Team learning through testing:
When the whole is greater than the sum of the parts

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About the IF-AT

- IF-AT (Immediate Feedback Assessment Technique) cards

- Questions assess content knowledge and the process provides practice with communication, teamwork, decision-making, and critical thinking.

- IF-AT cards can also be used for individual practice and review, study sessions, or a competitive classroom activity.

- Published articles about using the IF-AT cards in diverse disciplines: mathematics, nursing, chemistry, and accounting.
Assessment

Of Learning
• provides evidence of achievement to the wider community, including parents, educators, the students themselves and outside groups

For Learning
• provides effective feedback that motivates the learner and can lead to improvement

As Learning
• provides ways for students to use formal and informal feedback and self-assessment to help them understand the next steps in learning
How We Learn: Bloom’s Taxonomy

Bloom’s Taxonomy (Taxonomy of Educational Objectives) (1956)

Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge

Higher Order Thinking Skills

Create
Evaluate
Analyze
Apply
Understand
Remember

Revised Bloom’s Taxonomy (Anderson’s and Krathwohl’s A Taxonomy for Teaching, Learning, & Assessment) (2001)
How We Learn: The Learning Pyramid

THE LEARNING PYRAMID

Passive Teaching Methods
certainly have their place in the classroom, but...

Participatory Teaching Methods require more student involvement and, by consequence, result in markedly greater knowledge retention

Adapted from National Training Laboratories, Maine
How We Learn: ANSWER

- The field of cognitive psychology has significantly advanced our understanding of how students learn
- Learning involves the brain, neurons, synapses, neural pathways, etc.
- Apply key cognitive science principles with the acronym: ANSWER
  - **Attention** – Understand, stimulate, and maintain focused student attention
  - **Novelty** – Students crave novelty and variety. Build novelty and variety into your lesson plans to maximize student engagement (and learning)
  - **Spacing** – True learning takes place when students distribute their learning over time – ie. – the opposite of cramming.
  - **Why** – Students learn, understand, retain, and master material much more effectively when provided context and meaning. Start with why.
  - **Emotions** – Short term memories reside in the hippocampus – the same "place" in the brain associated with emotions & the consolidation of short-term into long term memories. After establishing why – when possible, make it fun!
  - **Repetition** – Repetition enables more effective retention and recall
Active Learning Strategies

Red - Amber - Green Cards  Think-Pair-Share  Dotmocracy
A-ha Moment  Muddiest Point  Role Playing  Micro Teaching
Chain Notes  Pause Procedures  Mind Dump  Reading Response Paper
Student Generated Test Questions  Can of Wisdom  Turn Back  Skeleton Outlines
Entry Ticket  Minute Paper  So What?  Exit Ticket
Can of Wisdom

For a comprehensive list of possibilities, see:
Chickering and Gamson: 7 Principles of Good Practice

- Frequent/meaningful student-faculty contact in and out of class
- Develop reciprocity and cooperation among students
  - “Effective learning is collaborative and social…”
- Encourage active learning
  - “Learning is not a spectator sport…”
- Give prompt (and meaningful) feedback
- Emphasize time on task
  - “Time plus energy equals learning…”
- Communicate high expectations
  - “Expect more and you will get more…”
- Respect diverse talents and ways of learning
IF AT Demonstration Quiz

• On your own....
• With your group

• Discuss the answer to the first question with your group. Scratch off the area below your answer choice. If you see a star – you are correct! You earn 10 points for the first question.
• If you do not see a star under your first choice, discuss the remaining options with your group and scratch off another answer. If you see a star you are correct and the team earns 4 points for the question.
• If you still do not see a star under your second choice, try one more time. If you see a star this time you earn 2 points.
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