Team Learning

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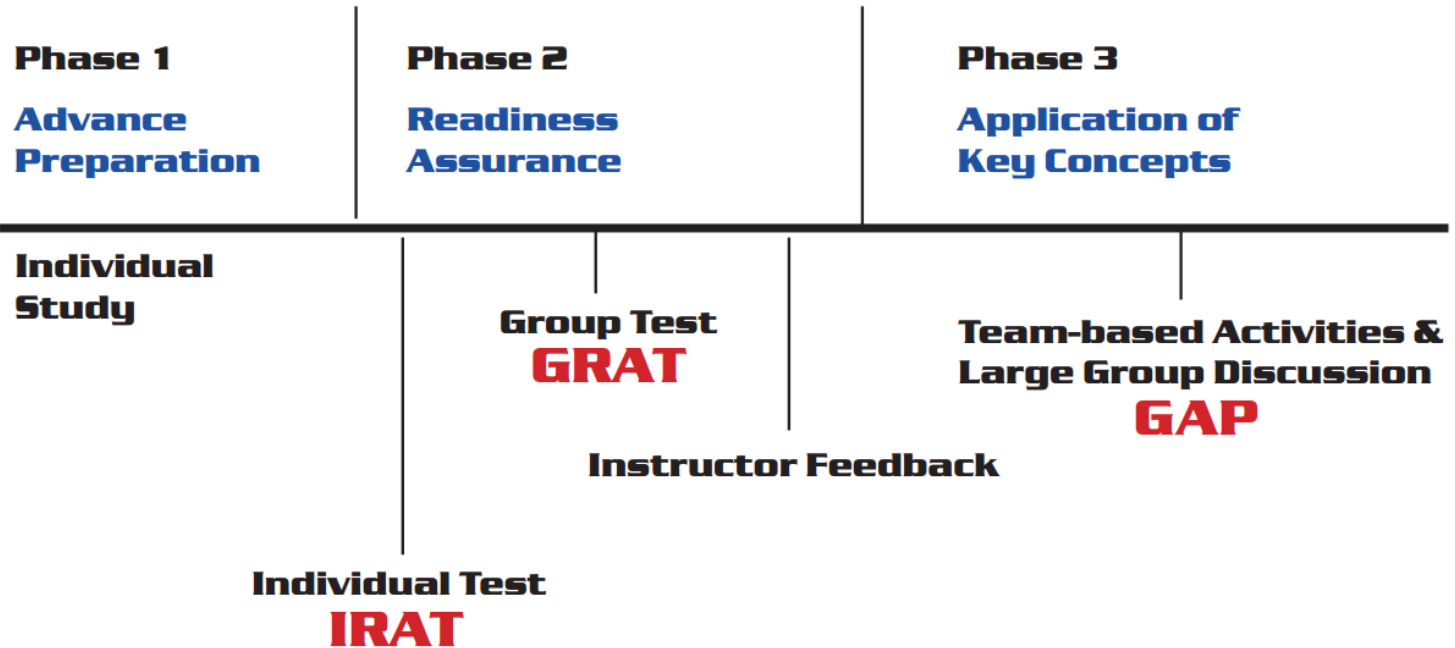November 14, 2006 (updated December 17, 2013)

- Hybrid instructional method
- Single instructor conducts multiple small groups simultaneously in the same classroom
  - Enhances problem-solving skills
  - Replaces or reduces lecture time
  - Ensures that students are prepared
  - Promotes team work
- Students participate in and out of class
  - Pre-class assignments
  - In-class activities & group discussion
- Instructor retains control of content
  - Facilitator & content expert

What is Team Learning?

- Learning objectives for TL module on neurodegenerative diseases
  - Explain pathogenesis
  - Describe characteristic gross & microscopic pathologic features
  - Identify typical features observed in imaging studies
  - Recognize typical clinical sins & symptoms
  - List therapeutic options and mechanism of action
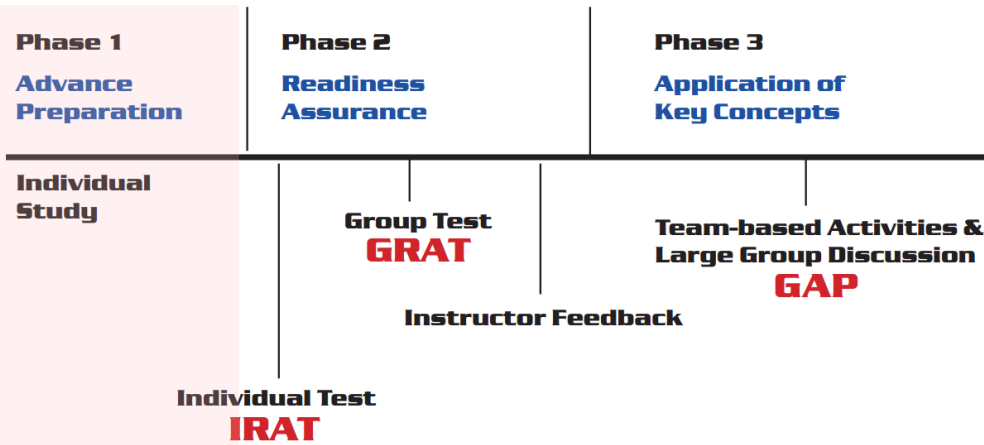 - Predict prognosis for affected patients

Sample session objectives

The TL Process

The TL Process

Phase 1
Advance Preparation

Phase 2
Readiness Assurance

Phase 3
Application of Key Concepts

Individual Study

Group Test GRAT

Team-based Activities & Large Group Discussion GAP

Instructor Feedback

Individual Test IRAT

The TL Process

Phase 1 Advance Preparation	Phase 2 Readiness Assurance	Phase 3 Application of Key Concepts
Individual Study	Group Test GRAT	Team-based Activities & Large Group Discussion GAP
	Instructor Feedback	
Individual Test IRAT		

PHASE 1
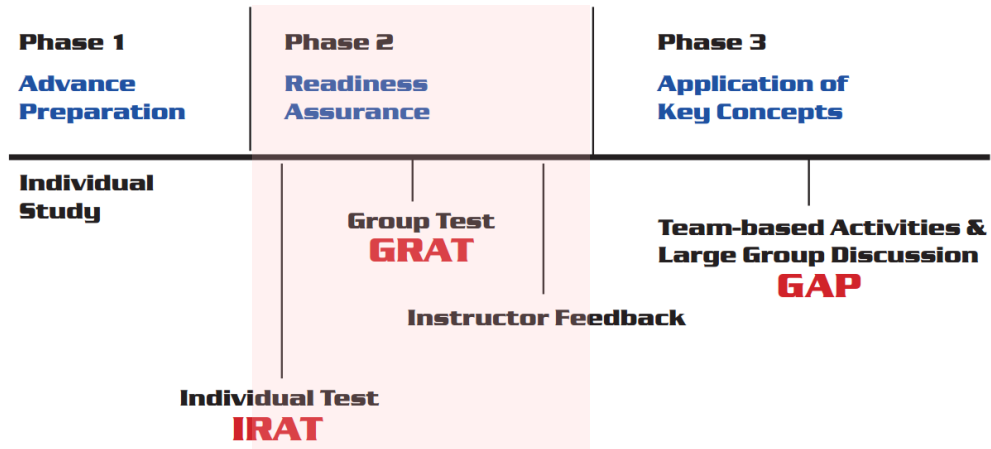
Individual Study (Preparation)

- Done in advance of TL session
- Single task or combination of tasks
  - Examples
    - Assigned reading
    - Attendance at lecture
    - Participation in lab
    - Review of objectives from previous blocks

Phase 1|Individual Study - Preparation

- Interdisciplinary (pathology & psychiatry)
- Reading
  - Cohen, Theory and Practice of Psychiatry, Ch. 5 & 6
  - Kumar et al., Pathologic Basis of Disease, Ch. 27, pp. 1385-1397
- Lectures (1 hr each)
- Delirium, dementia & disorders of cognitive impairment (psychiatrist)
- Neurodegenerative disorders (neuropathologist)

Sample Advance Assignment
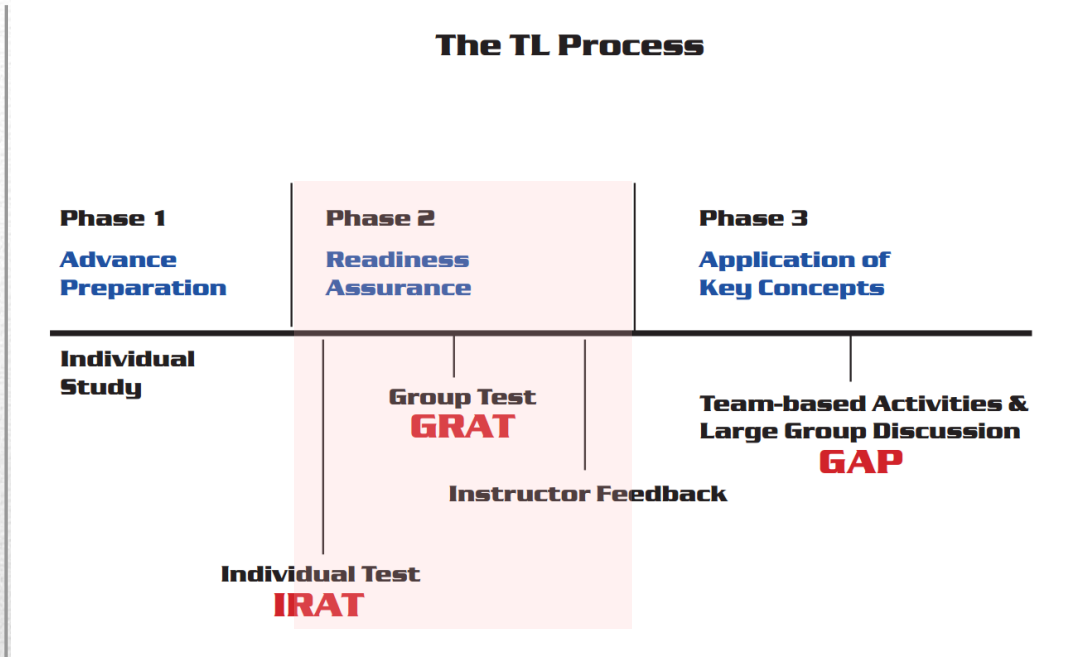
The TL Process

Phase 1 — Advance Preparation
Phase 2 — Readiness Assurance
Phase 3 — Application of Key Concepts

Individual Study

Group Test GRAT

Team-based Activities & Large Group Discussion GAP

Instructor Feedback

Individual Test IRAT

PHASE 2

Readiness Assurance

IRAT – Individualized Readiness Assurance Test

- Individual learners complete a multiple-choice exam to assure they are ready to apply Phase 1 knowledge.

GRAT – Group Readiness Assurance Test

- Groups of learners then re-take the IRAT and submit their consensus answers for scoring. Gets "everybody on the same page".

The TL Process

Phase 1	Phase 2	Phase 3
Advance Preparation	Readiness Assurance	Application of Key Concepts

Individual Study

Group Test
GRAT

Team-based Activities & Large Group Discussion
GAP

Instructor Feedback

Individual Test
IRAT

Phase 2: IRAT & GRAT

- Purpose
  - Assess students' understanding of key concepts from Phase 1 preparation
  - Ensure preparedness
- Correlated with learning objectives
- Multiple choice quiz
  - $\leq$ 5 items
  - Items with "one right answer"
  - Items focus on major content, not trivia
- Individual accountability
  - IRATs are graded

Phase 2: Readiness Assurance - IRAT

- SAME QUIZ AS IRAT!
  - Retaken as a group
- Purpose
  - Group review of key concepts
  - Gets individuals to common level of understanding in preparation for GAP
- Peer teaching
- Teamwork & Communication
- Group accountability
  - Groups receive single "group grade" on GRAT

Phase 2: Readiness Assurance - GRAT

Demyelination of lateral and anterior corticospinal tracts in the spinal cords of patients with amyotrophic lateral sclerosis results from

A) autoimmune-mediated destruction of myelin

B) atrophy of skeletal muscle fibers

C) defective synthesis of myelin by Schwann cells

D) destruction of neurons in anterior horns of spinal cord

E) destruction of neurons in the cortex and/or brainstem

Sample IRAT/GRAT Item

- Brief review of IRAT/GRAT items
  - Review key concepts
  - Clear up student confusion
- Opportunity for student and faculty interaction

Instructor feedback on IRAT/GRAT

The TL Process

Phase 1 — Advance Preparation — Individual Study

Phase 2 — Readiness Assurance — Group Test GRAT, Instructor Feedback, Individual Test IRAT

Phase 3 — Application of Key Concepts — Team-based Activities & Large Group Discussion GAP

PHASE 3

GAP – Group Application Problem

Groups collaborate on problem in class. At designated times, groups simultaneously share their answers with the entire class for comparison and immediate feedback. Groups defend their answers and the instructor facilitates discussion.

- Purpose
  - Promote deeper understanding by applying key concepts in "real life" contexts
  - Review of key concepts as groups formulate rationales in support of their answers
- Usually multiple choice format
  - "Single best answer" items
  - Reasoning more important than correctness of answer

Ultimate Goal =

To Elicit Discussion & Thereby Promote In-Depth Learning!

Phase 3: Application of Concepts GAP

- Patient vignette
  - Provided to students as a handout
    - A 74-year old man with a worried daughter
    - History, PE & mental status exam

- Students also give several questions
  - Usually MC
  - Groups discuss & arrive at answers
  - Items reviewed & discussed in class with instructor as facilitator
- Reasoning **equally** as important as answers

Sample GAP

Which two features in this patient's history and mental status exam reflect deficits in cognitive domains other than memory, and are therefore suggestive of dementia?

A) Getting lost while driving downtown and mixing up the names of grandchildren

B) Getting lost while driving downtown and inability to name the vice-president and governor

C) Getting lost while driving downtown and taking excessive time to get dressed

D) Mixing up the names of grandchildren and inability to name the vice-president and governor

E) Mixing up the names of grandchildren and taking excessive time to get dressed

F) Inability to name the vice-president and governor and taking excessive time to get dressed.

Sample GAP Item (Analysis)

Phase	When occurs	Time estimate
Phase 1	Before class	
Phase 2	In class	
	IRAT	7-10 minutes
	GRAT	10-15 minutes
	Feedback	15-20 minutes
Phase 3	In class	
	GAP	20 minutes
	Feedback	20-25 minutes

Timing

- Recommend 2 instructors
  - 1 content expert/facilitator
  - 1 help with session administration
    - Block coordinator or OMSE staff
  - IRAT & GRAT
    - Bubble sheets
      - Graded by IT
    - Extra copy of the IRAT/GRAT for use during instructor feedback

Logistics

For additional training or information on team learning, please contact the Director of Instructional Development:
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