

Multilevel Teaching Techniques

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Disclosures

- The workshop facilitators have no relevant financial relationships to disclose.
- The workshop will not include discussion of any unapproved, experimental, investigatory, or off-label drugs.



Learning Objectives

- Describe multilevel teaching, its utility, and its challenges
- Discuss the educational literature on differentiated and multilevel instruction
- Practice specific multilevel teaching techniques, including: Broadening, Targeting, Novelty, Up the Ladder, Student as Teacher, and Multi-Answer

Current Perceptions

- What does the term multilevel teaching mean to you?

Definition


- Multilevel teaching = teaching multiple levels of learners simultaneously
- GOAL: maintain engagement
- CHALLENGE: limit teaching that any trainee perceives as boring or over his head

Current Practices



Current Perceptions and Practices: The Literature

Effective multilevel teaching techniques on attending rounds: A pilot survey and systematic review of the literature

Laura K. Certain  A. J. Guarino & Jeffrey L. Greenwald
Pages e644-e650 | Published online: 06 Jan 2012


- Survey of 66 attending physicians
- 90% reported trying to teach to multiple levels of learners
- 50% indicated that it was difficult to do



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Learners' Perspectives

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- Also surveyed 89 trainees (MS3 through PGY4)
- 85% of the teaching they received was useful
- Interns reported a greater percentage of teaching was at their level



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Differentiated Instruction

Original Article

Tips for Teaching: Differentiating Instruction to Include All Students

Bob Algozzine & Kelly M. Anderson

Pages 49-54 | Published online: 07 Aug 2010

- Teacher's role is maximizing the capabilities of all learners
"Integrates what we know about constructivist learning"
- Requires flexibility and creativity with empirical research on influencing factors of learner readiness, interest, and intelligence
- Variable process to achieve same goal

Relevance



MULTILEVEL TEACHING TECHNIQUES

Broadening

- Change the specifics of a case to make it more challenging or interesting
- Example: What if the patient was a different age? What if the patient had certain comorbid conditions? How would these changes affect your management?

Targeting

- Target questions at specific team members depending on the difficulty of the question
- Example: “Medical student, what are the common causes of bacterial meningitis in neonates?
Resident, what are admission criteria for infants undergoing a sepsis evaluation?”



Novelty

- Provide new data
- Example: Recently published journal article

Up the Ladder

- Ask the same question to all team members, starting with the most junior learner
- Example: “That is an interesting point, Learner A. What do you think, Learner B?”



Student as Teacher

- Ask a senior learner to teach a junior learner
- Example: Ask resident to demonstrate physical exam maneuver or procedural skill for a medical student

Multi-Answer

- Seek multiple answers to a single question
- Example: Ask each learner to contribute 1-2 items to a differential diagnosis



No Right Answer

- Ask questions that do not have a single correct answer
- Example: “How would you approach this difficult conversation with the family?”

Teaching to the Top

- Teach to the level of the most senior learner



Extreme Challenge

- Teach at a level above all learners on the team



Effective Strategies

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- Vast majority of trainees found Targeting, Up the Ladder, Student as Teacher, and Multi-Answer effective
- Half the trainees found Broadening and Novelty effective

Ineffective Strategies

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- No Right Answer, Teaching to the Top, and Extreme Challenge perceived as much less effective
- Few physicians deliberately teach above everyone, but many trainees reported experiencing these strategies

Lessons from General Teaching Articles

AMEE Guide

AMEE Guide no. 34: teaching in the clinical environment

Dr. Subha Ramani  & Sam Leinster

Pages 347-364 | Published online: 03 Jul 2009

- Learners of different levels can be taught on the same patient by focusing on different learning tasks
- Large disparities in learning goals may render simultaneous teaching counterproductive, however

Small Group Activity: Cases

- Please review the cases and questions in your small groups.
- Be prepared to report out to the large group at the end of the activity.

Conclusion

- With careful attention to teaching practices, clinician educators can instruct junior learners while challenging senior trainees
- The most effective multilevel teaching techniques are Broadening, Targeting, Novelty, Up the Ladder, Student as Teacher, and Multi-Answer

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