



Mastery Teaching Workshop with John D. Mays

Lesson 8: Strategies for Promoting Mastery and Retention

Outline:

Strategies for Promoting Mastery and Retention

- Make all assessments cumulative (to the start of the year and before)
- Eliminate grade credit for homework and corrections.
 - But how will I pass?
 - Try this: Learn, Master, Retain
 - Maybe give 5% of grade for homework in middle school. In high school grade credit for homework drops to zero.
 - Homework is not a legitimate assessment, or mastered the content for the assignment.
- Teach study strategy.
 - Use flashcards.
 - Review objectives list frequently.
 - Work on review problems.
 - Reread chapters.
 - Address questions on tests that you did not do well on.
 - Tell them they will see these problems again.
 - This is part of a study strategy, not part of how to earn extra points.
- Use weekly review guides (grades 7-9).
 - It does not tip off what is coming up on the quiz. This would subvert that nature of the mastery program.
 - This gives students a sequence of activities to keep old material fresh.
- Assign enough homework for mastery, but eliminate busy work.
 - If it is not on the objective list, do not assign homework for it.
 - Let's make things fun and engaging, but also related to the objectives.
- Organize course so that students spend 30-40% of the time in review.
 - This means class time and homework.
- Embed key skills throughout the curriculum.
 - Everything needs to be there at once (driving and baking a cake).
- Hold regular review and drill days (grade 7-9).
 - Do this about once a month.
- Work together within and across departments to develop standards for prerequisite retention.
- Hold regular department reviews.



- Review assessments. Challenge one another. Everyone is pulling the ship of science in the same direction.

Small Group Session 2

- Brainstorm ways to embed old skills in new material.
- Identify specific skills that lend themselves to embedding.
- Consider various subjects, not just science and math.
- Embedding skills:
 - Require unit conversions
 - Constant use of metric system
 - Constant use of algebra (isolating variables)
 - Constant use of scientific notation, percentages, significant digits
 - Frequent use of common math formulas – perimeter, area, volume
 - Repeated use of vocabulary, at first with reminder definitions, later without the definitions.
 - Relating new knowledge to old knowledge by concepts building on each other
 - Writing
 - Computing averages
 - Mole calculations (e.g., atomic mass to mole, number of particles in a mass of a compound)