



Mastery Teaching Workshop with John D. Mays

Lesson 4: Findings of Mastery Learning Research

Outline:

Research on Mastery Learning

- Mastery learning becomes a buzzword in 1968 with a paper by Benjamin Bloom. There have been thousands of studies and papers since then.
- Bloom's Taxonomy: Knowledge, Understanding, Application, Analysis, Synthesis, Evaluation
 - Knowledge: Memorization of facts
 - Understanding: Understanding what the knowledge means
 - Application: Being about to apply this knowledge
 - Analysis: Being able to solve the problem
 - Synthesis: Writing an essay
 - Evaluation: Using knowledge and understanding and ability to synthesize to make evaluation
- Studies consistently show significant benefits from mastery-learning programs when teaching and testing to course objectives:
 - **Academic benefits:** Students learn more.
 - **Affective benefits:** Everyone feels better about the course at the end.
 - **Enhanced retention:** Students remember things for longer periods of time.
- Limitations on mastery learning research in the past:
 - Mastery is defined as:
 - Open grading (i.e. elimination of grading on a curve)
 - Initial assessment and feedback
 - Now you can measure learning gains.
 - Students work at own pace or have additional time when needed (impractical in class).
 - Everyone achieves at least 90% (unrealistic and unnecessary)
 - Retesting until 90% is achieved (impractical and unrealistic)
 - Retention typically assessed over 2-3 weeks
 - This is what you get from cram-pass-forget behavior.
 - Retention should be measured in years, not months.
- Our mastery learning model:
 - Mastery is defined as **mastery** (consistent A or B) of core knowledge and skills combined with long-term retention.
 - **Practical** – no retesting or self-pacing



- **Wonder – Integration – Mastery** (*From Wonder to Mastery*, 2018)
 - **Wonder** – the starting place for study of creation
 - **Integration** – four key areas: epistemology, mathematics, language, and history
 - **Mastery** – both teachers and students implement significant changes to conventional practice
- Small Group Session 1:
 - Goal: Identify how we have been part of the problem.
 - In your group, discuss practices that feed the Cram-Pass-Forget cycle. Identify and list as many as you can in the time allotted. Consider primarily teaching practices, but add administrative practices to your list as well.
 - Practices feeding the Cram-Pass-Forget Cycle
 - Structuring tests so that cramming is an effective way to earn a good grade.
 - Awarding massive grade credit for homework.
 - Awarding credit for “projects” that do not lead to usable functional skills and knowledge.
 - Allowing a failed student to pass by means of a “special project”.
 - Awarding points or grade credit for completing “test corrections”.
 - Allowing students to pass with “extra credit” work.
 - Requiring teachers to pass all students at the end of the first quarter.