EXPERIMENTING WITH STANDARDS-BASED GRADING

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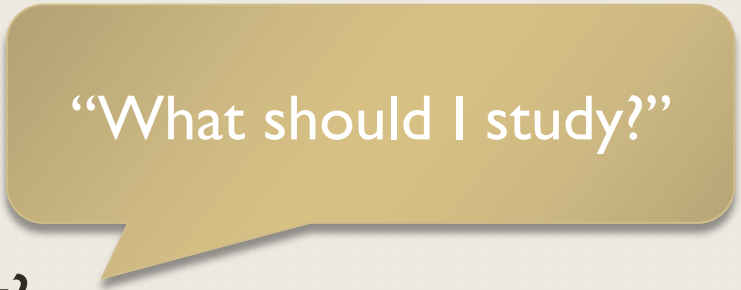
@mathzorro #sbg #mathchat

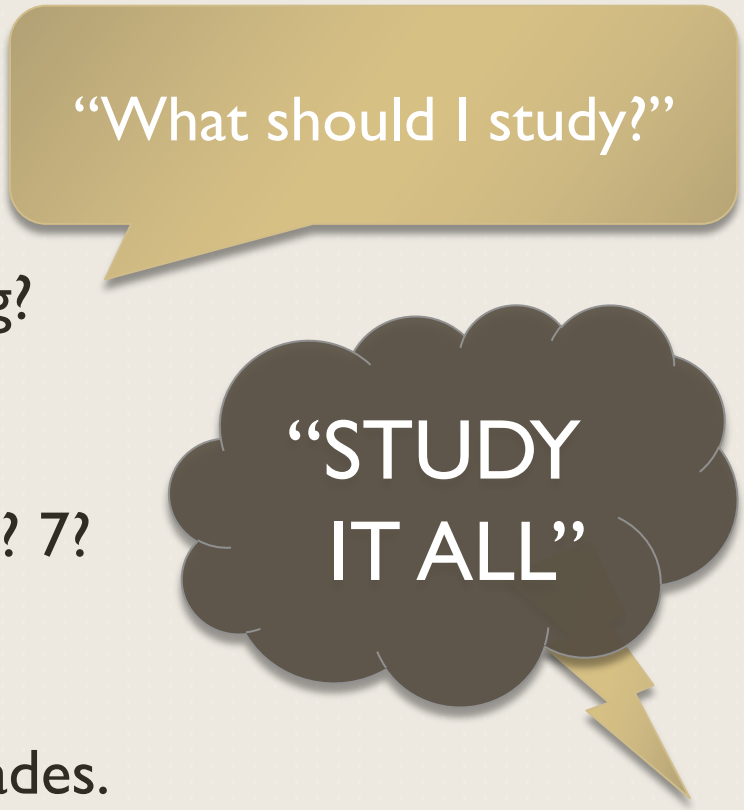
Life Before Standards

- Material to cover
- Teach it well
- How do I assess their learning?
- Choose concepts to test



Life Before Standards

- Material to cover
- Teach it well
- How do I assess their learning?
- Choose concepts to test
- Partial credit: Worth 5 points? 7?
- What corresponds to an A?
- Final grade: Average exam grades.



My issues

- Exams are high stakes
- Focus on **grades**, NOT **learning**
- Grades don't align with mastery
- We assess only what is testable
- Exams gauge understanding at one point in time
- Opaqueness of the whole system

My Standards-Based Grading

- Transparent list of standards
- Assessments of 3-4 standards every 2-3 weeks
- Each standard scored for mastery
  (4: Excellent, 3: Good, 2: Acceptable, 1:Unacceptable, 0:Not Mastered)
- Reassessments to improve score (2 per week)
- Grade based on mastery of standards:
  - A: 90% 3.5+, others 3+
  - B: 80% 3+, others 2.5+
  - C: 80% 2+, others 1.5+
  - F: less than 80% 2+

Examples of Standards

- **Basic Integrals. (core)**
  Can you **evaluate** standard antiderivatives, definite integrals, and indefinite integrals involving polynomials? Involving trigonometric functions?
- **Area between curves.**
  Can you set up and evaluate an integral with respect to x? y? Can you **convert** between the two? This involves determining the correct bounds of integration.
- **Key Theorems.**
  Can you **state and apply** the Fundamental Theorem of Calculus, parts I and II?
  Mean Value Theorem for Integrals? Do you understand their interpretations?
- **Mathematical Experience.**
  Can you approach problems in multiple ways? Are you **willing to make mistakes**? Can you learn from your mistakes? Are you able to **discuss mathematical concepts** with your classmates?
- **Project Management.**
  Can you **work together** on your project as a group? Can you follow project instructions? Can you work within a given timeframe and **meet deadlines**?

What I Love About Standards

- Focus is on the learning
- Growth mindset – "How do I improve?"
  - More one-on-one contact & just-in-time teaching
- Transparency in Grading
- Assessments not as stressful
- Higher expectations for students

Challenges with SBG

- Extra start-up costs: Multiple questions per standard
- Extra work from tabulation
- Extra work from reassessments
- Doesn't scale well – Automate?
- Questions spanning multiple standards?
- Higher expectations for students
- Students are working – Scheduling constraints?

Student Feedback

- "I like knowing what I should learn from each topic"
- "SBG lets the student control their grade."

- "It helped me to understand each topic more thoroughly."
- "Grading scheme made me go back over where I was weak."
- "I wouldn't have bothered to study this concept."

- "I've never been so excited to "get" a math concept."
- "**YES! I finally got it!**"

Thank you!

- Google+ SBSG Community (migrating…)
- Robert Talbert
- Kate Owens
- My students