



Reexamining the Fairness and Defensibility of My Grading System

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Activity: Survey on Grading Practices

How Would You Grade This Student?

Grades on Ten Chapter Tests in the Semester:

C, C, INC, D, C, INC, INC, B, A, A

“INC” is a test missed due to unexcused absence.

Personal Grading Philosophies Vary

- What Meaning Should Each Grade Carry?
- What Should “Failure” Mean?
- What Performance is Included in a Grade?
 - Quizzes? Warmups? Participation? Too-Hard Tests? Extra Credit? Practice Tests? Group Tests?
 - Are “Effort” and “Attitude” Part of the Grade?
 - Are Assignments Weighted Differently?
- How Should Grades be Assigned?
- How Should Grades be Distributed?
- Should Borderline Cases be Reviewed?

*Prevailing grading practices are so
imprecise and so inconsistent
that they are almost meaningless.*

(Marzano)

The CPM Vision

- Change takes time, effort, and support.
- Students must be actively involved in their learning.
- **Teachers are responsible for actively guiding, supporting, and summarizing.**
- Teachers need to establish and maintain effective study teams.
- **Mastery takes time, effort and support.**
- Assessment requires more than one method.
- **Skill development is based upon problem solving.**

Why Do I Assess?

Students show what they know and can do.

- Report extent and depth of achievement of learning objectives to parents, colleges, employers.
- Provide information to students on progress toward mastering all learning objectives.
- Guide instruction for the teacher:
is learning complete and instruction effective?
- Provide incentive to students to learn.
- Indicate future activities and course placement.

Reexamining the Fairness and Defensibility of My Grading System

I strive to assign grades that are:

- Consistent
- Accurate
- Meaningful
- Supportive of Further Learning

Overview

Reexamining the Fairness and Defensibility of My Grading System

- **Quality of Assessments**
- **Include Only Achievement**
- **Adjust the Grading Scale**
- **“Zero” Is A Semester Killer**
- **Banish the Average (Mastery Takes Time)**
- **Use Professional Judgment**

Quality of Assessments

Quality of grades is tied directly to quality of tests:

- I assess what I value:
 - deep conceptual understanding
 - analysis and connections and transference
 - rigorous mathematical communication
 - traditional skills
- Learning objectives specifically addressed.
- I don't use multiple choice for grades.
- Tests are short enough to be done thoughtfully, not reflexively.

Example Of Graded Practice

Algebra Connections
CHAPTER 4 ASSESSMENTS: Aligned to Learning Objectives

	STUDY TEAM PRACTICE (6-07)	STUDY TEAM PRACTICE (6-06)
Lesson 4.1.5 What are the connections? Objective: Students will apply their understanding of growth, Figure 0, and connections between multiple representations to situations where they are presented with disparate pieces of information and must generate a complete pattern. Students will apply their understanding of growth and Figure 0 to new contexts in order to generate complete representations.	11abed	
Lesson 4.1.6 How can I use growth? Objective: Students will apply their knowledge of a as growth factor and b as Figure 0 or the starting value of a pattern to create graphs quickly without using a or b as table, graph, or rule.	17ab	4, 11
Lesson 4.1.7 What are the connections? Objective: Students will practice moving directly from one representation to another in the representation web: graph \leftrightarrow pattern, table \leftrightarrow pattern	11a	13
Lesson 4.2.1 When are they the same? Objective: Students will begin a focus on systems of equations and will examine the meaning of points of intersection.	13	
Lesson 4.2.2 When are they the same? Objective: Students will continue to develop an understanding of solving systems of equations through the lens of multiple representations. Students will write rules and find intersections from contexts in word problems.	14b	30c
Students will write rules then find intersections from contexts in word problems.	7a	
find intersection from table in algebraic representation	7b	
Lesson 4.2.3 When are they the same? Objective: Students will learn how to solve systems of equations algebraically when both equations are in $y = mx + b$ form.	12	6
Lesson 4.2.4 How can I use $y = mx + b$? Objective: Students will apply their knowledge of the representations web to linear real-life situations.	14a	15

REVIEW PROBLEMS		
3.1.2 tile pattern → rule with MC		12 (quadratic)
3.1.2 also evaluate algebraic expressions: Find number of tiles in Figure 100.		
3.1.2 Find number of tiles in Figure n .		
3.1.4 table → graph with appropriate axes		
3.1.5 situation → table		
3.1.5 rule → table		
3.1.6 equation → table		
3.1.6 complete graph	11b (describe graph)	
3.2.1 check answer, solve with decimals, fractions	3, 4	
3.2.1 is it a solution?		14 (complex)
3.2.2 infinite number of solutions.		
3.2.2 no solutions		
3.2.3 In tiling patterns, substitute for x in an equation.		
3.2.3 and substitute for y in an equation.		
3.2.4 real-world applications	9a	3a
2.2.3 Ratios: finding equivalent ratios.	16abc	
2.2.3 and comparing ratios		1, 5
2.1.8 solve algebraic equation	8 (error analysis)	
2.1.8 solve equation starting with tile mat		
2.1.7 which algebraic expression is greater?		
2.1.7 which tile mat is greater?		
2.1.5 simplify algebraic expression	5	
2.1.3 tile mat → construct algebraic expression and equations		
Chapter 2 HW: evaluate an expression	6	
2.1.2 perimeter and area of tiles	15	7, 8
1.1.3 guess and check	10	
1.1.4 tiling pattern → table		
1.1.4 find next figure in tiling pattern		
Chapter 1 HW: diamond problems	1, 2	2 (fractions)
Pre-Algebra: order of operations		
Pre-Algebra: graph → table		

Example Of Quality of Communication

If grades are to inform about student achievement with respect to clear learning objectives, then the evidence used to determine grades must denote what students have learned and are able to do. To allow other factors to enter misrepresents students' learning attainment. (O'Connor)

Include Only Achievement in Grades

I consider these factors irrelevant when considering the extent and depth of knowledge achieved:

- Effort, attitude, and participation
- Reductions for late work
- Extra credit
- Attendance and punctuality: excused or otherwise
- Academic dishonesty
- Work Habits
- Groupwork

Credit for Learning

I have moved from a “credit for doing” culture to a “credit for mastery of learning”.

In my classroom, grades are not a mechanism to keep students on task or control their behavior.

“No studies support the use of low grades as punishments. Instead of prompting greater effort, low grades more often cause students to withdraw from learning.” (Guskey and Bailey)

“Participation” and “Effort” Grades

- Muddy degree to which mastery was attained
 - Difficult to define, assess, and be consistent
 - Students can manipulate teacher's perception
 - Most effort is expended outside the classroom
 - Teacher often controls who participates
 - Affected by personality/cultural differences
 - Life demands achievement – not just trying hard.
- What if achievement was easy?

Homework, Warmups, and Quizzes

- The role is to provide daily practice. Not an opportunity for judging (grading) students.
- Students are learning content—it is reasonable to expect mistakes. Grade on attempt, not mastery.
- No grading penalty for late homework. In daily life, many deadlines are negotiable.
- Feedback is the most important component of HW.

The most powerful single modification that enhances achievement is feedback. The simplest prescription for improving education must be “gobs of feedback.” (Marzano)

Groupwork Grades

- Not fair when evaluating the extent and depth of knowledge. No student’s grade should depend on the achievement (or behavior) of other students.
- Too easy for students to shift blame for poor performance—can undermine motivation.
- Peer feedback is a great tool. I find peer grading to be unfair.
- Outside-of-class group projects are particularly offensive to parents.

Team Points

Competition for “team points” is very motivating.

Team points do *not* affect grades!

- Attendance, Tardies
- Completion of Homework
- Completion of Classwork
- Cooperation, Participation, and Timeliness
- Supplies

Group Points Chart (Odd Days)

Period: Table Number:

ATTENDANCE	M 6/5	W 6/7	F 6/9	Tu 6/13	Th 6/15	
1.						
2.						
3.						
4.						
	total					<input type="text"/>

HOMEWORK	Th 6/1	M 6/5	W 6/7	F 6/9	Tu 6/13	
1.						
2.						
3.						
4.						
	subtotal					<input type="text"/>
	total					<input type="text"/>

Grand Total for the Week: _____

(if only three people, multiply Grand Total by 1.33: _____)

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The Old Testing Game

If I fully prepare students for a test, they should get 90% right:

- I show them what to do and how to do it;
- I let them practice it for a while;
- I give them a test to see how well they did.

What I contribute is called “teaching”...

What they contribute is called “learning.”

The New Testing Game

If I want students to think on a test, I will have to give them questions for which they are not fully prepared.

Since students weren't fully prepared,
I can't expect them to get over 80% or 90% !

Disadvantages of a Curved Grading Scale

On a curve:

- Students readily see that helping others threatens their own success.
- High grades are not attained through excellence, but simply by doing better than one's classmates.
- Who is the reference group?
the class? all past classes? all students this year?

More Disadvantages of a 70-80-90 Scale

Places Unnecessary Restrictions Me

- Completely arbitrary.
- Items are chosen for their anticipated ease.
- Overrepresentation of skills and knowledge,
Underrepresentation of higher order thinking.
- Teachers complain that students are not "getting it."

Conceptual understanding and problem solving are not skills that can be measured with percentage correct.

More Disadvantages of a 70-80-90 Scale

Compressed scale causes problems with precision.

- Most of the scale (0-60) is unused.
- Too many borderline cases.
- Teacher is forced to overlook small errors.
- Teacher is forced to overlook communication and efficiency deficiencies.
- Causes problems if a single assessment is not dependable.

The New Testing Game

If I want students to think on a test, I will have to give them questions for which they are not fully prepared.

Present students with challenging, relevant, useful, and varied assessments all of the time, and then scale the grades to conform to our expectations!

(Kennedy)

*Adjust the grading scale –
not the difficulty of the test items
nor the integrity of your feedback !*

Adjust The Grading Scale !

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Possible Grading Scales

My Ideal: Transition:

A: 65+ A: 85+

B: 50 – 65 B: 70 – 85

C: 35 – 50 C: 55 – 70

D: 20 – 35 D: 40 – 55

Median 50 Median 63

If you are mandated to use a 70-80-90, use a *linear* transformation: $y = \frac{2}{3}x + 33\frac{1}{3}$
Do not change the number of points the test is “out of.”

On this scale, how many points would you assign for a missing assignment that was not made up?

A: 4 points

B: 3

C: 2

D: 1

F: 0

On this new scale, how many percent would you assign for a missing assignment that was not made up?

A: 90% and above

B: 80%

C: 70%

D: 60%

F: 50% and below

“Zero” Is A Semester Killer

Zeroes have an undeserved and devastating influence on grades.

$$85, 0, 85, 95 = 66\% = D$$

“Zero” Is A Semester Killer

Work that is *not turned in* does not deserve a punishment that is many times more severe than work *turned in and done wretchedly*.

Grading as punishment doesn't work. Student are not motivated by threats of failure, but by the opportunity to earn greater freedom. (Reeves, Guskey)

Both mathematically and ethically, assigning zeroes for grades is not defensible.

“Zero” Is A Semester Killer

Alternatives to a Zero:

- Complete the assignment by losing freedom: study-hall, after-school, detention, Saturday class.
Ideal is a schoolwide grading scale: A, B, C, Inc.
- Assign 50% both for work completed that is not of passing quality, and for missing assignments.
- Use a four-point grading system (with decimals if needed).
- Drop high & low score before averaging.
- Use the median score, not the mean.

“Low grades push students farther from our cause, they don’t motivate students. Recording a D on a student’s paper won’t light a fire under that student to buckle down and study harder. It actually distances the student further from us and the curriculum, requiring us to build an emotional bridge to bring him or her back to the same level of investment prior to receiving the grade.”
(Wormeli)

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Mastery Takes Time

- Allow students multiple opportunities to show what they understand.
- Cumulative “chapter” tests:
1/3 new material, 2/3 old material.
- Tests give meaningful corrective feedback. Students can reflect:
 - “What are my strengths? What did I improve at?”
 - “How can I make my answers better?”
 - “Where didn’t I perform as desired?”
- Test revisions are an option.

Banish the Average!

- Most of my grades come from the end of the semester when mastery is expected.
- I shifted from judging students (gotcha! testing) to guiding students with lots of feedback.
- Giving students feedback is more productive than giving them grades.
- Allows me time to adjust teaching strategies.

Mastery at the end is more important than mastery at the beginning.

A possible weighting for six chapter tests (one semester):

25, 40, 60, 100, 175, 300(final exam) points.

HW is 200 points.

Team Tests are 100 points total.

How Would You Grade This Student?

Grades on Ten Chapter Tests in the Semester:

C, C, INC, D, C, INC, INC, B, A, A

“INC” is a test missed due to unexcused absence.

Focus on Learning, Not Assessment

- Too much assessment takes class time from learning.
Not needed in CPM:
 - warmups, worksheets
 - quizzes, basic skills tests, benchmark tests
 - warmup quizzes, homework quizzes.
- Assessment without feedback and exemplars completely misses the point of formative assessment.
- Tests are not a hunt for what students can't do.
- Feel like a teacher, not a warden.

Formative Feedback

If feedback is to inform learning, the feedback:

- Must be very timely and occur when there is still time for correction.
- Focus on intended learning objectives.
- Offer *descriptive* information about students' work.
- Provide detailed exemplars.
- Allow students to self-assess and reflect.
- Give students a sense of what they can act on first.

Test Revisions?

- Revision should replace the original score.
Make revisions available to *all* students.
- Revision must come after students have shown evidence of more learning:
 - additional practice
 - parent guide problems, previous closure problems
 - attendance at review sessions
 - re-do problems on previous tests.
- Be wary of regression to the mean.
- Be wary of too much assessment replacing learning.

Use Professional Judgment

Professional judgment in assigning grades is more defensible than mathematical averages:

- My final exam isn't a "semester killer"
- I review all borderline cases
- I consider students with many missing assignments

Grades should reflect what students know (extend and depth) and what they are able to do.

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Organize Grading by Learning Goals

- Tests can be organized by broad learning goals. For example in Algebra I,
 - move from graph \leftrightarrow table \leftrightarrow equation \leftrightarrow situation (identify growth and starting point)
 - simplify and evaluate expressions
 - solve single- and multiple-variable equations
 - when are two equations the same?
- Students can add points for subsections of test.
- Gradebook uses categories of learning objectives, rather than type of assessment.
- Don't forget "connections" or "transference."

Where Can You Start?

Reexamining the Fairness and Defensibility of My Grading System

- Eliminate “Zero” As A Semester Killer:
use 4-point scale, or Incomplete=50%, or Incomplete=“excused”
- Banish the Average (Mastery Takes Time):
cumulative assessments with lots of feedback
- Verify Quality of Assessments:
matched directly to learning objectives; assess what is valued
- Adjust the Grading Scale

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