## How Do I Know What

Students Know? Setting up My Gradebook

"Today's test is 70\% of your final grade which makes up 35\% of your grade for the semester and $20 \%$ of your GPA for $50 \%$ of your scholastic career for $15 \%$ of the curriculum. If you can explain this to the person next you, you pass the test."

# How are grades constructed? 

Grading Scale Equity



Which of the following elements is the most important in determining a student's grade:
A.) How quickly the student learns a standard
B.) Level of mastery the student displays when standard is evaluated
C.) How hard the student works at learning a standard
D.) Student's behavior and attendance in class
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Which of the components of this gradebook represent mastery of the standards:

| Classwork | $25 \%$ |
| :--- | :--- |
| Homework | $10 \%$ |
| Participation | $10 \%$ |
| Quizzes | $15 \%$ |
| Tests | $20 \%$ |
| Final | $20 \%$ |


"Time is a great teacher. Unfortunately, it gives way too many tests and it doesn't grade on a curve."

## Measuring Student Performance

## Measures of Central Tendency

A measure of central tendency is a single value that attempts to describe a set of data by identifying the central position within that set of data. The mean, median and mode are all valid measures of central tendency, but under different conditions, some measures of central tendency become more appropriate to use than others.

## Mean

The mean (or average) is the most popular and well known measure of central tendency. The mean is equal to the sum of all the values in the data set divided by the number of values in the data set. The mean has one main disadvantage: it is particularly susceptible to the influence of outliers.

| Staff | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :--- |
| Salary | $15 k$ | $18 k$ | $16 k$ | $14 k$ | $15 k$ | $15 k$ | $12 k$ | $17 k$ | $90 k$ | $95 k$ |

The mean salary for these ten staff members is $\$ 30.7 \mathrm{k}$. However, inspecting the raw data suggests that this mean value might not be the best way to accurately reflect the typical salary of a worker, as most workers have salaries in the $\$ 12 \mathrm{k}$ to 18 k range.

## Measuring Student Performance

## Median

The median is the middle score for a set of data that has been arranged in order of magnitude. The median is less affected by outliers and skewed data. Suppose we have the data below:

$$
\begin{array}{lllllllllll}
65 & 55 & 89 & 56 & 35 & 14 & 56 & 55 & 87 & 45 & 92
\end{array}
$$

We first need to rearrange that data into order of magnitude (smallest first):

| 14 | 35 | 45 | 55 | 55 | 56 | 56 | 65 | 87 | 89 | 92 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Our median mark is the middle mark - in this case, 56 (highlighted in bold).

## Measuring Student Performance

## Mode

The mode is the most frequent score in our data set.

## Bi-Modal Grading

An approach that use the two most common grades to evaluate student performance on a particular standard

| Final Mark | 4 | 3 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- |
| Primary Score/ | $4 / 3$ | $2 / 4$ | $2 / 3$ | $1 / 4$ |
| Secondary | $4 / 2$ | $3 / 2$ | $2 / 1$ | $1 / 3$ |
| Score | $3 / 4$ | $4 / 1$ | $3 / 1$ | $1 / 2$ |
|  |  |  |  |  |



## Measuring Student Performance

| Assessments in Order | Karen | Alex | Jennifer | Stephen |
| :---: | :---: | :---: | :---: | :---: |
| $\# 1$ | 0 | 63 | 0 | 0 |
| $\# 2$ | 0 | 63 | 10 | 0 |
| $\# 3$ | 0 | 63 | 10 | 62 |
| $\# 4$ | 90 | 63 | 10 | 62 |
| $\# 5$ | 90 | 63 | 100 | 63 |
| $\# 6$ | 90 | 63 | 100 | 63 |
| $\# 7$ | 90 | 63 | 100 | 90 |
| $\# 8$ | 90 | 63 | 100 | 90 |
| $\# 9$ | 90 | 63 | 100 | 100 |
| $\# 10$ | 90 | 63 | 100 | 100 |
| Mean | $63 \%$ | $63 \%$ | $100 \%$ | $63 \%$ |
| Median | $90 \%$ | $63 \%$ | $100 \%$ | $63 \%$ |
| Mode | $90 \%$ |  | $0,62,63,90,100$ |  |

## How Speed Kills...

...grades
Raise your hand if you agree with the following statement:

## Students learn at different rates.

Which of the following students has displayed a better mastery of the standard:

| Name | \#1 | \#2 | \#3 | \#4 | \#5 | Avg |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tammy | 0 | 30 | 90 | 90 | 100 | 62 |
| David | 75 | 70 | 80 | 77 | 73 | 75 |



## Weighting

Let's go back to our traditional gradebook:
Classwork 25\%

Homework 10\%
Participation 10\%
Quizzes 15\%
Tests 20\%
Final 20\%

Solve for x .

$$
5 x+10=25
$$

GRADE INFLATION

Let's up the Rigor!

How can this create a problem for evaluating student mastery of standards?

Solve for x .
$5 x+10=25$

## Reassessment

## When to reassess?

- Cannot simply be a do-over.
- Should only occur when there is some evidence of increased level of student proficiency of measured standard

Steps to reassessment:

1. Students need to reflect on their current level of proficiency
2. Students must address areas of deficiency with targeted practice.

## Five aspects to ensure an effective

 reassessment policy:1. Learning matters -> student reflection
2. Standards matter $->$ learning not format
3. Timeliness matters -> proximity to the original learning is important
4. Flexibility matters -> one size fits all usually fits no one
5. Accuracy matters -> ensure the new evidence of learning is correctly reported

Turn to page 70 in your copy of Grading from the Inside Out

## How to Bring Parents on Board

They key is communication (as always) but it is important to understand what to communicate.

1. Transparency -- What constitutes success? What process is used to make final determinations?
2. Reassessment -- What is it? How does it work? Why is it important to support student learning?
3. Frequency and Immediacy -- When, how and for how long are assessments part of the grade book?


## Example of a Standards Based Grade Book <br> https://vimeo.com/43990524

Tom Schimmer Standards-Based Learning in Action Moving from Theory to Practice (with Garnet Hillman and Mandy Stalets 2018)

Ken O'Connor The School Leader's Guide to Grading: Essentials for Principals Series (2012); A Repair Kit for Grading: Fifteen Fixes for Broken Grades (2010); How to Grade for Learning (2009)

Thomas Guskey Answers to Essential Questions About Standards, Assessments, Grading, and Reporting (with Lee Ann Jung, 2012); Developing Standards-Based Report Cards (with Jane M. Bailey, 2009); Practical Solutions for Serious Problems in Standards-Based Report Cards (2008); Developing Grading and Reporting Systems for Student Learning (with Jane M. Bailey, 2000)
Robert Marzano Formative Assessment and
Standards-Based Grading: Classroom Strategies that Work (2009); Classroom Assessment and Grading that Work (2006); Transforming Classroom Grading (2000)
Jack Schneider and Ethan Hutt Making the Grade: a History of the A-F Marking Scheme, J. Curriculum Studies (2013)

## We cannot change the cards we are deale, just how we play the game. <br> Randy Pausch

## Final Thoughts

Evolution versus Revolution.
Create a new scale.
Grade by goals, not by assignments.
Put effort and behavior to the side.
Do away with extra credit and zeros.

Brian Wold
Bwold@valverde.edu
Social Science
Rancho Verde High School
Val Verde Unified
$\stackrel{\circ}{\mathrm{GRADNa}}$


