

# *Grading and Reporting Student Learning*

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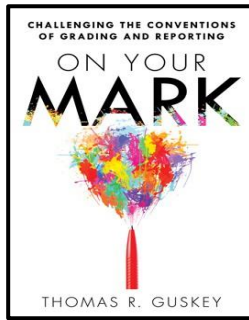
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Dr. Guskey is Professor of Educational Psychology at the University of Kentucky. A graduate of the University of Chicago, he began his career as a middle school teacher, served as an administrator in Chicago Public Schools, and was the first Director of the *Center for the Improvement of Teaching and Learning*, a national educational research center. Dr. Guskey served on the Policy Research Team of the *National Commission on Teaching & America's Future*, on the Task Force to develop the first *National Standards for Professional Learning*, and was named a Fellow in the American Educational Research Association – one of the Association's highest honors. He is the author/editor of 20 award-winning books and more than 200 book chapters and articles that have appeared in prominent research journals as well as *Educational Leadership*, *Kappan*, and *School Administrator*. He co-edited the *Experts in Assessment Series* for Corwin Press and was featured on the National Public Radio programs "Talk of the Nation" and "Morning Edition." In his work with educators throughout the world, he helps bring clarity and resolution to some of education's most challenging problems.

## Publications on Grading and Reporting

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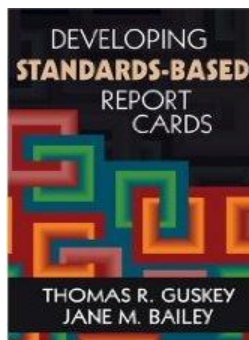
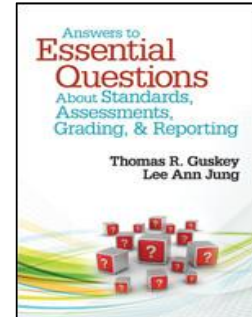


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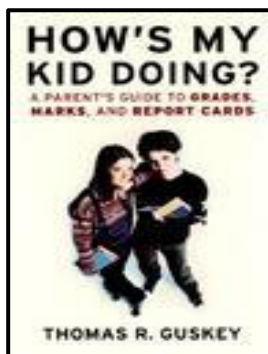
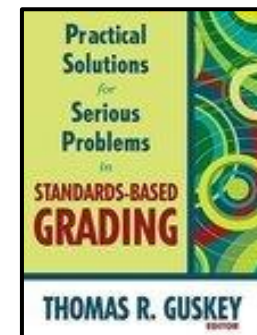
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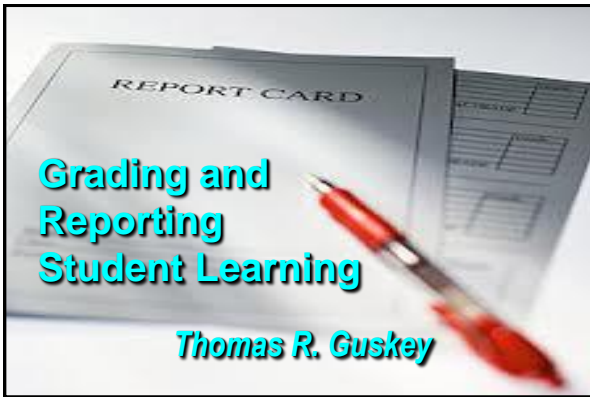
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# *Copies of Slides*




## Learning Targets



1. Know the advantages and shortcomings of different grading methods and the implications of those methods for classroom policy and practice.
2. Explore strategies for using professional judgment to ensure grades are fair, accurate, meaningful, and educationally sound.
3. Prepare to develop guidelines for implementing effective standards-based grading policies and practices at all grade levels.

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**We have a long history of research on grading!**

### Study 1

**Authors:** Daniel Starch and Edward Elliott  
**Title:** "Reliability of the Grading of High School Work in English"  
**Results:** Paper #1: 64-98%  
Paper #2: 50-97%


**Date:** 1912



### Study 2

**Author:** Hunter Brimi  
**Title:** "Reliability of Grading High School Work in English"  
**Teachers trained 18+ hours in "Traits of Writing"**  
**Results:** Paper #1: 50-96%

**Date:** 2011 !!





How did you choose your grading methods?



Mostly we do  
what was done  
to us!

## Guiding Questions:



## Guiding Questions

1. Why do we use report cards and assign grades to students' work?
2. Ideally, what purposes should report cards or grades serve?
3. What elements should teachers use in determining students' grades?

(For example, major assessments, compositions, homework, punctuality in turning in assignments, class participation, etc. )

## Purposes of Grading

1. Communicate achievement status to *parents*
2. Provide information to *students* for self-evaluation
3. *Select, identify, or group* students for instruction
4. Provide *incentives* for students
5. *Evaluate* the effectiveness of instructional programs
6. Document students' *lack of effort* or *inappropriate responsibility*

## Grading Elements

- ✓ Major exams or compositions
- ✓ Formative assessments
- ✓ Reports or projects
- ✓ Student portfolios
- ✓ Exhibits of students' work
- ✓ Laboratory projects
- ✓ Students' notebooks or journals
- ✓ Classroom observations
- ✓ Oral presentations
- ✓ Homework completion
- ✓ Homework quality
- ✓ Class participation
- ✓ Work habits and neatness
- ✓ Effort
- ✓ Class attendance
- ✓ Punctuality of assignments
- ✓ Class behavior or attitude
- ✓ Progress made



## Elements of a *Grading System*

Element	Gradebook	Report Card	Permanent Record / Transcript
What does it include?	Scores	Grades	Summary Grades
Purpose?	Ongoing record of performance	Interim summary of performance	Summary judgments of performance
Who has access?	Families & Students	Families & Students	Families, Students, & 3 <sup>rd</sup> Parties



1. Grading is ***NOT*** essential to the instructional process!

- ✓ Teachers can *teach* without grades.
- ✓ Students can *learn* without grades.

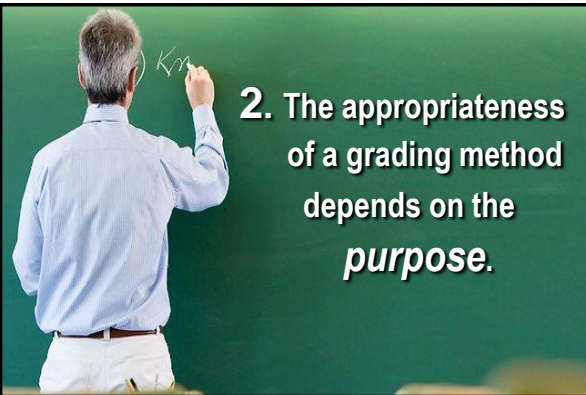


Checking ***is*** Essential!

- ✓ Checking is **Diagnostic**  
- Teacher is an **Advocate**
- ✓ Grading is **Evaluative**  
- Teacher is a **Judge**



2. The appropriateness of a grading method depends on the ***purpose.***



Architecture:

Form ***follows*** function.

Education:

Method ***follows*** purpose!

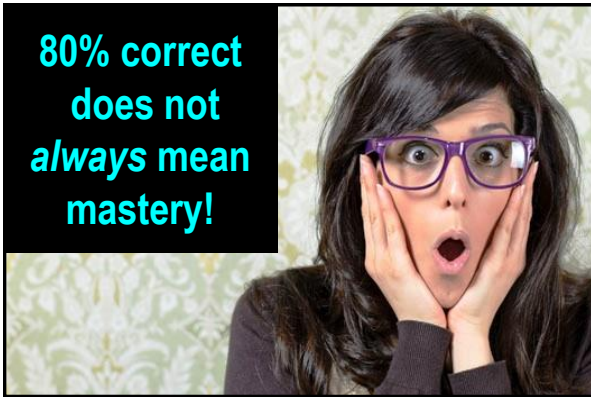
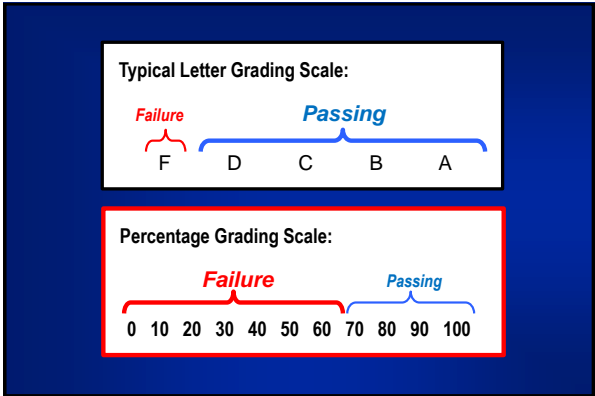


## Letter Grades

- ➔ **Positives:**
  1. Offer a brief description of adequacy
  2. Are generally understood
- ➔ **Shortcomings:**
  1. Require the integration of diverse information
  2. Cut-offs are arbitrary
  3. Are easily misinterpreted

## Percentage Grades

- ➔ **Positives (???):**
  1. Provide finer discrimination
  2. Increase the variation in grades
- ➔ **Shortcomings:**
  1. Require the integration of diverse information
  2. Increase the number of arbitrary cut-offs
  3. Accentuate the influence of subjectivity

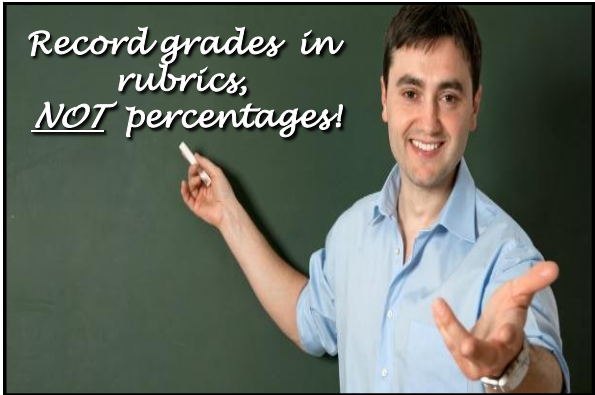
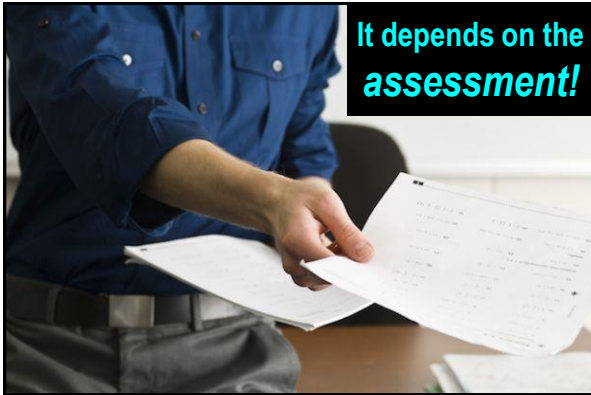


**It depends on the standard!**

**Is 80% sufficient for:**

- ✓ Crossing the street safely?
- ✓ Being honest?
- ✓ Landing a plane safely?
- ✓ Using machinery in shop?
- ✓ Getting a hit in baseball?
- ✓ Completing a pass in football?





## Standards-Based (Checklist of Skills)

- ➔ **Positives:**
  1. Offer a clear description of achievement
  2. Are useful for diagnosis and prescription
- ➔ **Shortcomings:**
  1. Often too complicated for parents to understand
  2. May not communicate the adequacy of progress


### Levels of Student Performance Labels

<b>1. Levels of Understanding / Quality</b>			
Modest	Beginning	Novice	Unsatisfactory
Intermediate	Progressing	Apprentice	Needs Improvement
Proficient	Adequate	Proficient	Satisfactory
Superior	Exemplary	Distinguished	Outstanding
<b>2. Levels of Mastery / Proficiency</b>			
Below Basic	Below Standard	Pre-Emergent	Incomplete
Basic	Approaching Standard	Emerging	Limited
Proficient	Meets Standard	Acquiring	Partial
Advanced	Exceeds Standard	Extending	Thorough
<b>3. Frequency of Display</b>			
Rarely	Never		
Occasionally	Seldom		
Frequently	Usually		
Consistently	Always		
<b>4. Degree of Effectiveness</b>		<b>5. Evidence of Accomplishment</b>	
Ineffective	Poor	Little or No Evidence	
Moderately Effective	Acceptable	Partial Evidence	
Highly Effective	Excellent	Sufficient Evidence	
		Extensive Evidence	

## Narratives


- ➔ **Positives:**
  1. Offer a clear description of achievement
  2. Are useful for diagnosis and prescription
- ➔ **Shortcomings:**
  1. Time-consuming for teachers to develop
  2. May not communicate the adequacy of progress
  3. Comments often become standardized

Combine methods to enhance communicative value!

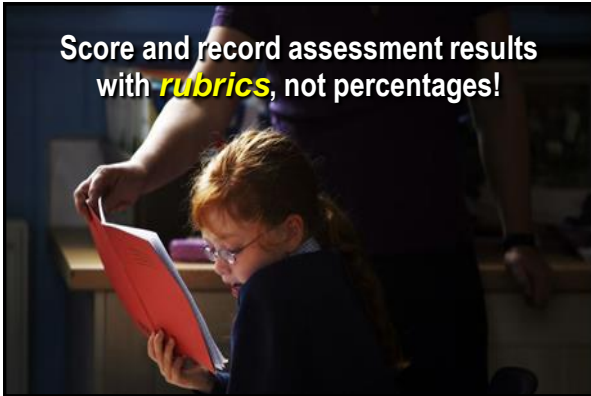


**Solution:**

1. Determine the purpose of grades
2. Base all policies on that purpose.
3. Develop early success!



**3. Use informed professional judgment instead of mathematical algorithms!**



Score and record assessment results with **rubrics**, not percentages!

**Arriving at Grades on Standards/Targets**

Student	Target #1						Summary
	9/9	9/14	9/22	9/27	10/3	10/6	Target #1
Greg	1	1	1	1	4	4	4

**Mathematical algorithms:**  
 Average: 2  
 Median: 1  
 Mode: 1  
 Trend: 2.7


**Professional judgment:**  
 What best describes the student's level of proficiency at this time?  
 Score: 4

**Arriving at Final Grades on Standards/Targets**

Student	Target #1						Target #2						Add sections for other standards	Summary		
	9/9	9/14	9/22	9/27	10/3	10/6	9/9	9/14	9/23	9/27	10/3	10/8		Target #1	Target #2	Target #3
Greg	1	1	1	1	4	4							4			
Rachel	2	1	2	3	3	3										
Alice	2	2	4	4	4	3										
David	3	1	3	2	3	1										
Ellen	2	3	2	3	4	4										
(etc.)																




**You are thoughtful and informed professionals!**



4. Grading and reporting should *always* be in reference to ***learning criteria***; never “On The Curve”


## Grading “On the Curve”

1. Tells nothing about learning
2. Makes learning highly competitive.
3. Discourages student collaboration.
4. Diminishes relationships between students and teachers.



## Grading Criteria

1. *Product*
2. *Process*
3. *Progress*





5. Report cards are but ***one way*** of communicating with parents!

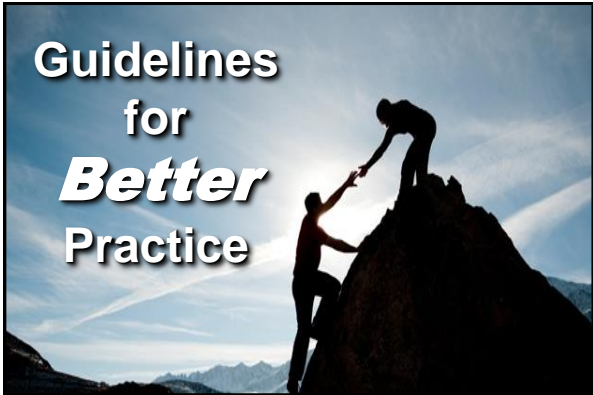
## Forms of reporting to parents include:

<ul style="list-style-type: none"> <li>✓ Report cards</li> <li>✓ Notes with report cards</li> <li>✓ Standardized assessment reports</li> <li>✓ Weekly / Monthly progress reports</li> <li>✓ Phone calls</li> <li>✓ School open houses</li> <li>✓ Newsletters</li> <li>✓ Email</li> </ul>	<ul style="list-style-type: none"> <li>✓ Personal letters</li> <li>✓ Homework</li> <li>✓ Evaluated assignments or projects</li> <li>✓ Portfolios or exhibits</li> <li>✓ School web pages</li> <li>✓ Homework hotlines</li> <li>✓ Parent-teacher conferences</li> <li>✓ Student-led conferences</li> </ul>
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## In reporting to parents:

1. Include *positive comments*.
2. Describe *learning goals or expectations* (Include samples of the student's work).
3. Provide *suggestions* on how parents can help.
4. Stress *parents' role as partners* in the learning process.



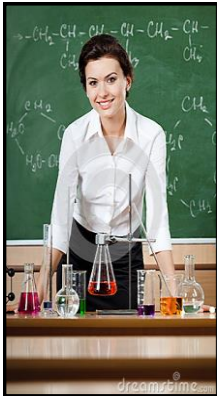


# Guidelines for **Better** Practice



1. Begin with a clear **Statement of Purpose.**

- ✓ Why use grading and reporting?
- ✓ For whom is the information intended?
- ✓ What are the desired results?



2. Provide **accurate** and **understandable** descriptions of student learning.

- ✓ **More** a challenge in effective communication
- ✓ **Less** an exercise in quantifying achievement

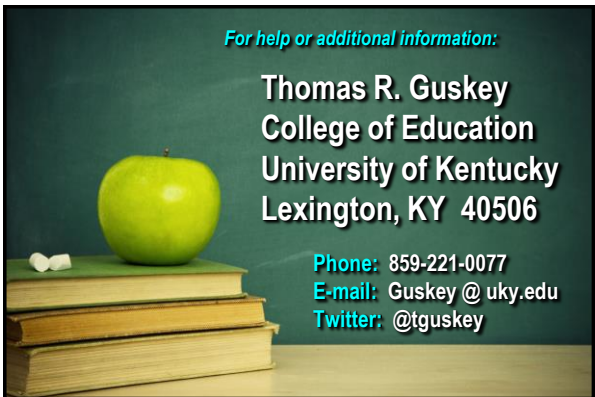


3. Use grading and reporting to **enhance** teaching and learning.

- ✓ Facilitate communication
- ✓ Improve efforts to help students



**Important Distinction:**  
**Managers** know how to do things right.  
**Leaders** know the right things to do!



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# *Readings*





# Class rank weighs down true learning

Teaching and grading schemes that work to select the most talented students often fail to benefit all students and to notice promising students.

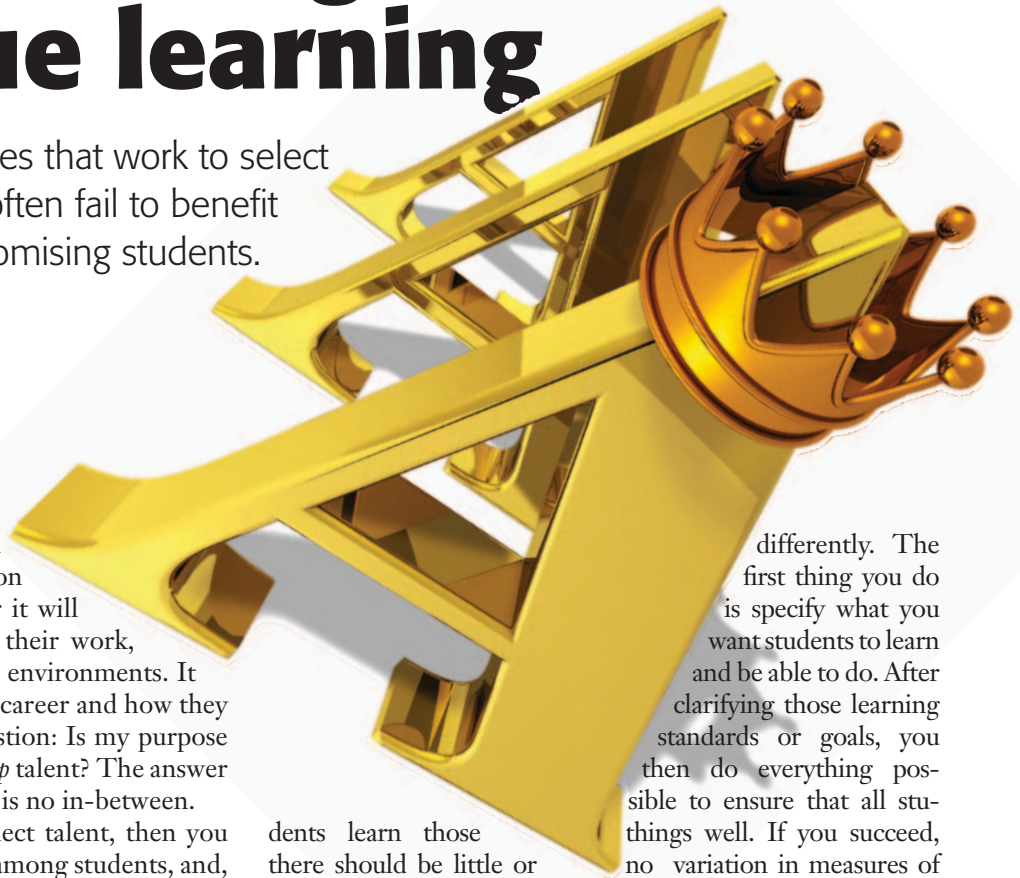
**By Thomas R. Guskey**

As they consider reforms in policy and practice, educators face one basic question about their purpose. How they answer it will largely determine how they go about their work, especially in standards-based education environments. It also will establish the direction of their career and how they judge their success. The one basic question: Is my purpose to *select* talent, or is my purpose to *develop* talent? The answer must be one or the other because there is no in-between.

If you decide your purpose is to select talent, then you must work to maximize the differences among students, and, on any measure of student learning, you must try to achieve the greatest possible variation in student scores. If lots of students score at the same level on a measure of their learning, discriminating among them becomes very difficult. In order to select the most talented students you must teach and assess learning in ways that allow you to distinguish those students with greater talent from those with less. You must spread out the scores.

Unfortunately for students, the best way to maximize differences in their learning is poor teaching. Nothing does it better. If you want to accentuate the differences among students, then teach them as poorly as possible. A few students will be able to direct their own learning and achieve at a high level, regardless of what the teacher does. But the vast majority of students need guidance and direction in their learning. To learn well, they need to engage in structured learning opportunities and receive support from their teachers. Without such opportunities and support, they're likely to learn very little. Differences in student learning will be maximized, and this variation will be evident in any measure of learning.

On the other hand, if you decide your purpose as an educator is to *develop* talent, then you go about your work very



differently. The first thing you do is specify what you want students to learn and be able to do. After clarifying those learning standards or goals, you then do everything possible to ensure that all students learn those things well. If you succeed, there should be little or no variation in measures of student achievement, and all students will attain similar high scores on assessments of their learning. When your purpose is to develop talent, this is precisely what you strive to accomplish.

Standards-based approaches are built on this premise. In standards-based education environments, teachers and students unite in efforts to have everyone learn well. This doesn't mean that standards-based teachers treat all students the same. On the contrary, standards-based teachers adapt instruction to individual student needs in order to help all students develop their talents and master agreed-upon learning goals.

## Why class rank?

This fundamental question about purpose relates directly to computing students' class rank. Why do we do it? Why do we believe rank-ordering all students in every graduating class is important and necessary?

In most high schools, students are ranked according to their cumulative grade-point average (GPA). The procedures used to calculate students' GPAs vary from school to school. Some high schools consider grades from all of a student's courses while others include only courses in designated academic areas. Some schools assign equal weight to grades from all courses in computing student GPAs, while other schools employ complicated weighting strategies that attach higher

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value to grades attained in courses perceived to be more academically challenging (Downs, 2000).

If we go back to the original question about whether our purpose is to select talent or to develop talent, then the answer as to why we calculate cumulative grade point averages to determine students' class rank is clear. Rank-ordering the students in every graduating class has nothing to do with developing student talent. Rather, it is unquestionably about selecting talent.

Determining class rank does not help students achieve more or reach higher levels of proficiency. With the possible exception of the top-ranked student, class rank also does nothing to enhance students' sense of self-worth, their confidence as learners, or their motivation for learning. On the contrary, evidence indicates ranking students may diminish student motivation (Covington, 1992). If we say our purpose is to develop talent, then computing class rank is unmistakably counter to that purpose.

**Rank-ordering students in every graduating class has nothing to do with developing students' talent. Rather, it is unquestionably about selecting talent.**

High school educators argue that they're compelled to rank-order graduating students because selective colleges and universities require information about class rank on applications. But, although that might have been true in the past, it is not nearly as prevalent today.

In a recent survey, Eric Hoover (2012) found that only 19% of colleges and universities give class rank "considerable importance" in the application process. Most admission officers expressed serious skepticism about the meaningfulness of class rank. Among the traditional measures of student quality, class rank was "widely described by admissions officers as the fuzziest" (Hoover, 2012, p. A1).

The importance of class rank has changed significantly in recent years because college and university admission officers recognize the striking differences in student populations at different high schools and the tremendous variation in the way high schools compute class rank. Every state has high schools that serve advantaged student populations and send over 80% of graduates to some form of higher education. Every state also has high schools that serve primarily economically disadvantaged students and, often due to factors over which students have no control, less than 30% of graduates go on to higher education. The GPAs and class ranks of students at these schools can

reflect significantly different levels of achievement.

David Lang (2007) offered further evidence skeptical of class ranking. In a survey of 232 of the 500 largest public high school districts in the U.S., he discovered that schools varied widely in their ranking procedures. Many systems had inherent flaws that provided incentives for students to enroll in less rigorous classes or to avoid taking additional classes due to potentially detrimental effects on their class ranking. Some high schools used unweighted GPAs while others applied different weights to classes of varying perceived difficulty.

Such differences are especially problematic with the recent rise in scholarship programs for students based on class rank. Several states and state universities offer scholarships to students who graduate at the top of their class or maintain a high GPA throughout high school (Downs, 2000). Other states have "percent plans," where students in a specified top percentile of their graduating class are guaranteed acceptance to a state college or university. In most instances, these plans are a response to the removal of affirmative action policies previously used in the admissions process at state universities (Lang, 2007). By guaranteeing that a certain top percent of students in each high school's graduating class can attend a state university, policy makers can ensure that students from poor and sometimes segregated high schools have access to public universities and will continue to be represented in college classes.

Selective colleges and universities have a vested interest in high schools rank-ordering their graduates. Ranking helps admission officers at these institutions discriminate among the applicants so they can more easily choose the few they will admit. It is the job of college and university admission officers to select talent. The question for high school educators, however, is this: Is your purpose also to select talent? If that is not your job, then why do college and university admission officers' jobs for them? Why compute every graduate's class rank when ranking helps nobody but perhaps the very top ranked students and could be hurting the majority?

### Selecting the valedictorian

A related issue to rank-ordering high school graduates is the process of selecting the class valedictorian. Most educators today recognize the negative consequences of grading "on the curve" and have abandoned the practice. They understand that when student grades depend on their relative standing among classmates, learning becomes a highly competitive endeavor in which students must compete against each other for the few scarce high grades awarded by teachers. But these same educators fail to recognize that the same negative consequences



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accompany the process used in most schools to select the class valedictorian.

There is nothing wrong with recognizing excellence in academic performance. All educators champion the idea of acknowledging students' outstanding scholastic achievements. All also want to provide incentives for students to work hard and do their very best. But, in most U.S. high schools, the student chosen to be the class valedictorian is the one who attained the highest, weighted grade-point average by whatever procedures the school uses to make those calculations. In other words, the selection process is based on the rank-ordering of graduates with each student pitted against all others for that singular distinction. This often results in aggressive and sometimes bitter competition among high-achieving students to be that top-ranked individual.

Early in their high school careers, top-achieving students analyze their school's selection procedures for picking the class valedictorian. Then, often with the help of their parents, they find ingenious ways to improve their standing in comparison to classmates. Gaining the honor requires not simply high achievement; it requires outdoing everyone else in the class. And sometimes the difference among these top-achieving students is as little as one hundred thousandth of a decimal point in their weighted grade-point average. Stories abound of students gaming the system in order to gain some advantage; about friendships among students ruined by the fierce competition; and about students avoiding classes in dance, music, or the arts because even an A in an unweighted class can bring down their GPA. There are also numerous reports of parents threatening lawsuits because they believed their child had somehow been wronged in the process (Valedictorians, 2012).

Some high schools address this issue by identifying the top 10 ranked students in the class. But while this policy may ease the tension among those top 10 students, it does little for the student ranked eleventh. Plus the choice of 10 is quite arbitrary. Why not 12? Or 20? Or the top 10%, as is used in the percent plans described earlier? Regardless of the number or percent chosen, the result is the same. Excellence is not defined in terms of rigorous and challenging learning criteria. It is defined in terms of a student's relative standing among classmates.

Ironically, the term valedictorian has nothing to do with achievement. It comes from the Latin, *vale dicere*, which

means, "to say farewell." It is the individual selected from the graduating class to deliver the commencement ceremony's farewell address, which is called a "valedictory."

The first reference to the term "valedictorian" appeared in the diary of the Rev. Edward Holyoke, president of Harvard College in 1759, who wanted to include a student among the speakers at the graduation ceremony. Wanting to ensure fairness in the selection process, he turned the responsibility over to the students and later noted that "Officers of the Sophisters chose a Valedictorian." Lacking any established criteria, the Sophisters (senior class members) selected the graduate with the highest academic standing.

Shortly thereafter, colleges and universities moved away from competitive ranking procedures to identify honor students and instead adopted the criterion-based Latin system, graduating students *cum laude*, *magna cum laude*, and *summa cum laude*, — with honor, with great honor, and with highest honor. Such status is generally awarded based on students' cumulative GPAs, typically 3.50 to 3.74 for *cum laude*, 3.75 to 3.99 for *magna cum laude*, and 4.0 for *summa cum laude*. In turn, most colleges and universities also altered their procedures for selecting the student commencement speaker.

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Depending on the institution, the valedictorian at a college or university commencement ceremony might be selected by a vote among high-achieving graduates. In some cases, the entire graduating class nominates and then votes for the person who best represents the ideals of the class. Sometimes, the faculty appoints the valedictorian based on a system of merit that takes into account not only grades but also involvement in service projects and extracurricular activities. At some institutions, students compete in an essay contest to give the valedictory speech; at others, the faculty members nominate students for the honor. Only high schools maintain the competitive practice of selecting the valedictorian based solely on students' cumulative grade-point averages.



**Do current policies for selecting the class valedictorian foster development of the traits we most value in students?**

**After the speech**

An interesting aspect of the valedictorian selection process is the kinds of students who gain the honor and what happens to them after they graduate. One of the most comprehensive studies of high school valedictorians is the Illinois Valedictorian Project, a longitudinal study of the life paths of 81 high school valedictorians, 46 women and 35 men. This investigation followed the progress of these top high school achievers for 14 years to study the nature of their academic success, its costs and rewards, and its effects on their careers and personal lives. Karen Arnold (1995) summarizes the results in her book, *Lives of Promise: What Becomes of High School Valedictorians*.

In analyzing over 11,000 pages of interview transcripts, Arnold (1995) found that while most valedictorians were successful, well-adjusted, and psychologically healthy, they were seldom at the head of the class in their careers. Most chose conventional careers as accountants, physicians, lawyers, engineers, physical therapists, and healthcare professionals, and worked well within the system. But few were risk takers or mold breakers, and they were unlikely

to change the system. They worked hard and followed the rules, but rarely proposed innovations or explored unfamiliar areas. Arnold summarized the results saying, "Just because they could get A's doesn't mean they can translate academic achievement into career achievement" (Howe, 1995, p. 2).

The question this leaves for educators: Do current policies for selecting the class valedictorian foster development of the traits we most value in students? And if not, what policies might?

Clearly, we should honor outstanding academic achievement, hard work, and perseverance in academic tasks. But what about service, caring, compassion, and a sense of social justice? We certainly want students to understand the system and be able to work within it. But should we reward those who find clever ways to game the system? Do we want students who merely follow the rules, or do we want them to question the rules and propose ways to make the rules better? Do we want students to be risk takers who persist in the face of occasional failure, or do we want them to avoid taking chances and be reluctant to explore new areas for fear that they might not be as successful as hoped?

**Alternatives**

An increasing number of high schools have resolved this problem by adopting the Latin honor system similar to that used by colleges and universities, requiring a specific GPA to graduate cum laude, magna cum laude, or summa cum laude. Wilson High School in Reading, Pa., made this change after hearing from past valedictorians that they felt victimized by the competition to maintain the highest GPA and that it made high school an unpleasant experience. Under the new policy, Wilson rewards students for academic achievement measured against a standard of excellence instead of comparing them to their peers (Heesen, 2013).

The response of both parents and students to the change at Wilson High School has been overwhelmingly positive. In describing the change, one high-achieving Wilson student said, "I feel that the new system puts the focus on your education instead of competing for a name" (Heesen, 2013, p. 2). The valedictory at the graduation ceremony is delivered by a student chosen by a committee of faculty members, and any senior can audition.

Other high schools have addressed the problem by naming multiple valedictorians. Similar to the Latin honor system, this distinction is based on rigorous academic criteria rather than a ranking of classmates. West Springfield High School in Fairfax County, Va., for example, typically graduates 15 to 25 valedictorians each year. Every one of these students has an exemplary academic record that includes earning

the highest grade possible in numerous honors and Advanced Placement classes. Instead of trying to distinguish among these exceptional students, the West Springfield faculty decided that all should be named valedictorians. All of the valedictorians are named at the graduation ceremony, and one student, selected by his or her fellow valedictorians, delivers the commencement address.

Some might object to a policy that allows multiple valedictorians, arguing that colleges and universities give preference to students who attain that singular distinction. But current evidence indicates that this is not the case at the most selective institutions. Duke University, for example, recently rejected 58% of valedictorians who applied; the University of Pennsylvania rebuffed 62%.

In reviewing admission applications and making decisions about scholarships, a recent report by the National Association for College Admission Counseling (Clinedinst & Hawkins, 2012) shows that colleges and universities are more interested in the rigor of the curriculum students have experienced. The top two admissions factors were grades in college prep courses (Advanced Placement) and the strength of the curriculum. Other research similarly revealed that an index composed of the number of Advanced Placement courses taken, the highest level of math studied, and the total number of courses completed is a much stronger predictor of college success than grade-point average, class rank, or standardized test scores (Adelman, 1999). The rigor of the academic program experienced by the valedictorians from West Springfield High School helped them gain admission and win scholarships to many of the most selective colleges and universities in the nation.

## Conclusion

Recognizing excellence in academic performance is a vital aspect of any learning community. But such recognition should not be grounded on norm-based criteria that lead to deleterious competition, especially in a standards-based environment. Instead, it should be based on clear models of excellence developed from standards that represent our highest aspirations and goals for students (Guskey & Bailey, 2010). Educators more concerned with developing talent than with selecting talent should take pride in helping the largest number of students possible meet these rigorous criteria and high standards of excellence. Students will too. **K**

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"Remember me, Mrs. Falzone? The kid you always yelled at for leaning back in his chair during class?"





# **The Case Against Percentage Grades**

**Thomas R. Guskey**

*It's time to abandon grading scales that distort the accuracy, objectivity, and reliability of students' grades.*

Assessment and grading have become a major focus in education reform. But one basic component of most present-day grading systems stands as a major impediment to making grades fairer, more accurate, and more meaningful. That component is percentage grades.

Percentage grades are the foundation of many state grading policies. Nearly every online grading program available to educators calculates percentage grades. Yet despite their popularity, percentage grades are difficult to defend from a procedural, practical, or ethical perspective.

## **A Brief History**

Before 1850, grading and reporting were virtually unknown in U.S. schools. Most schools grouped students of all ages and backgrounds together with one teacher in a one-room schoolhouse, and few students went beyond the elementary level. The teacher commonly reported students' learning progress orally to parents during visits to students' homes.

As enrollments increased in the late 1800s, however, schools began to group students in grade levels according to age (Edwards & Richey, 1947) and to use formal progress evaluations. In most cases, these were narrative reports in which teachers described the skills each student had mastered and those on which additional work was needed. The main purpose of such reports was to inform students when they had demonstrated mastery of the current performance level and were ready to move on to the next level.

With the passage of compulsory school attendance laws in the late 19th and early 20th centuries, high school enrollments increased rapidly. Between 1870 and 1910, the number of public high schools in the United States rose from 500 to 10,000 (Guttek, 1986). Subject-area instruction became increasingly specific, and student populations became more diverse. Although elementary teachers continued to use narrative reports to document student learning, high school teachers began using percentages and other similar markings to certify accomplishment in different subject areas (Kirschenbaum, Simon, & Napier, 1971).

The shift to percentage grades was gradual, and few U.S. educators questioned it. The practice seemed a natural result of the increased demands on high school teachers, who now served growing numbers of students.

But in 1912, a study by two Wisconsin researchers seriously challenged the reliability and accuracy of percentage grades. Daniel Starch and Edward Charles Elliott found that 147 high school English teachers in different schools assigned widely different percentage grades to two identical student papers. Scores on the first paper ranged from 64 to 98, and scores on the second paper ranged from 50 to 97. One paper was given a failing mark by 15 percent of the teachers and a grade of over 90 by 12 percent of the teachers. Some teachers focused on elements of grammar, style, neatness, spelling, and punctuation, whereas others considered only how well the paper communicated its message. With more than 30 different percentage grades assigned to a single paper and a range of more than 40 points, it is easy to see why this study created a stir among educators.

Starch and Elliott's study was immediately criticized by those who claimed that judging good writing is, after all, highly subjective. But when the researchers repeated their study using geometry papers graded by 128 math teachers, they found even greater variation. Scores assigned by teachers to one of the math papers ranged from 28 to 95 percent. Some of the teachers deducted points only for a wrong answer. Others gave students varying amounts of partial credit for their work. Still others considered neatness, form, and spelling in the grades they assigned (Starch & Elliott, 1913).

These demonstrations of wide variation in grading practices among teachers led to a gradual move away from percentage grades to scales that had fewer and larger categories. One was a three-point scale that employed the categories *Excellent*, *Average*, and *Poor*. Another was the familiar five-point scale of *Excellent*, *Good*, *Average*, *Poor*, and *Failing*, or *A*, *B*, *C*, *D*, and *F* (Johnson, 1918; Rugg, 1918). This decrease in the number of score categories led to greater consistency across teachers in the grades assigned to student performance.

## A Modern Resurgence

Percentage grades continued to be relatively rare in U.S. schools until the early 1990s, when grading software and online grade books began to gain popularity among educators. Today, schools can choose from more than 50 electronic grading software programs. Because these programs are developed primarily by computer technicians and software engineers rather than educators, they incorporate scales that appeal to technicians—specifically, percentages.

Like monetary systems based on the dollar, percentages have 100 levels that are easy to divide into increments of halves, quarters, and tenths. Percentages are also easy to calculate and easy for most people to understand. Thus, the resurgence of percentage grades appears to come mainly from the increased use of technology and the partialities of computer technicians, not from the desire of educators for alternative grading scales or from research about better grading practice.

Modern percentage grading scales differ significantly, however, from those that were used in the past. The 100-point scale that teachers employed in the early 20th century was based on an average grade of 50, and grades above 75 or below 25 were rare (Smallwood, 1935). In contrast, most modern applications of percentage grades set the average grade at 75 (which translates to a letter grade of *C*) and establish 60 or 65 as the minimum threshold for passing. This practice dramatically increases the likelihood of a negatively skewed grade distribution that is "heavily gamed against the student" (Carey & Carifio, 2012, p. 201).

Ironically, neither this narrower grade distribution nor a century of research and experience in scoring students' writing seems to have improved the reliability of the percentage grades assigned by teachers. Recently, Hunter Brimi (2011) replicated Starch and Elliott's 1912 study and attained almost identical results. Brimi asked 90 high school teachers—who had received nearly 20 hours of training in a writing

assessment program—to grade the same student paper on a 100-point percentage scale. Among the 73 teachers who responded, scores ranged from 50 to 96. And that's among teachers who received specific professional development in writing assessment!

So even if one accepts the idea that there are truly 100 discernible levels of student writing performance, it's clear that even well-trained teachers cannot distinguish among those different levels with much accuracy or consistency.

## Problems with Percentage Grades

### Logistics

From the perspective of simple logic, percentage grading scales make little sense. As noted earlier, teachers who use percentage grades typically set the minimum passing grade at 60 or 65. The result is a scale that identifies 60 or more distinct levels of failure and only 40 levels of success. In other words, nearly two-thirds of the percentage grading scale describes levels of failure! What message does that communicate to students?

And distinguishing 60 different levels of failure is hardly helpful. Does any teacher consider percentage grades in the 50s to denote modest failure and those in the teens or 20s to represent extreme failure? Are unsuccessful students concerned about which of the 60 different levels of failure they achieved?

Some teachers counter that no one really uses those 60 different levels of failure. But if that is the case, then why have them? Why not use a 50-point grading scale and designate ten levels of failure rather than the 100-point percentage grading scale with 60 levels of failure? After all, the choice of 100 is quite arbitrary.

A grading scale in which two-thirds of the designated levels describe failure also implies that degrees of failure can be more finely distinguished than degrees of success. Should the focus of educators be to determine more minutely different levels of failure than those of learning success?

### Accuracy

The accuracy of any measure depends on the precision of the measurement instrument. A sophisticated stopwatch, for example, can very accurately measure the time an individual takes to run a 100-meter race. The instruments we use to measure student learning, however, are far less accurate and precise.

Measurement experts identify precision by calculating the *standard error of measurement*. This statistic describes the amount by which a measure might vary from one occasion to the next using the same device to measure the same trait. For example, suppose the standard error on a 20-item assessment of student learning is plus or minus two items. That may not seem like much, but using a percentage grading scale, that would be a range of 20 percentage points—a difference in most cases of at least two letter grades.

Many educators assume that because the percentage grading scale has 100 classification levels—or categories—it is more precise than a scale with just a few levels (such as *Excellent*, *Average*, and *Poor*). But in the absence of a truly accurate measuring device, adding more gradations to the measurement scale offers only the illusion of precision. When assigning students to grade categories, statistical error relates to the number of misclassifications. Setting more cutoff boundaries (levels or categories) in a distribution of scores means that more cases will be vulnerable to fluctuations across those boundaries and, hence, to more statistical error (Dwyer, 1996). A student is statistically much more likely to be misclassified as performing at the 85-percent level when his true achievement is at the 90-percent level (a difference of five percentage categories) than he is of being misclassified as scoring at an *Average* level when his true achievement is at an *Excellent* level. In other words, with more levels, more students are likely to be misclassified in terms of their performance on a particular assessment.

Overall, the large number of grade categories in the percentage grading scale and the fine discrimination required in determining the differences among categories allow for the greater influence of subjectivity, more error, and diminished reliability. The increased precision of percentage grades is truly far more imaginary than real.

### **Percentage Grades vs. Percentage Correct**

Percentage grades are often directly derived from the percentage of items a student answers correctly on an assessment; this, in turn, is assumed to reflect the percentage of the content the student has learned or the percentage of the skills the student has mastered. Because assessments of student performance vary widely in their design, however, this assumption is rarely true. Some assessments include items or problems that are so challenging that even students who have mastered the essential content and skills still answer a low percentage of the items correctly.

Take, for example, the Graduate Record Examinations (GRE), a series of assessments used to determine admission to many graduate schools. Individuals who answer only 50 percent of the questions correctly on the GRE physics exam perform better than more than 70 percent of all individuals who take the exam. For the GRE mathematics exam, a person answering 50 percent correctly would outperform approximately 60 percent of the individuals who take the exam. And among those who take the GRE literature exam, only about half get 50 percent correct (Gitomer & Pearlman, 1999). In most classrooms, of course, students who answer only 50 percent correctly would receive a failing grade.

Should we conclude from this information that majorities of prospective graduate students in physics, mathematics, and literature are "failures"? Does it mean that most of those interested in doing advanced graduate work in these subjects have learned little of the important content and skills in their respective disciplines? Of course not. Percentage grades derived solely from the percentage correct, without careful examination of the items or tasks students are asked to address, are just not all that meaningful.

Researchers suggest that an appropriate approach to setting cutoffs must combine teachers' judgments of the importance of the concepts addressed and consideration of the cognitive processing skills required by the assessment items or tasks (Nitko & Niemierko, 1993). Sadly, this ideal is seldom realized. Even in high-stakes assessment situations, where the consequences for students can be quite serious, policymakers rarely put this level of deliberative judgment into setting the cutoff scores for student performance.

Further, the challenge or difficulty of an assessment is also related to the quality of the teaching that students experience. Students who are taught well and provided ample opportunities to practice and demonstrate what they have learned typically find well-aligned performance tasks or assessment questions much easier than do students who are taught poorly and given few practice opportunities. Hence, a percentage score of 90 might be easy for well-taught students to attain, whereas attaining a score of 70 might prove exceptionally difficult for poorly taught students. Multiple factors influence students' performance, many lying outside students' control (Guskey & Bailey, 2001).

### **The Distortion of the Zero**

In recent years, much ado has been made about legislation passed in several states that bars school districts from stipulating that the lowest percentage grade teachers can assign to students is 50 rather than zero (Montgomery, 2009; Peters, 2009; Richmond, 2008). School districts that enact these minimum-grade policies have no intention of giving students credit when no credit is due. A percentage grade of 50 is still a failing grade in nearly every school. In addition, although some have suggested that minimum-grade policies promote grade inflation and social promotion in schools, well-designed, longitudinal studies show this is not the case (Carey & Carifio, 2012; Carifio & Carey, 2010). Rather, school districts implement minimum-grade policies simply to eliminate the confounding effects of a zero in a percentage grading system.

When combined with the common practice of grade averaging, a single zero can have a devastating effect on a student's percentage grade. The student's overall course grade is unfairly skewed by that one, atypical low score. To recover from a single zero in a percentage grade system, a student must achieve a perfect score on a minimum of nine other assignments. Attaining that level of performance would challenge the most talented students and may be impossible for struggling learners. A single zero can doom a student to failure, regardless of what dedicated effort or level of performance might follow (Guskey, 2004).

Certainly, students need to know that there are consequences for what they do and do not do in school. Irresponsible actions and malingering should be penalized. But should the penalty be so severe that students have virtually no chance of recovery?

The true culprit in this matter, however, is not minimum grades or the zero—it's the percentage grading system. In a percentage grading system, a zero is the most extreme score a teacher can assign. To move from a *B* to an *A* in most schools that use percentage grades requires improving only 10 percentage points at most—say, from 84 to 94 percent. But to move from a zero to a minimum passing grade requires six or seven times that improvement, usually from zero to 60 or 65.

If the purpose of grading is to communicate information about how well students have learned and what they have accomplished in school, the grading system should not punish students in ways that make recovery from failure impossible. In a percentage grading system, assigning a grade of zero does exactly that.

## **What's the Alternative?**

Rather than argue about minimum grades or zeros, an easy solution to this dilemma is to do away with percentage grades and use an integer grading system of 0–4 instead. In such a system, improving from a failing grade to a passing grade means moving from 0 to 1, not from 0 to 60 or 65. An integer system makes recovery possible for students. It also helps make grades more accurate reflections of what students have learned and accomplished in school.

Educators at all levels are familiar with integer grades. The majority of colleges and universities in the United States use integer grading systems, and most high schools use integer grades when they compute students' grade-point averages (GPAs). In fact, using 0–4 integer grades would eliminate the problems that many high schools experience in trying to convert percentage grades to four-point or five-point GPAs. And integer grading scales align with the levels used to classify student achievement in most state assessment programs (for example, *Below Basic*, *Basic*, *Proficient*, and *Advanced*) and with the four-point rubrics that many teachers use in judging students' performance on classroom assessments.

The use of integer grading systems will result in grades that are more meaningful and reliable. With modest training and experience, different teachers considering a specific collection of evidence of student learning can generally reach consensus about the 0–4 integer grade that evidence represents. Integer grades do not necessarily make grading easier; they simply make the process more accurate and honest.

## **No Substitute for Professional Judgment**

Percentage grading systems that attempt to identify 100 distinct levels of performance distort the precision, objectivity, and reliability of grades. They also create unsolvable methodological and logistical problems for teachers. Limiting the number of grade categories to four or five through an integer grading system allows educators to offer more honest, sensible, and reliable evaluations of students' performance. Combining the grade with supplemental narrative descriptions or standards checklists describing the learning criteria used to determine the grade further enhances its communicative value.

Assigning fair and meaningful grades to students will continue to challenge educators at every level. The process requires thoughtful and informed professional judgment, an abiding concern for what best serves



the interests of students and their families, and careful examination of the tasks students are asked to complete and the questions they are asked to answer to demonstrate their learning. Only when such examination and reasoned judgment become a regular part of the grading process can we make accurate and valid decisions about the quality of students' performance.

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## Five Obstacles to Grading Reform

Thomas R. Guskey

*Education leaders must recognize obstacles to grading reform that are rooted in tradition—and then meet them head on.*

Education improvement efforts over the past two decades have focused primarily on articulating standards for student learning, refining the way we assess students' proficiency on those standards, and tying results to accountability. The one element still unaligned with these reforms is grading and reporting. Student report cards today look much like they looked a century ago, listing a single grade for each subject area or course.

Educators seeking to reform grading must combat five long-held traditions that stand as formidable obstacles to change. Although these traditions stem largely from misunderstandings about the goals of education and the purposes of grading, they remain ingrained in the social fabric of our society.

### **Obstacle 1: Grades should provide the basis for differentiating students.**

This is one of our oldest traditions in grading. It comes from the belief that grades should serve to differentiate students on the basis of demonstrated talent. Students who show superior talent receive high grades, whereas those who display lesser talent receive lower grades.

Although seemingly innocent, the implications of this belief are significant and troubling. Those who enter the profession of education must answer one basic, philosophical question: Is my purpose to *select* talent or *develop* it? The answer must be one or the other because there's no in-between.

If your purpose as an educator is to *select* talent, then you must work to maximize the differences among students. In other words, on any measure of learning, you must try to achieve the greatest possible variation in students' scores. If students' scores on any measure of learning are clustered closely together, discriminating among them becomes difficult, perhaps even impossible. Unfortunately for students, the best means of maximizing differences in learning is poor teaching. Nothing does it better.

Assessments also play a role. Assessments used for selection purposes, such as college entrance examinations like the ACT and SAT, are designed to be instructionally insensitive (Popham, 2007). That is, if a particular concept is taught well and, as a result, most students answer an assessment item related to that concept correctly, it no longer discriminates among students and is therefore eliminated from the assessment. These types of assessments maximize differences among students, thus facilitating the selection process.

If, on the other hand, your purpose as an educator is to *develop* talent, then you go about your work differently. First, you clarify what you want students to learn and be able to do. Then you do everything possible to ensure that *all* students learn those things well. If you succeed, there should be little or no variation in measures of student learning. All students are likely to attain high scores on measures of achievement, and all might receive high grades. If your purpose is to develop talent, this is what you strive to accomplish.

## **Obstacle 2: Grade distributions should resemble a normal bell-shaped curve.**

The reasoning behind this belief goes as follows: If scores on intelligence tests tend to resemble a normal bell-shaped curve—and intelligence is clearly related to achievement—then grade distributions should be similar.

A true understanding of normal curve distributions, however, shows the error in this kind of reasoning. The normal bell-shaped curve describes the distribution of randomly occurring events *when nothing intervenes*. If we conducted an experiment on crop yield in agriculture, for example, we would expect the results to resemble a normal curve. A few fertile fields would produce a high yield; a few infertile fields would produce a low yield; and most would produce an average yield, clustering around the center of the distribution.

But if we intervene in that process—say we add a fertilizer—we would hope to attain a very different distribution of results. Specifically, we would hope to have all fields, or nearly all, produce a high yield. The ideal result would be for all fields to move to the high end of the distribution. In fact, if the distribution of crop yield after our intervention still resembled a normal bell-shaped curve, that would show that our intervention had failed because it made no difference.

Teaching is a similar intervention. It's a purposeful and intentional act. We engage in teaching to attain a specific result—that is, to have all students, or nearly all, learn well the things we set out to teach. And just like adding a fertilizer, if the distribution of student learning after teaching resembles a normal bell-shaped curve, that, too, shows the degree to which our intervention failed. It made no difference.

Further, research has shown that the seemingly direct relationship between aptitude or intelligence and school achievement depends on instructional conditions, *not* a normal distribution curve (Hanushek, 2004; Hershberg, 2005). When the instructional quality is high and well matched to students' learning needs, the magnitude of the relationship between aptitude/intelligence and school achievement diminishes drastically and approaches zero (Bloom, 1976; Bloom, Madaus, & Hastings, 1981).

### **Obstacle 3: Grades should be based on students' standing among classmates.**

Most parents grew up in classrooms where their performance was judged against that of their peers. A grade of *C* didn't mean you had reached Step 3 in a five-step process to mastery or proficiency. It meant "average" or "in the middle of the class." Similarly, a high grade did not necessarily represent excellent learning. It simply meant that you did better than most of your classmates. Because most parents experienced such norm-based grading procedures as children, they see little reason to change them.

But there's a problem with this approach: Grades based on students' standing among classmates tell us nothing about how well students have learned. In such a system, all students might have performed miserably, but some simply performed less miserably than others.

In addition, basing grades on students' standing among classmates makes learning highly competitive. Students must compete with one another for the few scarce rewards (high grades) to be awarded by teachers. Doing well does not mean learning excellently; it means outdoing your classmates. Such competition damages relationships in school (Krumboltz & Yeh, 1996). Students are discouraged from cooperating or helping one another because doing so might hurt the helper's chance at success. Similarly, teachers may refrain from helping individual students because some students might construe this as showing favoritism and biasing the competition (Gray, 1993).

Grades must always be based on clearly specified learning criteria. Those criteria should be rigorous, challenging, and transparent. Curriculum leaders who are working to align instructional programs with the newly developed common core state standards move us in that direction. Grades based on specific learning criteria have direct meaning; they communicate what they were intended to communicate.

### **Obstacle 4: Poor grades prompt students to try harder.**

Although educators would prefer that motivation to learn be entirely intrinsic, evidence indicates that grades and other reporting methods affect student motivation and the effort students put forth (Cameron & Pierce, 1996). Studies show that most students view high grades as positive recognition of their success, and some work hard to avoid the consequences of low grades (Haladyna, 1999).

At the same time, no research supports the idea that low grades prompt students to try harder. More often, low grades prompt students to withdraw from learning. To protect their self-images, many students regard the low grade as irrelevant or meaningless. Others may blame themselves for the low grade but feel helpless to improve (Selby & Murphy, 1992).

Recognizing the effects on students of low grades, some schools have initiated policies that eliminate the use of failing grades altogether. Instead of assigning a low or failing grade, teachers assign an *I*, or incomplete, with immediate consequences. Students who receive an *I* may be required to attend a special study session *that day* to bring their performance up to an acceptable level—and no excuses are accepted. Some schools hold this session after regular school hours whereas others conduct it during lunchtime.

Such a policy typically requires additional funding for the necessary support mechanisms, of course. But in the long run, the investment can save money. Because this regular and ongoing support helps students remedy their learning difficulties before they become major problems, schools tend to spend less time and fewer resources in major remediation efforts later on (see Roderick & Camburn, 1999).

### **Obstacle 5: Students should receive one grade for each subject or course.**

If someone proposed combining measures of height, weight, diet, and exercise into a single number or mark to represent a person's physical condition, we would consider it laughable. How could the combination of such diverse measures yield anything meaningful? Yet every day, teachers combine aspects of students' achievement, attitude, responsibility, effort, and behavior into a single grade that's recorded on a report card—and no one questions it.

In determining students' grades, teachers typically merge scores from major exams, compositions, quizzes, projects, and reports, along with evidence from homework, punctuality in turning in assignments, class participation, work habits, and effort. Computerized grading programs help teachers apply different weights to each of these categories (Guskey, 2002a) that then are combined in idiosyncratic ways (see McMillan, 2001; McMillan, Myran, & Workman, 2002). The result is a "hodgepodge grade" that is just as confounded and impossible to interpret as a "physical condition" grade that combined height, weight, diet, and exercise would be (Brookhart & Nitko, 2008; Cross & Frary, 1996).

Recognizing that merging these diverse sources of evidence distorts the meaning of any grade, educators in many parts of the world today assign multiple grades. This idea provides the foundation for standards-based approaches to grading. In particular, educators distinguish product, process, and progress learning criteria (Guskey & Bailey, 2010).

*Product criteria* are favored by educators who believe that the primary purpose of grading is to communicate summative evaluations of students' achievement and performance (O'Connor, 2002). In other words, they focus on *what* students know and are able to do at a particular point in time. Teachers who use product criteria typically base grades exclusively on final examination scores; final products (reports, projects, or exhibits); overall assessments; and other culminating demonstrations of learning.

*Process criteria* are emphasized by educators who believe that product criteria do not provide a complete picture of student learning. From their perspective, grades should reflect not only the final results, but also *how* students got there. Teachers who consider responsibility, effort, or work habits when assigning grades use process criteria. So do teachers who count classroom quizzes, formative assessments, homework, punctuality of assignments, class participation, or attendance.

*Progress criteria* are used by educators who believe that the most important aspect of grading is how much students gain from their learning experiences. Other names for progress criteria include *learning gain*, *improvement scoring*, *value-added learning*, and *educational growth*. Teachers who use progress criteria look at how much improvement students have made over a particular period of time, rather than just where they are at a given moment. As a result, scoring criteria may be highly individualized among students.



Grades might be based, for example, on the number of skills or standards in a learning continuum that students mastered and on the adequacy of that level of progress for each student. Most of the research evidence on progress criteria comes from studies of individualized instruction (Esty & Teppo, 1992) and special education programs (Gersten, Vaughn, & Brengelman, 1996; Jung & Guskey, 2010).

After establishing explicit indicators of product, process, and progress learning criteria, teachers in countries that differentiate among these indicators assign separate grades to each indicator. In this way, they keep grades for responsibility, learning skills, effort, work habits, or learning progress distinct from assessments of achievement and performance (Guskey, 2002b; Stiggins, 2008). The intent is to provide a more accurate and comprehensive picture of what students accomplish in school.

Although schools in the United States are just beginning to catch on to the idea of separate grades for product, process, and progress criteria, many Canadian educators have used the practice for years (Bailey & McTighe, 1996). Each marking period, teachers in these schools assign an achievement grade on the basis of the student's performance on projects, assessments, and other demonstrations of learning. Often expressed as a letter grade or percentage (*A* = advanced, *B* = proficient, *C* = basic, *D* = needs improvement, *F* = unsatisfactory), this achievement grade represents the teacher's judgment of the student's level of performance relative to explicit learning goals established for the subject area or course. Computations of grade-point averages and class ranks are based solely on these achievement or "product" grades.

In addition, teachers assign separate grades for homework, class participation, punctuality of assignments, effort, learning progress, and the like. Because these factors usually relate to specific student behaviors, most teachers record numerical marks for each (*4* = consistently; *3* = usually; *2* = sometimes; and *1* = rarely). To clarify a mark's meaning, teachers often identify specific behavioral indicators. For example, these might be the indicators for a homework mark:

- *4* = All homework assignments are completed and turned in on time.
- *3* = There are one or two missing or incomplete homework assignments.
- *2* = There are three to five missing or incomplete homework assignments.
- *1* = There are numerous missing or incomplete homework assignments.

Teachers sometimes think that reporting multiple grades will increase their grading workload. But those who use the procedure claim that it actually makes grading easier and less work (Guskey, Swan, & Jung, 2011a). Teachers gather the same evidence on student learning that they did before, but they no longer worry about how to weigh or combine that evidence in calculating an overall grade. As a result, they avoid irresolvable arguments about the appropriateness or fairness of various weighting strategies.

Reporting separate grades for product, process, and progress criteria also makes grading more meaningful. Grades for academic achievement reflect precisely that—academic achievement—and not some confusing amalgamation that's impossible to interpret and that rarely presents a true picture of students' proficiency (Guskey, 2002a). Teachers also indicate that students take homework more seriously when it's reported separately. Parents favor the practice because it provides a more comprehensive profile of their child's performance in school (Guskey, Swan, & Jung, 2011b).

The key to success in reporting multiple grades, however, rests in the clear specification of indicators related to product, process, and progress criteria. Teachers must be able to describe how they plan to evaluate students' achievement, attitude, effort, behavior, and progress. Then they must clearly communicate these criteria to students, parents, and others.

## **No More "We've Always Done It That Way"**

Challenging these traditions will not be easy. They've been a part of our education experiences for so long that they usually go unquestioned, despite the fact that they are ineffective and potentially harmful to students.

Education leaders who challenge these traditions must be armed with thoughtful, research-based alternatives. You can't go forward with only passionately argued opinions. To succeed in tearing down old traditions, you must have new traditions to take their place.

This means that education leaders must be familiar with the research on grading and what works best for students so they can propose more meaningful policies and practices that support learning and enhance students' perceptions of themselves as learners. Leaders who have the courage to challenge the traditional approach and the conviction to press for thoughtful, positive reforms are likely to see remarkable results.

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# GRADES

## that mean something

### **KENTUCKY DEVELOPS STANDARDS-BASED REPORT CARDS**

A group of teachers, school leaders, and education researchers create report cards that link course grades to student progress on mastering state standards.

**By Thomas R. Guskey, Gerry M. Swan, and Lee Ann Jung**



Deepen your understanding of this article with questions and activities in this month's *Kappan* Professional Development Discussion Guide by Lois Brown Easton. Download a PDF of the guide at [kappanmagazine.org](http://kappanmagazine.org).



Nearly all states today have standards for student learning that describe what students should learn and be able to do. Nearly all states also have large-scale accountability assessment programs designed to measure students' proficiency on those standards. Despite these commonalities, schools in each state are left to develop their own standards-based student report cards as the primary means of communicating information about students' performance on state standards.

Although school leaders would undoubtedly like to align their reporting procedures with the same standards and assessments that guide instructional programs, most lack the time and resources to do so. Those few leaders who take up the challenge rarely have expertise in developing effective standards-based reporting forms and inevitably encounter significant design and implementation problems (Guskey & Bailey, 2010).

To help Kentucky educators address this challenge, we worked with a group of teachers and school leaders to develop a common, statewide, standards-based student report card for all grade levels. While some Canadian provinces have used standards-based report cards for many years, Kentucky educators are the first in the U.S. to attempt such a statewide reform. Data from the early implementation demonstrate that schools can implement more effective ways of communicating student learning with little additional work by teachers and that parents and community members can be strong supporters of such reforms. This shows great promise for revolutionizing reporting systems in Kentucky and elsewhere.

### STANDARDS-BASED GRADING

Grades have long been identified by those in the measurement community as prime examples of unreliable measurement. Huge differences exist among teachers in the criteria they use when assigning grades. Even in schools where established policies offer guidelines for grading, significant variation remains in individual teachers' grading practices. The unique adaptations teachers use in assigning grades to students with disabilities and English learners make that variation wider still.

These varying grading practices result in part

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from the lack of formal training teachers receive on grading and reporting. Most teachers have scant knowledge of various grading methods, the advantages and shortcomings of each, or the effects of different grading policies on students. As a result, most simply replicate what they experienced as students. Because the nature of these experiences widely vary, so do the grading practices and policies teachers employ. Rarely do these policies and practices reflect those recommended by researchers and aligned with a standards-based approach.

Standards-based approaches to grading and reporting address these grading dilemmas in two important ways. First, they require teachers to base grades on explicit criteria derived from the articulated learning standards. To assign grades, teachers must analyze the meaning of each standard and decide what evidence best reflects achievement of that specific standard. Second, they compel teachers to distinguish product, process, and progress criteria in assigning grades (Guskey, 2006, 2009).

### THE KENTUCKY INITIATIVE

We began our standards-based grading initiative in Kentucky by bringing together educators from three diverse school districts who had been working to develop standards-based report cards, unaware of each other's efforts. District and school leaders, along with teacher leaders from each district were invited to a three-day, summer workshop on standards-based report cards led by researchers with expertise in grading and reporting policies and practices.

The first part of the workshop focused on the unique challenges of standards-based grading, recommended practices in grading and reporting, and methods of applying these practices to students with disabilities and English learners. The second part featured school leaders and teachers working to create two standards-based reporting forms: one for grades K-5, and another for grades 6-12. Both report cards included guidelines for reporting on the achievement of students with disabilities and English learners in a standards-based environment (Jung, 2009; Jung & Guskey, 2010).

### DEVELOPMENT PROCEDURES

Kentucky has adopted the Common Core State Standards Initiative (CCSSO, 2010). So, the first

**SCHOOLS** can implement more effective ways of communicating student learning with little additional work by teachers; parents and community members can be strong supporters of such reforms.



step was reducing the long lists of student learning standards in language arts and mathematics outlined in the Core to between four and six clear and precisely worded “reporting standards” expressed in parent-friendly language. That’s because teachers find it burdensome to keep detailed records for every student on large numbers of distinct standards in each subject area, and parent surveys revealed that more than six standards in a given subject area would only overwhelm them with information (Guskey & Bailey, 2001).

The final “reporting standards” for language arts and mathematics closely resembled the “strands” or “domains” under which the curriculum standards are grouped in the Core. We began with the language arts subdomains of Reading, Writing, Speaking/Listening, and Language. In each of these areas, there can be as many as five individual reporting standards.

In Reading, for example, the possible options for reporting standards include Foundational Skills, Key Ideas and Details, Craft and Structure, Integration of Knowledge and Ideas, and Range of Reading, and Level of Text Complexity. The mathematics strands included Operations and Algebraic Thinking, Number and Operations — Base Ten, Number and Operations — Fractions, Measurement and Data, Geometry, and Mathematical Practices.

Reporting standards for other subjects were developed through a similar process, based on the standard strands set forth by leading national organizations. Specifically, we used standards developed by the National Science Teachers Association (1996), National Council for the Social Studies (2010), Consortium of National Arts Education Associations (1994), National Association for Music Education (1994), and National Association for Sport and Physical Education (2004). Using the broad strands described by these national organizations to develop our reporting standards also meant that minor revisions in particular curriculum standards would not necessitate significant change in the content or format of the report cards.

Another important development step was offering separate grades or marks for “product” criteria related to academic performance, “process” criteria associated with work habits, study skills, responsibility, and behavior, and “progress” criteria that describe learning gain. The report cards also included sections for teacher, parent, and student comments.

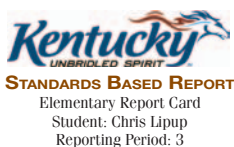
We then built an Internet-based application where teachers could record information on student performance, tally that information to determine grades and marks, and print and distribute report cards. We used open source software that can run on the most basic web infrastructure.

Finally, we made plans to provide all participating schools with face-to-face, online, and telephone support. We scheduled follow-up sessions for each school and provided specific technical support when requested by a school leader or staff member. We also made several presentations to schools’ site-based councils comprising the school principal, teachers and parents.

## REPORT CARD STRUCTURE, FORMAT

Figures 1 and 2 illustrate portions of draft forms of our elementary and secondary Kentucky Standards-based Report Cards. The first page of the each report card includes the student’s photograph, name, address, and grade level, along with information about the school and a statement of the report card’s purpose. The pages in the figures follow and provide the standards-based information

**FIG. 1.**  
**Example of an Elementary Report from the Standards-based Report Pilot**



Standard Marks		Process Marks	
4	Exemplary	++	Consistently
3	Proficient	+	Moderately
2	Progressing	-	Rarely
1	Struggling	N/A	Not Assessed
N/A	Not Assessed		

\*Based on modified standard(s). See Progress Report

### Grade 2 Language Arts – Ms. Bausch

		Process Goals	
Reading	4	Preparation	+
Writing	3	Participation	++
Speaking	2	Homework	+
Listening	3	Cooperation	++
Language	4	Respect	++

#### Description/Comments:

Students have been very busy during the 3rd reporting period working on the following topics: consonants, vowels, and their corresponding sounds; identifying syllables in words; stressed and unstressed syllables; closed syllables, vocabulary development; compound words, antonyms; homophones; synonyms, multiple meaning words; idioms; comprehension skills; main ideas and supporting details; fluency; and reading strategies such as sequencing, cause and effect, and facts and opinions. We also worked on how to answer open-response questions.

Chris is improving with the articulation difficulties that we recently observed. We are coordinating efforts with the speech therapist to continue the progress we’ve made into the next marking period.

### Grade 2 Mathematics – Mr. Reedy

		Process Goals	
Operations and Algebraic Thinking	3	Preparation	-
Numbers and Operations — Base 10	3	Participation	++
Numbers and Operations — Fractions	2	Homework	-
Measurement and Data	2	Cooperation	++
Geometry	N/A	Respect	+
Mathematical Practices	3		

#### Description/Comments:

Over the past nine weeks students have been learning about measurement, probability, and data analysis. They explored their world with the concepts of measurement and used tools and units to measure objects in the classroom and at home. They learned that probability can be fun by using Skittles candies to predict the chance of an event. We also learned about numbers on a spinner and how to describe probability using words such as “impossible,” “likely,” and “not likely.” Students learned when and why to use different types of graphs. They created graphs for specific situations and learned that graphs must have titles, labels, x-axis, y-axis, and scale. We even made a classroom grid to identify ordered pairs.

Chris has had a pretty successful marking period, although homework and preparation continue to be issues. Most of the problems Chris is experiencing with measurement and fractions stem from not practicing enough to build a level of fluency. We will begin the next reporting period with supervised study to see if we can help Chris develop better out-of-class study habits.



about a student's school performance.

We included the names and photographs of each student's teachers to personalize the report cards, and to familiarize families with each child's teachers. The underlying structure of the report card is based on course rosters exported digitally from each school's information system.

### ELEMENTARY REPORT CARDS

The elementary report card figure shows the section devoted to language arts and mathematics. Each subject has specific content strands so teachers can offer separate grades or marks for each. Although this requires teachers to keep more detailed records of student performance, families get more explicit information about a student's learning strengths and areas where a student may be struggling.

To provide more precise information about each reporting standard, teachers and school leaders are working with content-area specialists to develop an online curriculum resource that identifies specific content and skills promoted by the standard and can be accessed anytime by families. This will allow families to learn, for example, which writing skills in language arts were addressed during the first marking period of 2nd grade or what aspects of measurement and data were the focus of math instruction during the second marking period of 4th grade.

Teachers also record marks for Process Goals related to preparation, participation, homework, cooperation, and respect. Families have online access to information about each goal, along with rubrics for determining the marks. For example, the homework rubric states:

**Consistently:** All homework assignments were completed during the marking period with a high level of accuracy.

**Moderately:** Most homework assignments were completed during the marking period with a fair level of accuracy.

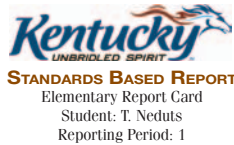
**Rarely:** Numerous homework assignments were missing during the marking period and/or the work was often inaccurate.

These represent the process goals that the development team considered most important at the elementary level. Team members debated long and hard about including "effort" as a process goal, for example, but abandoned it when they could not reach consensus on appropriate criteria for judging "effort."

Many elementary report cards include process

FIG. 2.

### Example of a Secondary Report from the Standards-based Report Pilot



Achievement Grades		Standard Marks		Process Marks	
A	Exemplary	4	Exemplary	++	Consistently
B	Proficient	3	Proficient	+	Moderately
C	Progressing	2	Progressing	-	Rarely
D	Struggling	1	Struggling	N/A	Not Assessed
U	Unsatisfactory	N/A	Not Assessed		

\*Based on modified standard(s). See Progress Report

#### Algebra 1 – Mathematics 200: Mr. Parker

Academic Achievement	C	Process Goals	
Operations with real numbers	4	Participation	++
Linear equations and inequalities	3	Homework	-
Relations and functions	2	Cooperation	++
Polynomials	2	Punctuality	+
Quadratic, cubic, and radical equations	1		
Mathematical reasoning and problem solving	2		

#### Description/Comments:

This reporting period we studied probability, statistics, and the beginning units of Algebra I. We completed units on solving one-variable equations and applying one-variable equations to real world situations. Our next major unit of study will be linear functions. We included the following mathematics standards: measures of central tendency, choosing appropriate graphs, interpreting graphs, misleading statistics, polygons, lines and angles. We will conclude the geometry unit at the beginning of the next quarter. Taylor needs to work on focus and attention during class.

Taylor also had several low assessment scores but chose not to retake them. With improved attention and retaking low assessments, I am sure Taylor's grades will improve rapidly.

#### Biology 1 – Science 205: Mrs. Krall

Academic Achievement	A	Process Goals	
Basis of scientific inquiry	4	Participation	+
Physical, chemical, and cellular basis of life	3	Homework	++
Continuity of life and the changes of organisms over time	2	Cooperation	+
Unity and diversity of life	3	Punctuality	-
Ecological relationships among organisms	4		

#### Description/Comments:

During this quarter we worked on the chemistry foundations for understanding biology. This included the following standards: properties of matter, the Periodic Table, chemical bonding, and balancing chemical equations.

Taylor has done an outstanding job this reporting period. Independent work was very thorough and extremely well done. Taylor grasps ideas very quickly and sometimes moves on without understanding it thoroughly. I was very happy to see Taylor break that habit and really keep on top of the material.

#### Physical Education – Team Sports 200: Mrs. Sandidge

Academic Achievement	B	Process Goals	
Demonstrates competency in motor skills and movement patterns	2	Participation	++
Demonstrates understanding of movement concepts, principles, strategies and tactics	3	Homework	-
Engages regularly in physical activity	2	Cooperation	+
Achieves and maintains a health-enhancing level of physical fitness	2	Punctuality	++
Exhibits responsible personal and social behavior that respects self and others	3		
Values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction	3		

#### Description/Comments:

In this reporting period students were introduced to the basic skills and techniques of basketball. They practiced dribbling, passing, shooting, footwork, rebounding, defense, and combining individual offensive and defensive techniques into play patterns.

Taylor excelled in footwork and defensive positioning, and felt much more comfortable playing defense. Offense was more of a struggle for Taylor, mostly because of a lack of confidence in individual ball-handing skills. We will revisit basketball in the next reporting period. I have given Taylor a set of drills to help develop basic scoring moves that should help enhance that offensive confidence.

goals in sections labeled Work Habits, Study Skills, or Citizenship, and mark these only once on the reporting form. The teachers and school leaders who developed our form strongly believed, however, that families need to know if students behave differently during instruction in different subject areas.

In the final section for Description/Comments, the reporting platform allows for two types of com-

**BY A WIDE MARGIN,**  
families favored the standards-based form over the traditional form.

ments. The first part consists of two or three sentences explaining more precisely the emphasis of instruction during the marking period, adding detail to the online description. The report card of every student in the class includes these sentences. Then teachers can access individual student's records, and add a sentence or two about a particular student's performance. Frequently, teachers offer specific suggestions for helping students.

### SECONDARY REPORT CARDS

The secondary report card in Figure 2 also includes the names and photographs of each student's teachers. We also merged the class schedule program with our reporting program so that courses shown on the report card correspond with student schedules.

Because teachers and parents were reluctant to abandon traditional letter grades completely, the secondary report card includes an academic achievement (product) grade for each subject area or course. This grade is used to determine course credit and to calculate grade point averages (GPA) when necessary. We did not give teachers specific directions about how to construct this achievement grade except to say that it should reflect only academic factors and provide an accurate and defensible representation of what students learned in relation to the established learning standards at that point in the school year. We stressed that the achievement grade must be based on the most current evidence of a student's academic performance and can't include nonacademic factors related to work habits or class behavior.

Below the overall achievement grade are Standard Marks for individual standards established for each course. Similar to the elementary report card, these were derived from standard strands established by leading national organizations in each content area. Families eventually will have online access to the performance rubrics for individual Standard Marks. Our plan is to include examples based on student work with many of the rubrics.

Beside the Standard Marks are Process Goals related to Participation, Cooperation, Homework, and Punctuality. Like the elementary form, the rubrics for determining these marks are available online. Team members were particularly insistent on a separate mark for homework to ensure that teachers don't include it as part of the achievement grade.

Below the grade and marks lies the Description/Comments section where teachers enter descriptions of the specific concepts and skills addressed during

that marking period. The descriptions include general statements for the class and individual comments about each student's performance.

Both elementary and secondary report cards allow the teacher to attach custom-scoring criteria for students who may be working on modified standards. The specific strategies developed to support those modifications can then be described in the Individual Education Program (IEP), English Learner (EL) plan, or intervention plans provided to families.

### PILOT IMPLEMENTATION

Following the summer workshop, the educators returned to their schools and encouraged other teachers to pilot the new report cards. Participating teachers distributed two report cards to families of 2,093 students for each of the first two quarterly (nine-week) marking periods. One was the traditional report card that had been used in previous years; the other was the newly developed standards-based report card.

At mid-year, after the second distribution of the new report cards, we did an online survey with all participating teachers to learn about their experiences, specifically the time and effort required to gather information, complete, and distribute the report cards. At the same time, we surveyed families of all students who received the new report card to learn their impressions. Both surveys included several common items so that we could compare teachers' and parents' perceptions of the quality and clarity of the information included in the report cards.

Overall, 59% of participating teachers and 45% of families completed and returned our surveys. Teachers were nearly unanimous in agreeing that the standards-based reports provided better and clearer information, and that families found them easy to understand. Although they said completing the standards-based report cards required more time, most teachers indicated that the quality of information they could provide made the extra effort worthwhile.

Parents' and guardians' perceptions mirrored those of the teachers. And by a wide margin, families favored the standards-based form over the traditional form.

In their written comments, the parents of a few secondary students said they were concerned about not having a percentage grade to go along with achievement grade and standards marks. One parent said, "I'm not sure what 'Exemplary,' etc. means in terms of where they stand with the rest of the class. I know what a 97% means." Another parent wrote, "I would still like to see a number or percentage (like 97%, 98%, etc.), not just an A, B, or C." Interestingly, every example of a percentage grade offered by a parent was above 95%. No one mentioned, for

example, the importance of knowing the difference between a 75% and 78%.

## FUTURE PLANS

Based on feedback from teachers and parents, we're revising the reporting forms, and enhancing the professional development assistance and technical support offered as we expand implementation. This scaling-up process will take place on three levels. First, several schools in the three pilot districts are using the standards-based report cards school-wide during the 2011-12 school year in place of the traditional report card. Both online support and follow-up sessions will be provided for the staffs of these schools. Second, staff members from other schools in these districts will take part in brief, three-hour training sessions on the new forms, led by teachers already using the forms. These sessions will explain how the new forms were developed, the rationale behind their structure and format, record-keeping procedures, and the available technical support and follow-up assistance. Third, the revised forms will be presented to leadership teams from as many as 20 other Kentucky school districts to solicit their participation in a larger scale, piloting effort. We hope this will provide the basis for statewide

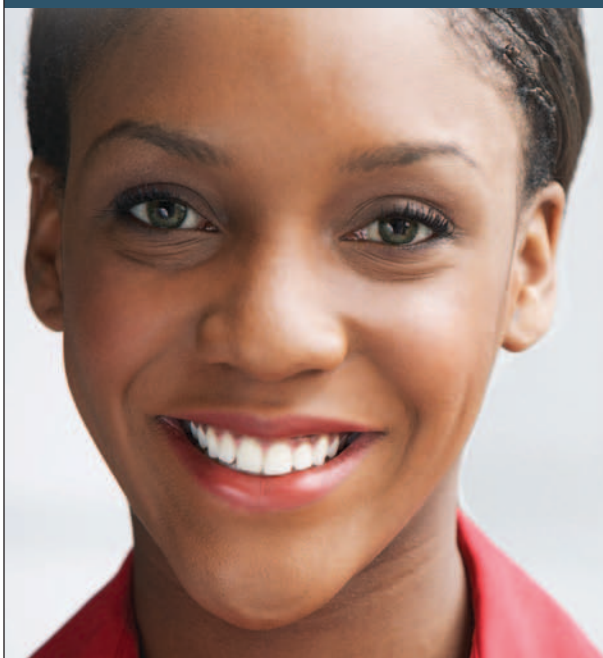
implementation within three to five years.

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