

# The National Teaching & Learning FORUM

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## The Grade Point Average (GPA): An Exercise In Academic Absurdity

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Evaluation of college student performance is a working necessity for most of us who teach college courses, including many who dislike this aspect of the profession. While evaluation methods can vary among and even within institutions, some are widespread, and one of these is the Letter Grade–Grade Point Average (GPA) grading system. After three decades of college teaching, during which I have dutifully utilized letter grades and the GPA system, it is time for the truth. The GPA system, foisted upon so many professors and students in so many colleges for so many years, is unfair, inaccurate, irritating, and unnecessary.

The GPA grading system has certainly always been applied in good faith, so I am neither complaining about my institution nor speaking for it. However, in my opinion the GPA has also been applied by rote, and both a

critique and a better way to gauge student performance are sorely needed. Since evaluation of students has been an important ongoing topic in *The National Teaching and Learning Forum*, my objective here is merely to add to an ongoing critical dialog on this still popular grading system. My arguments and a proposal follow.

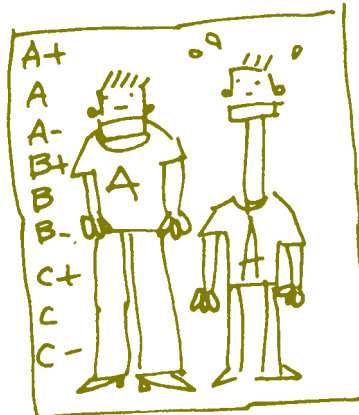
### Grades in Perspective

Like the mechanisms involved in admissions screening and choice of courses, grading is a selective system at the college core, with major impact on students. Beyond determining who earns an academic degree, grades decide academic honors and strongly influence faculty letters of recommendation that are critically important to an undergraduate's future.

Because grades have important consequences, grading systems should be examined periodically to assess their accuracy, fairness, and logic.

### The GPA System: A Quick Review

The letter-grade GPA system is based on the fact that we all find it convenient to lump things, including people (perhaps especially people), into categories. Thus, "A" work is excellent or superior, "B" good or solid, "C" average or



mediocre, “D” bad and below average, and “F” poor and failing. Letter grades are determined either by conversion of numerical percentages from exams and other work, or by direct letter evaluation without first assigning numerical percentages. The “Grade Point Average” or GPA or overview of student performance derives from averaging these grades weighted according to the credit hours involved. As an example, the number of credits in each course is multiplied by the number of “quality points” (QPs), with 4 points for A, 3 for B, 2 for C, 1 for D, and 0 for F. The QP total is then divided by total credits taken, so that  $GPA = \frac{QP \text{ average per credit}}{\text{total credits}}$ . For example, if student X takes 5 courses, with #1, #2, and #3 at 3 credits each, #4 at 2 credits, and #5 at 4 credits, and receives an “A” in each, the  $GPA = \frac{(15 \times 4)}{15} = 4.0$ . If student Y, taking the same courses, gets an “A” in #1-#3, and a “B” in #4 and #5, the  $GPA = \frac{((9 \times 4) + (6 \times 3))}{15} = 3.6$ . And so on.

### Letter Grades: The Pluses and Minuses

My institution voted some years ago to add pluses and minuses to the letter grades, without changing the GPA calculation. Our present letter grades, percentage ranges, and quality points (QPs) are shown in the following table:

Letter Category	Mid % Range	Quality Points	+ % Range	- % Range
A+		4	97.5 - 100	
A	92.5 - 97.4	4		
A -		4		90.0 - 92.4
B+		3	87.5 - 89.9	
B	62.5 - 87.4	3		
B -		3		80.0 - 82.4
C +		2	77.5 - 79.9	
C	72.5 - 77.4	2		
C -		2		70.0 - 72.4
D +		1	67.5 - 69.9	
D	60.0 - 67.4	1		
F		0		

What do these + and - letter grades mean? A+ is truly outstanding, the best of the best. However, A- is just fine with most students, because they realize that they just squeaked past a B+ and still receive 4 QPs. While a B+ certainly looks much better than a B-, it represents an A- near miss, earning only 3 QPs. It is thus agonizing, particularly to pre-professionals vying for medical or law school admission, as the GPA calculates credits x3 rather than x4. And a C+ is equally agonizing, because the respectable B was barely missed. But what of a D+? Not quite so agonizing because the near-missed “C” isn’t very impressive either; the D+ is surely one of the silliest grades ever invented: it announces that, among students who nearly failed, this student is superior! Mercifully, at my institution, no D- grade is permitted.

What about the F category? Since everyone from 0.0% to 59.9% gets 0 QPs, “F” is not really a grade but a label stating that the student is below the minimum acceptable threshold. But is it really fair to give zero quality points to one student who just misses a D with 59.9%, and to another who does no work and gets perhaps 30%? And is it fair to a student who does well in all courses but this one? The F grade is reconsidered below.

### Distorting the Record

Consider students X, Y, and Z once again. Suppose X gets an “A-” in course #1 with 91.0% and  $3 \times 4 = 12$  grade points. Student Y, taking the same course, scores 89.0% for a B+, with grade points  $3 \times 3 = 9$ , and Z scores 81.0% for a B, also 9 grade points. Comparing X and Y, a 2% difference in original course performance has produced a 25% difference in grade points! In other words, the difference between students

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## Editor's Note:

For nearly a decade, we've taken heart from the talk of what it takes to find "the courage to teach." Anticipating his acclaimed book of the same title, the *Forum* ran an article by Parker Palmer called "The Courage to Teach" in our second issue (V1N2, 1991). I think **William Cohen's** frank critique of the "grade point average" or GPA that runs as the cover feature in this issue of the *Forum* continues the tradition of courage that characterizes the best teaching.

Sadly, however, there's still a lot of courage lacking in academe. **Laura Border** reflects on the absence of courage and the effects of that absence in her DEVELOPER'S DIARY which appears this month as supplementary material posted only on the *Forum's* web site ([www.ntlf.com](http://www.ntlf.com)).

The how and why of learning remain endlessly fascinating, and the theories that have unfolded over time to describe learning each capture only a glimpse of the whole. In their reflections on some of the most well-known theories (and their shortcomings) **Patricia Cranton** and **Laurence Robert Cohen** remind us that knowledge has not only layers of complexity and detail, but also layers of meaning and usefulness as well. There is an "emancipatory" element in knowing, and when we remain mindful of the layers in knowledge, we can intensify the effectiveness of our teaching.

Last year, the *Forum* was pleased to run two special supplements reporting on the investigations being carried on by the **Carnegie Foundation for the Advancement of Teaching and Learning**. Our interest in this scholarship continues this year with the first of six articles by **Craig Nelson**, a Carnegie Scholar who's been well-known for his scholarly interest in teaching for a long time. Nelson's first article starts by examining research that began the serious investigation of a fundamental question: "Why is it that bright, hardworking students still often fail?" Although it's been around for several decades, William Perry's findings (and their implications) still have not fully penetrated the community. Hopefully, "Nelson's Notebook" will push them a little farther along.

**R.W. Burniske** from the University of Texas at Austin ponders what "civil literacy" might mean in the age of the Internet. What are the implications for teaching, not just subject matter, but the whole of the student? Bruniske has written a book—*Literacy in the Cybage: Composing Ourselves Online*—exploring the question. This article gives a taste of his ideas on this important subject.

New twists on effective teaching are always welcome, but it may come as a surprise to faculty who've developed aching *sitzfleisch* listening to papers read at academic conferences that asking students to create a conference as their final course projects might be one of them. **Fred A. Bonner, II**, of Bowling Green State University has found, however, that students thrive on the challenge. In "enacting" their knowledge, they take greater possession of it and in having to cooperate with their peers, they begin to learn essential lessons about what it takes to get what you know heard.

Finally, **Linc. Fisch's** AD REM . . . picks up the theme of **Mary Beaudry's** article in the last issue of the *Forum* "How much content is enough?" (V9N4). Like courage and grades and so many other elements, content remains a problematic blessing. Because it has value, we teach it; because there's so much of it, we don't always know what to do with it. But teachers, like embattled doctors, must understand triage.

And so another fall term begins. Good luck to all of us.

— James Rhem

has been grossly magnified, with a difference magnification factor greater than 10X! Yet, comparing students Y and Z, an 8% difference in score has produced absolutely no difference in grade points. Is this logical or fair? Absolutely not, because the ability demonstrated by student Y is much closer to X than to Z.

Given the fact that my college grading system includes one decimal place in the percentage scores (table, above), how close could students X and Y be, and still receive different letter grades? My biology course has 1000 total possible points, 600 from lecture exams, and 400 from laboratory quizzes and reports. Suppose X gets 900 points out of 1000, and Y gets 899. According to my current college grading system, student X receives A-, and student Y a B+. The difference in their performances, 1 point out of 1000 or 0.1%, is utterly trivial, the equivalent of one incorrect guess on a single true-or-false question. Yet, a grading system using quality points records the difference as 25%, with a difference magnification factor of 250X. How absurd!

## Consequences

What effect does such a system have on people? First, students worry excessively about every point lost for fear of a borderline near-miss at semester end. Second, professors are disturbed by excessive student worry, challenged by complaints about points lost, and nagged by conscience when assigning borderline final letter grades. The syndrome can affect final letter grade distribution in a very negative way, because many professors plot final numerical percentages of all students graphically, then look for natural "breaks" in the curve so that borderline grades are minimized. Since a natural break might occur at 86% rather than 90%, the result is grade inflation. Third, recognizing that the system leaves something to be desired, institutions periodically spend

inordinate amounts of time attempting to modify the system to make it more fair. Hence, the most recent vote at my college is to count the + and - in the GPA numerical calculation in the future. What is the significance of adding + and - to letter grades and counting them numerically? This is akin to improving N, S, E, and W compass points: NE is more accurate than just E, and NNE more accurate than NE. So B+ is more accurate than B, and, presumably, B++ even more accurate. By doing this, what we really hope to achieve is letter grades that reflect the original numerical percentage evaluations more accurately. Likewise, NNE really represents only a 1/16th wedge in a 360 degree directional circle, whereas N represents a far less precise 1/4 wedge.

### Is There a Better Way?

Given students X, Y, and Z with 91%, 89%, and 81% respectively, in the same course, what letter grades are really appropriate? None. No letter grade will be as fair and accurate as the original percentage grade. By definition, the percentage grade has at least 100 units of assessment, and it typically has 1000 units by including one decimal place, as in my current system. Thus, the ultimate absurdity: the deserved performance assessments are, of course, simply the original 91%, 89%, and 81% scores.

What happens, then, if the professor never uses numerical percentages, but rather uses letter grades directly on exams and papers? These letter grades should be converted into percentages, using current percentage-letter

grade conversions (table, above) in reverse. Should students receive QPs for these percentages, and would a GPA be calculated? Absolutely not! Fairness demands that there be no QPs and no GPA to magnify student differences. Since we must still take into account the number of credits per course and all courses taken, performance overview should be determined as percentage per credit, or PPC. For example,

**The GPA categories may record a difference of 1 point out of 1000, or 0.1%, as a 25% difference, a magnification factor of 250X. How absurd!**

suppose students X and Y take the same five courses: three 3 credits, one 2 credits, and one 4 credits. Suppose also that student X gets 91% in every course for a 91 PPC, and Y gets 91% in the three 3 credit courses and 89% in the other two for a 90.2 PPC ( $(9 \times 91\%) + (6 \times 89\%) \div 15 = 90.2\%$ ). Both students would thus be in the "A" category using a 90 PPC standard, whereas the traditional GPAs of 4.0 for X and 3.6 for Y are misleading. The situation can be even more ridiculous: if Y received 98% in each 3 credit course, and 89% in the other two, Y's PPC would be 94.4, clearly showing superiority to X. Yet the GPAs remain as before: 4.0 for X and 3.6 for Y.

Now, let's reconsider the F grade, with zero QPs for anything below 60%. Suppose student X takes five 3 credit courses, and gets 79%, 79%, 69%, 69%, and 59%. The PPC will be 71 (classical C category), but the GPA is 1.2 (much closer to D). If Y gets the same grades in the first four, but 30% in the last, the GPA remains 1.2 but the PPC is 65.2, correctly reflecting the difference in level of F performance. One more extreme example to make the point:

suppose student Z takes five 3 credit courses, receives 99% in four, but has one very bad day and gets 59% in the fifth. Clearly, this is a superior student (PPC = 91), but the GPA is a so-so 3.2.

### Conclusion

Some may argue that the GPA is nevertheless acceptable because borderline grades may not make much difference in the long run. But why not just get it right? Why begin the grading process with an accurate numerical evaluation, convert it to a less accurate letter grade, and back again to a still less accurate number? With its potential for producing distortion and unnecessary agonizing, the GPA should be discarded and the PPC, or something better, should take its place. ■■■

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