

On the Control and Reduction of Grade Inflation

by Alexander Stanoyevitch

It is well documented that grade inflation has been steadily on the rise, particularly over the past four decades. Extensive data has been collected that demonstrates recent trends in grade inflation, both in high schools¹, and in colleges and universities². In this paper we restrict our attention to grade inflation and its related problems at the college and university level, although many of the tools and ideas developed here should be useful for the corresponding problems in high schools.

Numerous studies have shown that there is a strong positive correlation between higher grades given by instructors and higher marks on the corresponding student evaluations of teaching.³ These two forces can seriously corrupt and damage the participating institutions as well as the overall educational system. Despite the abundance of compelling evidence about the dangers and long-term effects of grade inflation, the subject tends to be very controversial for an assortment of reasons. It has been convenient for many university chairs and administrators to ignore it. Many different variables can affect the results of student evaluations of teaching. Examples include: class size (larger classes tend to cause lower ratings)⁴, looks of the instructor (physical attractiveness of an instructor tends to increase ratings)⁵, and even the shape of the classroom (deeper rooms tend to decrease ratings compared to wider rooms)⁶. Here we will only be considering the relationships between grades instructors assign and scores they receive on end-of-the semester student evaluations of teaching.

Grades are the currency of exchange that instructors use to motivate students to put in the necessary time to master the concepts and knowledge that are being taught. Coupled with a diploma, good grades have been the passport that college graduates use in their efforts to secure desirable jobs. Much research has been focused on both the steady rise in grades that are assigned at universities, and in the strong positive correlation between grades that instructors assign and the level of the student evaluations of teaching. Very little work seems to have been done, however, in developing strategies to resolve this and other problems associated with grade inflation. The purpose of this paper is to provide

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some practical tools and ideas to help mitigate grade inflation and its negative effects. In order to motivate these ideas, we first discuss some of the possible causes of grade inflation, some of the major negative consequences of it, and some of the reasons why instructors are enabled (and often encouraged) by the system to engage in this practice.

Grade inflation has become widespread and affects schools whose reputations run across the spectrum. Even Harvard has had serious problems with grade inflation, where in the late 1990s it was found that 25% of the grades given there were A's and another 25% were A-'s.⁷ We first outline a few of the major reasons how grade inflation can corrupt and damage both the participating institution as well as the education system in general.

What is wrong with grade inflation?

1. An inherent problem with inflated grades is that they give very little information about the levels of mastery in the subject. For example, suppose that a certain company desires to recruit a college graduate with an impeccable scholastic background. If the company is presented with school records of non-inflated grades (e.g., Figure 1a), then it could narrow its search down to a few qualified candidates. If, however, it is considering applicants who received inflated grades (e.g., Figure 1b), then the grades alone might simply cut the number of applicants in half, a group that would be populated by mostly mediocre candidates. By extension, grade inflation enables students to complete classes and obtain diplomas and enter into jobs for which they are not adequately qualified. Although such students may consider themselves fortunate, society as whole will pay the price. For example, when it allows a poorly qualified teacher to enter into the education system for perhaps 40 years of teaching. There is one aspect of student performance about which inflated grades can give more information than noninflated grades: They make it easy to discern various degrees of poor performance (since the C, D, and F grades are relatively sparsely populated); but such determinations are often of much lesser importance.⁸

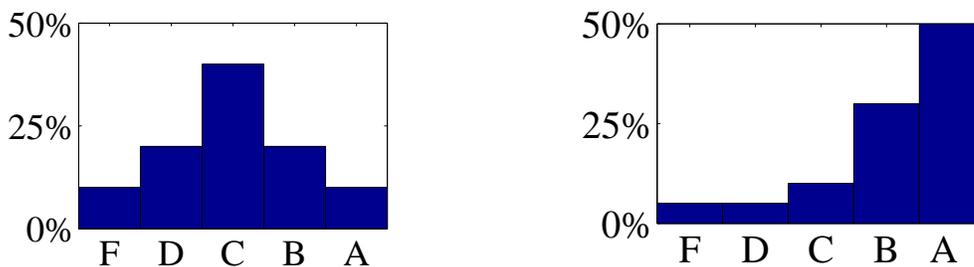


FIGURE 1: (a) (left) A histogram of grades that are essentially normally distributed (uninflated); (b) (right) A histogram of grades that is skewed to the left (inflated).

2. Another serious problem with grade inflation arises from the fact that it tends to deteriorate the work ethic of students who experience it. Since grades were conceived to be an unbiased measure of student success, undeserved higher grades tend to give the signal to students that they do not need to work so hard, and this attitude can easily carry over into subsequent classes, and later into the workforce. With courses where prerequisites are important (such as in the sciences) this can become a double edged sword: If, say, Course 123 is a prerequisite to Course 234, and a certain student who has

received (an inflated grade of an) A or B in Course 123 enters into Course 234, then he/she will have a false confidence of mastery and an unrealistic expectation of the workload needed for Course 234. The effect is compounded if the instructor in Course 234 does not practice grade inflation. The latter instructor will become acutely aware that this student is neither ready with the prerequisites nor possesses a realistic idea of the sort of work required to do well in Course 234. In many such cases, the student will not be able to pass the latter course. Moreover, such poorly prepared students tend to affect the chemistry of the whole class by eating up class time asking inappropriate questions stemming from their ill preparedness. A natural defense mechanism for these “victimized” students is that they will blame the instructor of Course 234 for either being too hard, too uncaring, or worse, ineffective. On the other hand, students who enter into Course 234 having had a more realistically demanding instructor in Course 123 will possess the skills they need and know the sort of work that will be required to succeed in Course 234. They will usually have a stronger work ethic and contribute to the class with active and positive participation. In summary, the chemistry and work ethic of a given Course 234 class can be significantly affected by the fashion in which the Course 123 classes were conducted, with grading schemes playing a pivotal role.⁹

3. A final problem with grade inflation is the longer-term effect it will have on the academic standing of the schools that practice it, eventually producing a degradation in reputation. Once a school engages in grade inflation, the value of a 4.0 GPA, even from a reputable school, will no longer carry the same weight as it once did, or should. Grade inflation at less reputable schools could eventually earn them classifications as *degree mills*, at which point their graduates would become much less marketable.

Why does grade inflation exist and continue to grow?

1. As discussed earlier, numerous studies have proved that high grade distributions are positively correlated with higher marks on student evaluations of teaching. In most schools, summaries of these teaching evaluations often play a major roll in assessing teaching effectiveness when it comes time for administrators and senior department members to make decisions on contract renewals, promotions, tenure, and even teaching awards. Moreover, teachers who practice grade inflation are quickly recognized by students. Word spreads around since many students (both strong and weak) tend to gravitate to easy graders over hard graders. This, in turn, causes the class sizes of easier graders to fill up more quickly, which tends to be appreciated by school administrators (especially in harder economic times).¹⁰ In some systems, this can even result in the instructors who grade honestly not having large enough numbers of students in their classes to earn full pay. Thus, both job and financial security benefits are more readily obtainable to instructors who practice grade inflation. These matters are particularly exasperated by the concurrent rise in the percentages of part-time faculty, whose job security and compensation can vary by semester: In the United States, the percentage of part-time faculty in higher education had risen from about 22% in the early 1970s to a staggering 46% in the late 1990s,¹¹ and it continues to be the fastest growing group in college/university faculty.

2. Another reason is convenience. Time is a very precious commodity for many university academicians. Inflating grades tends to minimize student complaints and worries, and it allows instructors to avoid having to get into unnecessary inane

conversations with students who need to know things like: “how well do I need to do on the final (or the rest of the semester) in order to pass the class?”, or, “is there an extra credit project you can give me to make up for the exams and quizzes that I failed so that I can pass the class?” For administrators it is also frequently convenient to ignore grade inflation, especially if the participating instructors are attracting large class sizes, and are receiving strong student evaluations of their teaching, as opposed to having to spend time dealing with concerns and complaints from students of professors who grade with more integrity. Also, in hard economic times there is often tremendous pressure on deans and department chairs to increase student enrollments in their courses. Inflated grades are one way to increase enrollments in classes; some instructors and even whole departments use them as incentives to bolster enrollments.

3. Inflated grades tend to improve the rapport that instructors have with students. Students tend to be more friendly and chatty with instructors who have passed them or gave them high grades than those who failed them or gave them average or lower grades. Students will often postpone taking certain courses until they are being taught by easier graders. Often, instructors who do not inflate grades wind up with students who are all set up to graduate (having no more time to wait for an easier grader, they are forced to take such a class). Invariably, many of these students will find towards the end of the semester that they are not passing this class, and try to use their impending graduation as an excuse for the instructor to pass them. Of course, graduation status has nothing to do with a student meeting his or her learning objectives, and should not enter into instructor’s grading schemes.

We are now ready to tackle the principal question of the paper:

What can be done to control grade inflation and mitigate its negative effects?

1. (*For Grade Inflation Across Departments*) Grade distributions tend to vary greatly by departments even within a given university. Such irregularities can easily be detected by computing the mean GPA of each department at a school, and making the results known among all faculty and administrators, so that the various departments and deans can begin to address any discrepancies. Oftentimes, the motivations for consistently higher grades in certain departments tend to stem from either the course work being less demanding than that in other departments, or simply using the lure of better grades (news of which quickly spreads among students) to improve enrollments in participating departments, which in turn can give such departments more resources or greater allocations of university-wide budgets. Ideally, a student who puts an equal amount of effort into two different classes at similar levels (for which he/she had equally sufficient preparation and background) should receive the close to equal grades in both. Making grade discrepancies known is one first step. Faculty and administrators (both in the departments with prevalent grade inflation, and in those without it) could enter into discussions on how to determine the reasons for any unusually high departmental GPAs, and to better close the cross-departmental gaps in grade distributions. Such discussions are much easier to facilitate and motivate if this simple summary GPA data is available. In order for this to be effective, the supervising administrators need to become aware that there is a problem and be committed to mitigating it.

2. (*For Grade Inflation Within Departments*) While the preceding item dealt with grade inflation at the macro level, the present one deals with it at a more micro level: either within a particular department or in a division of similar departments. Ample attention and feedback is customarily provided at most schools to instructors (and their evaluators) on their performance on the end-of-semester student evaluations of teaching. Such scores are often summarized numerically, with indicators on how the instructor rates in comparison to department or division averages in key questions, such as “Is the instructor an effective teacher?” It would be prudent to also include key statistics on the instructor’s grade distributions, such as mean GPA and a summary histogram of the instructor’s recently assigned grades, printed alongside the department average (for similar courses). In this way, just as instructors are evaluated and (if needed) perhaps advised to attend to improving their teaching, based on feedback from the teaching evaluations, instructors whose grades deviate too significantly from departmental averages should be made aware and asked to either justify the discrepancies or to adjust their grading schemes accordingly in the future. Furthermore, these GPA summaries should be included alongside the teaching evaluation summaries to help prevent inflated grades from confounding assessments of teaching effectiveness. Equally important, such practices could help to avoid some of the more damaging consequences of grade inflation that have been mentioned above. We have put together an easy-to-use tool that is intended to be used by university administrators and department chairs to create such summaries in a convenient fashion.¹² Figure 2 shows such a summary (produced by our program) for a grade inflating instructor (left), alongside with the corresponding department averages (right), and below it the corresponding two histograms.

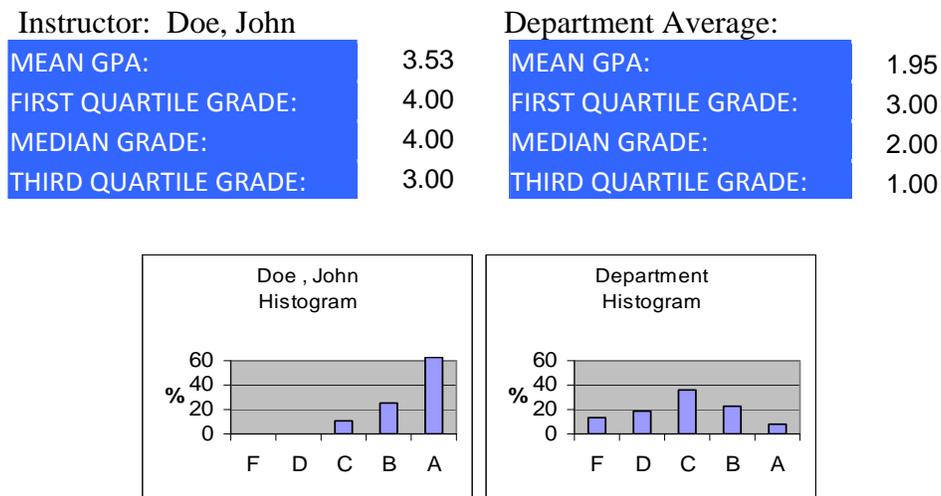


FIGURE 2: A sample summary output and histogram from the author’s Excel program of the grade distribution of a hypothetical grade inflating instructor, John Doe (left), alongside the corresponding departmental averages for similar courses (right).

As demonstrated in Figure 2, it is clear that this individual instructor (John Doe) has grade distributions much higher than the departmental averages. Such distributions are alarming and should be addressed as soon as possible. Moreover, if Professor Doe were

to receive rave reviews from his students (either in or outside his teaching evaluations) these should be viewed with caution when it comes to assessing his teaching effectiveness. We point out that such GPA summaries and histograms should be compiled with courses of similar sizes and levels. For example, introductory classes with large numbers of students should be summarized separately from smaller upper-level classes. The quality of commitment and maturity of the students are often quite different at such levels, and furthermore, mixing large classes and small would give the larger classes an inordinate amount of influence over significantly smaller classes when the averages are computed.

3. (*Alternative Ways to Assess Teacher Effectiveness and a Few Closing Caveats*) While universities tend to put an inordinate amount of weight on the results of student evaluations of teaching, a truly objective measure of teaching effectiveness would be an the answer to the following question: *Did the students learn what they were supposed to learn?* It is an unfortunate development that in many schools, an instructor's *success rate* is defined to be the percentage of students who pass his/her classes (taken from the total number of students who register). This statistic is entirely susceptible to grade inflation, and by virtue of its very name (and importance), seems to encourage instructors to succumb to the lure of inflating grades.

In departments where the courses are structured with prerequisites, one simple and very effective way to track both an instructor's effectiveness in teaching that can also be used to help to detect grade inflation is the following: All of the students of a given instructor are tracked in the subsequent course (in the subject sequence for which the instructor's course is a prerequisite), and the grades in the subsequent course are compared with the corresponding grades that the instructor gave the students. If there are consistent and substantial drops in GPAs, this should be a red flag that could indicate either the instructor is inflating grades, or is not an effective teacher (or both). Conversely, if the GPA goes up substantially, this could mean that the instructor is a hard grader, or is a very effective teacher (or both). In order for this scheme to be practical, the department should be at least of moderate size (say, at least 10 faculty members).

One excellent method of controlling standards in certain classes is in the use of uniform (final) exams. If used properly, these can provide an unbiased yardstick to measure and compare the effectiveness of instructors who are teaching a given course in a given term. In order to be effective, the following basic guidelines need to be adhered to:

- (i) The exams should be administered at the same time for all classes, and kept confidential from the instructors until just before they are to be administered.
- (ii) They should be made up by a course coordinator who is ideally either a senior faculty member, or someone who is not teaching the course in the term he/she is coordinating it.
- (iii) Previous term versions of the exams should be made readily available to all students (and instructors) to put everyone on an equal playing field, and to help motivate the creation of fresh exams each term.

With such a system in place the summary statistics of the exam scores for each instructor can provide a very useful metric for measuring teaching effectiveness. Systems that do not follow all of these guidelines, however, are susceptible to manipulations that may corrupt this metric. If instructors are made aware of some of the specific items or questions on (or not covered on) the exams, some may convey some of this information to their students to inflate their students' performance on the exam.

Lately there seems to be a large number of instructors at many schools who provide their students with "study guides" for major examinations. I was quite puzzled a few years ago the first time I was aggressively and repeatedly asked by some my students in one of my introductory mathematics classes if I could provide a "study guide" for the final exam. I soon found out why from some of my other students: Many instructors actually provide students with "study guides" for their final exams that are nearly exact copies of the actual exam! It was quite a shock for me to learn about this—yet another subterfuge for grade inflation.

Another practice that needs to be curtailed is when some instructors offer "extra credit on demand" to students who are in danger of failing their class. Oftentimes the "extra credit projects" involve superficial projects that can be completed in much less time than it would take to actually master to course objectives. Both this and the previous "study guide" practice, apart from inflating grades, seem also to be fueled by the fact that student teaching evaluations carry so much weight in teaching assessments for many schools. Indeed, some instructors would prefer not to risk alienating students by rejecting their requests, no matter how unreasonable such a request might be.

In summary, we hope that the above arguments have demonstrated the urgency of the need to address the many serious problems stemming from grade inflation and, in particular, when it is compounded by a heavy reliance on student evaluations of teaching to gauge teacher effectiveness. The tools that are proposed here should be useful to any school or particular department that wishes to mitigate these problems, and help to bring more integrity back to education. The United States still has the finest higher education system in the world, and if we would like to pass this legacy on to future generations, we must control the cancerous spread of grade inflation, and repair the facets of the system that encourage it.

ENDNOTES:

¹ For example, a 2004 report from ACT, a nonprofit organization that organizes and maintains one of the two main college entrance exams used in the United States, performed a careful analysis showing that high school GPAs increased about 0.23 (on average) in the 13 year period from 1991 to 2003 without a concomitant increase in GPA. Its report is publicly available from the URL: http://www.act.org/research/researchers/reports/pdf/ACT_RR2004-4.pdf

² The webpage <http://www.gradeinflation.com/> contains nice statistical displays from 80 major colleges and universities (both public and private) that demonstrate the steady rise in grade point averages over the 11 year period from 1991-2001.

³ The book: *Grade Inflation, A Crisis in College Education*, by Valen E. Johnson (New York, Springer-Verlag, 2003) outlines numerous statistical studies (both observational and experimental) on the correlation of GPA and student teaching evaluation scores.

⁴ The classical reference is *Class size and student evaluations of faculty*, by Kenneth Wood, Arnold S. Linsky, and Murray A. Straus, in *The Journal of Higher Education*, vol. 45, no. 7, pp. 524-534 (1974). A more recent study is summarized in *Class size and student evaluations in Sweden*, by Joakim Westerlund, in *Education Economics*, vol. 16, Issue 1, pp. 19-28 (2008).

⁵ See *Beauty in the classroom: Instructors' pulchritude and putative pedagogical productivity*, by Daniel S. Hamermesh, and Amy Parker, in *Economics of Education Review*, vol. 24, issue 4, pp. 369-376 (2005).

⁶ See *Does the distance from the teacher influence student evaluations?*, by Alan M. Safer, et. al, in *Educational Research Quarterly*, vol. 28, issue 3, pp. 28-35 (2005)

⁷ See the following article by Harvard Professor Harvey Mansfield: *Grade Inflation: It's Time to Face the Facts*, in *The Chronicle Review*, April 2001, published by the Chronicle of Higher Education. Mansfield has been a long-time activist working to get university professors and administrators to recognize the problems of grade inflation. While it remains a problem at Harvard, Mansfield has adopted the practice of assigning two grades to each of his students: the official grade (that goes on the transcript) inflated to conform with Harvard's distribution, and the unofficial grade, which is the true grade that the student earns.

⁸ Due in no small part to the trends in growing grade inflation, many schools no longer allow grades of C- or lower to count for credit in many of their courses, and in others it is not even possible to assign a grade of C- or lower (it would simply be an F). Both of these conventions occur, for example, within the California State University system, which is the largest university system in the United States. The grade of a C traditionally was conceived to be an average grade, and conventions like this are doing away with the important distinctions between students who would have traditionally earned either a C-, or a D, as opposed to an F. This seems to demote the status of a C to mean "Catastrophic" (borderline failure).

⁹ In one example from the author's experience, a certain instructor had won university awards for excellence in teaching. The students of this instructor gave rave reviews and several of whom lamented about not having been previously able to pass this course with other "poor" instructors. This instructor simply refused to give any grade less than a C to any student. Many colleagues (who had realistic standards) actively refused to teach the subsequent course the semester directly after this "outstanding" instructor taught a certain core course. Most of the students who came out of this "outstanding" instructor's class would simply not be adequately prepared for the next course.

¹⁰ Private schools, whose economic viability depends primarily on tuition revenue, are naturally more susceptible to institutional pressure on instructors to inflate grades. These pressures can sometimes be quite direct. The author was once told (directly from the instructor) of a certain private university where a dean had approached a newly hired part-time instructor and told him something to the effect that: "Here, we tend not to want to fail students; if you would like to stay with us, it would be a good idea for you to remember this."

¹¹ *Part-time faculty in colleges and universities: trends and challenges in a turbulent environment*, by Kenneth H. Charfauros, and William G. Tierney, *Educational Assessment, Evaluation, and Accountability*, vol. 13, no. 2 pp. 141-151 (1999)

¹² The program was created in the publicly available Microsoft® Excel format and can be downloaded from the following URL: <http://www.csudh.edu/math/astanoyevitch/GradeInflation.html> To facilitate ease of use, even for people unfamiliar with Excel, macros have been installed that guide the user through the data entry process, and so the alphabetizing, organizing, and histograms are produced automatically. Complete instructions are given on the worksheet.