

CLASS RANK, GPA, AND VALEDICTORIANS: HOW HIGH SCHOOLS RANK STUDENTS

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ABSTRACT

This paper presents survey data concerning the procedure for determining Class Rank and Valedictorian status at 232 of the 500 largest public high school districts in the United States. These data are analyzed to consider whether or not districts are currently employing methodologies that provide students with appropriate incentives and provide colleges with appropriate information. In summary, the majority of high schools (in the sample) place additional weight on advanced placement and, at times, honors courses. However, this is typically done using methods that have flaws including inequitable premiums, rewarding students for doing less, and confusing and conflicting information. The findings of this survey suggest that current State-based 'percent-plans' or other guaranteed admissions programs may not be targeting the intended students.

INTRODUCTION AND LITERATURE REVIEW

Competitive colleges throughout the United States routinely indicate that along with courses completed and test scores, Class Rank and grade point average (GPA) are among the top four determinants of whether or not a student will be accepted for admission. Yet despite the importance of Class Rank to this process, there is no agreed upon procedure that high schools use. There is no standard ranking procedure. This situation has been well-documented in newspapers but mostly ignored by researchers. Allhoff (2003), Goldman (2003), Guerrero (2000), Hacken (2003),

Marklein (2003), McKay (1997), McMenamin (2003), and Sultan (2001) each discuss Class Rank and GPA calculation relating to a specific, often very local, situation. Some high schools use an Unweighted GPA while others apply different weights to classes of varying difficulty. In addition, some schools include all courses taken when making this calculation while others eliminate courses like physical education and driver's education.

There are equally varied methods of determining the school Valedictorian. In many high schools, the Valedictorian is the student who is ranked first in their graduating class. However, some high schools intentionally avoid determining the Class Rank of their students and report deciles instead. In other schools, as many as 40 or 50 students have been selected Valedictorian for a graduating class – due to ties in the ranking procedure, for example. Each of these methods has flaws. Some researchers suggest that it is not possible to create a procedure that would be fair and equitable for the students. Vickers (2000) goes a step further by suggesting that GPA calculations “cannot consistently determine class rank since class rank is sometimes permuted with arbitrary change of scale.”

This article presents and analyzes the procedures used in a sample of 232 of the largest school districts in the United States. It also discusses the flaws inherent in many of these systems. Often, there are incentives for students to enroll in less rigorous classes than they should or to avoid taking an additional class due to its potentially detrimental effect on their class ranking. The main finding is that the vast majority of districts use flawed procedures, suggesting that the robustness of Class Rank is questionable. This result is becoming especially problematic with the recent rise in states using and developing the so-called “Percent Plans” where students in the top X percentile in their graduating class are guaranteed acceptance to a state college or university. The research also suggests a new methodology that eliminates many of these flaws. Lang (1997) proposes a Class Rank Index, for example, whereby a student's entire portfolio of coursework is taken into consideration to adjust for the ease or difficulty of courses completed.

Despite extensive research focused on incentives, there has been little research completed on the effect of grading procedure on the behavior of students. Betts and Grogger (2003) analyze the effect of higher grading standards. They provide empirical evidence that suggests that higher grading standards may, in fact, help raise test scores. The effect is much more pronounced at the upper tail of the test score distribution. Further,

they find no effect of higher grading standards on graduation rate and negative effect for Blacks and Hispanics. They suggest that their results are consistent with a “relative performance hypothesis” where students measure their academic success relative to their peers. Felton and Koper (2005) develop a technique for adjusting GPA for the potential grade inflation in certain college courses. The authors suggest that without such adjustment, the incentives and implications on student behavior is very clear – take easier courses. This essay furthers this literature by considering the rank procedure itself as an incentive mechanism for students.

There is a very topical concern regarding Class Rank as three of the four largest states (California, Texas, and Florida) in the United States have recently begun using Percent Plans for college admissions. There have also been attempts by other states including Pennsylvania and Colorado, but they are not in place yet. Each of these plans was developed in response to the state’s recent removal of affirmative action policies previously used in the admissions process. The idea is that by guaranteeing that the top X percent of each high school graduating class can attend a state university, policymakers can insure that poor, highly-segregated high schools will continue to be represented in new college classes. Each state’s Percent Plan has its own idiosyncrasies. The following is a summary of these plans. For a more complete analysis and discussion of the differences and similarities of these plans, see Horn & Flores (2003) and Shushok (2001).

In California, the top four percent of graduating high school students are guaranteed automatic admission to the University of California (UC) system, but not to a specific institution. The policy goes by the name “Eligibility in a Local Context” (ELC). Recently, there has been some evidence to suggest that the vast majority of ELC students would have been admitted to a UC school before the implementation of this policy. In addition, there is some indication that there is a “cascading” of minority students to less selective campuses. Hebel (2003) discusses this effect in detail. The policy in Florida guarantees admission for the top 20 percent of high school graduates from each school, although like California, the admission is to the system at large and not to a specific institution. In Texas, the policy is to guarantee admission to the top 10 percent of graduates to the student’s choice of a public Texas university. Fischer (2005) points out, however, that at least a dozen bills have been introduced to try to either change or repeal the Texas plan due to the potential crowding out of other qualified students. What all of these plans have in common is the use of Class Rank as a measure of student assessment and readiness to

handle the challenges and vigor of a college curriculum. Any further analysis of the equity and/or effectiveness of the Percent Plans is beyond the scope of this paper. The essential point here is that Class Rank has become an increasingly important measure.

There are very few restrictions on how school districts in these states can assign grades, compute GPA and Class Rank, and determine Valedictorians. Texas has no restrictions whatsoever. In Florida, schools are required to equate a performance of 90-100 percent in a class with a grade of 'A', 80-89 percent with a grade of 'B', and so on. Further, an 'A' is given 4 grade points and a 'B' is given 3 grade points, and so on. However, statute 1003.437 says, "For the purposes of class ranking, district school boards may exercise a weighted grading system" (The Florida Statutes, n.d.). In California, Education Code 51220.3 attempts to standardize all high schools to the same procedure. The problem is that in addition to the procedure being very flawed, this standardization does not allow individual districts to provide incentives in a manner that will reflect their own values and educational goals. In addition, there are many students who attend California high schools but who seek admission to a private college, university, or a public university in another state. These students are bound by this GPA procedure as well.

METHODOLOGY

In order to examine the procedure's use in determining Class Rank in American high schools, I conducted an email survey with follow-up phone calls of the 500 largest school districts in the United States as of 2000. These 500 school districts comprise only 3% of the total districts in America. However, these districts are large and their approximately 30,000 schools serve over 20 million students. They represent 32% and 43% of the total number of schools and students, respectively (U. S. Department of Education, National Center for Education Statistics, 2001).

Two-hundred-twenty-three of these districts replied to at least one of the survey questions. The respondents are not a representative sample of the 500 districts. Those school districts with easy-to-navigate websites and available administrator email addresses were much easier to contact and responded at a much higher rate. A comprehensive survey of all public school districts in the United States may have different results than those that follow. A recent article suggests that district size may have a negative effect on student performance as measured by test scores (Driscoll, Halcoussis, & Svorny, (2003). However, this author contends that the addition of the non-respondents to this data would only affect the magni-

tudes presented and not the concluding points. An informal survey of smaller school districts yielded very similar results.

An email was sent to all school board members, superintendents, and associate superintendents whose email address was readily available for each of these 500 school districts (See Appendix).

By leaving the request very broad, I was able to capture as much information as possible from school districts. In many cases, the districts were able to provide me with written documentation explaining their procedures concerning class rank and GPA calculation. Other times, they wrote out their procedures in an email correspondence. In very few cases was a follow-up email required for clarification.

FINDINGS

Two-hundred fourteen school districts responded to a question regarding how they determined Class Rank for their graduating high school students. Table 1 illustrates their responses. Almost 80% of the respondents apply some type of additional weight to advanced placement and/or honors courses in order to determine Class Rank. An additional 5% uses some type of a dual system of Class Rank where both a weighted version and an unweighted version are considered. Five of the districts reported that they do not compute Class Rank in any of its forms. It is important to understand what is meant by an "Unweighted GPA." This simplest form of a grade point average is the well-known system of equating every grade of "A" on a student's transcript with 4 grade points, a "B" with 3 points, a "C" with 2 points, and a "D" with 1 point. Then, all points are added up and divided by the total number of classes to obtain a GPA.

Table 2 displays the 182 districts that answered a question regarding how the class Valedictorian is determined. A large number of the districts

Table 1: Summary Data of Class Rank Determination

	Number of Districts	Percent of Respondents
Determined using Weights	171	79.9%
Determined without Weights	27	12.6%
Determined both with and without weights	11	5.1%
No Class Rank is Determined	5	2.3%
Total	214	100%

Table 2: Summary Data of Valedictorian Determination		
	Number of Districts	Percent of Respondents
Determined using Weights	120	65.9%
Determined without Weights	12	6.6%
Determined both with and without weights	10	5.5%
Other procedure/related award	20	11.0%
No Valedictorian is Determined	20	11.0%
Total	182	100%

that did not answer this question could not because the policy was not established at the district level, but rather at the school level and therefore this policy may vary from school to school within a district. Of the respondents, roughly two-thirds indicated that they weighted advanced placement and/or honors courses in their determination of class Valedictorian. Twenty-two percent either did not have a Valedictorian or had other awards that they use like an award for those who had a Weighted GPA above some threshold, for example.

Table 3 shows summary data for the 198 school districts that answered a question regarding the actual weight procedure that is used in determining Class Rank and/or Valedictorian. 12.6% indicated that they did not use weights for any purposes. The vast majority (71.7%) used some type of Bonus Point procedure. This procedure involves augmenting the grade points received for an "A," "B," and so on, in specific courses prior to summing the grade points. These 'specific courses' usually include some combination of Advanced Placement courses, IB courses, and/or Honors courses. This is followed by dividing the total grade points by the number of classes to obtain a weighted average. There are several alternate versions of the Bonus Point method. In most popular, "GPA(+)," is the Bonus Point is added to the unweighted grade points. For example, a grade of "A" is worth 5 grade points, a grade of "B" is worth 4 points, and so on.

There is only additional weight for grades of "A," "B," and "C" in most cases. Sometimes districts prefer to also give weight for a grade of "D." Also, some districts will only include certain courses in the calculation. Again, there are countless variations of the inclusions and exclu-

Table 3: Summary Data of Weight Procedure

	Number of Districts	Percent of Respondents
Bonus Point Method	142	71.7%
- GPA (+)	107	54.0%
- GPA (x)	6	3.0%
- GPA (other)	5	2.5%
- Percentages (+)	17	8.6%
- Percentages (x)	7	3.5%
Unweighted GPA Plus	18	9.1%
Rank Point Method	11	5.6%
Other Weighting	2	1.0%
No Weights are used	25	12.6%
Total	198	100%

sions. Many schools exclude Physical Education course, for example. Others only use courses from 10th-12th grade. In many California districts, only a specific list of UC approved courses are included in the calculation. The "GPA(x)" method is similar except that now the bonus is multiplied to the unweighted grade points rather than added. For example, a district may have the following scale:

A = 5.00 grade points, B = 3.75 grade points, C = 2.50 grade points, D = 1.25 grade points, F = 0.00 grade points.

Here the original grade points are multiplied by a factor of 1.25 rather than simply adding 1 point like in the "GPA(+)" method. The "Percentages(+)" and "Percentages(x)" methods are identical to these except that these districts do not calculate GPA on the traditional 4-point scale, but rather keep a running average of the students' percent correct in their courses. In other words, a student may have a 93% unweighted grade average across all courses. For the "Percentages(+)" method, between 5-10 points were added to the raw averages in advanced placement and/or honors courses before averaging took place. Like with the previous methods, there are several variations.

Besides the Bonus Point Method, the next most popular procedure is the "Unweighted GPA Plus" method (9.1%). With this method, the additional weight for advanced placement and/or honors courses is added to the student's Unweighted GPA after its typical calculation. For example, a student may receive an extra .025 added on to their GPA for every honors course completed with a grade of 'B' or higher. There are 18 districts that reported using this type of procedure and almost 18 different formulae, so there is no consensus method within this category.

5.6% of the respondents indicated that they use the 'Rank Point' method. This method is used only in districts that use percentages rather than GPA. A district using this method establishes a system that converts a percentage grade in a certain class into a number of rank points. These points are then added up to determine Class Rank. Schools using the 'Rank Point' method generally do not use this system for anything other than the determination of students' Class Rank.

DISCUSSION

Unfortunately, the procedures used at most of the districts are all flawed. I will discuss the problems inherent in these systems one at a time. First, I will consider using Unweighted GPA in the determination of Class Rank and/or Valedictorian. The problem with this method is that students have no incentive to take more challenging classes. Students in these school districts may opt into easier classes in order to make sure that they receive an "A" and the 4 grade points that accompany it. Those who support this procedure suggest that students should not need extrinsic motivation to take more challenging courses. However, this is a difficult argument to make. Students, after all, are like most other people – they try to maximize their benefits at a minimum cost (in this case, effort level). Additionally, high schools that choose a Valedictorian under this method often find that there are many students that have maintained a straight-"A", 4.0 GPA. In these circumstances, Class Rank and the Valedictory award tend to have little value. Some schools report that as many as 30 students have been named co-Valedictorians and are all tied with a Class Rank of 1st.

As indicated in the previous section, the Bonus Point Method is the most widely used weighting procedure. What all versions of the Bonus Point Method have in common is that they contain incentives that are contrary to what is commonly believed to be sound educational philosophy. Top students in high schools using these systems may avoid taking additional courses because they know that this may lead to a drop in their

Class Rank and potential status as Valedictorian. To understand this, consider the following example. Suppose the system in place is the most common method from the data where an additional grade point is awarded to each grade of 'C' or higher in advanced placement and honors courses. Suppose further that there are two students who have each taken 12 regular and 4 honors courses and have received a grade of 'A' in each of these courses. The students being identical in courses and grades, they would each have Weighted GPAs of $[(12 \times 4) + (4 \times 5)]/16 = 4.25$ and would therefore have the same Class Rank. Let's assume that these students are tied for 1st in their graduating class.

Now, consider what would happen if one of these two students, Student 1, decides to take an additional non-honors course, i.e., driver's education, newspaper, art, etc., and receives an 'A' in this course as well. This student would now have a Weighted GPA of $[(13 \times 4) + (4 \times 5)]/17 = 4.235$ and would, therefore, be ranked lower than Student 2 who chose not to take the additional course. In other words, under this procedure, students may be rewarded for doing less. This same problem occurs in most of the Bonus Point methods, whether GPA or percentages are used. In order to try to work around this problem, a few districts have capped the number of weighted and unweighted courses that can count toward a student's GPA. The obvious problem here is that the GPA and Class Rank are no longer a true reflection of the student's complete academic portfolio. A student may choose to put forth exceedingly little effort if they no that their grade in the course will not enter into the calculation.

A second problem occurs in both the "GPA(+)" and "Percentages(+)" methods. By adding an additional grade point regardless of grade obtained, there is more of an incentive for less-able students to take weighted classes than there is for top students. For example, a student who achieved an 'A' in a weighted class and receives 5 grade points rather than 4, those students are actually receiving a 25% premium on their grades. However, if we consider a grade of 'B', the grade points awarded are 4 rather than 3. This is a 33% premium. Thus, students are receiving different incentives for enrolling in exactly the same course. The "GPA(x)" and "Percentages(x)" methods eliminate this problem.

The "Unweighted GPA Plus" procedure attempts to address the main problem of the Bonus Point Method by adding the weight on to the student's Unweighted GPA after it is calculated. With this method, a student's Weighted GPA and therefore, Class Rank would not be negatively impacted by the addition of an 'A' in an unweighted course. However, the student may not benefit from this additional course either.

Arguably, a student who is taking an additional course is completing a more challenging semester than his/her counterpart and should be rewarded. Also, as previously mentioned, there is no standard version of this procedure that districts use. This makes it almost impossible to compare across students in different districts which is precisely what needs to be done for college admission purposes. It is also what frequently needs to be done for scholarship purposes.

The 'Rank Point' procedure is only used currently in some of the districts that used percentages rather than GPAs. It is only currently being used in the state of Texas. Like the 'Unweighted GPA Plus' method, this system does not have the main problem of the Bonus Point Method. However, this method also has no standard version in practice across the districts in Texas and the number of Rank Points accumulated by a student would not be useful information to a college admissions office.

CONCLUSIONS

With the recent rise in Percent Plans some of the largest states, high school Class Rank has taken on a more significant role than ever before. However, the Supreme Court's rulings in *Grutter v. Bollinger* and in *Gratz v. Bollinger* (CNN.com 2003) allows colleges to continue to use race as a factor for admission, ala affirmative action. This allows states without policies forbidding affirmative action to continue using it in admissions and may slow the proliferation of Percent Plans. In addition, colleges and universities continue to rely on the notion of GPA and Class Rank when making admission decisions. Despite this trend in state policy and the role rank plays in admissions, some high schools are trying to de-emphasize these factors by removing Weighted grades and, at times, the Valedictory award. For examples of this phenomenon across the country, see Guerrero (2000), Hacken (2003), Marklein (2003), McKay (1997), McMenamain (2003), and Sultan (2001). Yet, Class Rank and the position of class Valedictorian remain important to and their parents due to their importance to colleges. This has led to frequent fights between parents and school boards, and, at times, legal action has resulted. In Moorestown, New Jersey, this past May, graduating Senior Blair Hornstine sued the Moorestown Board of Education for the right to be sole Valedictorian. The school district had suggested Ms. Hornstine share the award with one of her fellow graduates when it was determined that she had been able to complete an additional weighted honors course through home-schooling that her classmate could not take. The court ruled that she would be the sole Valedictorian since district policy stated that the award would go to

the student with the highest Weighted GPA.

Weighted GPAs and the Class Ranks associated with them have two clear objectives. The first is to provide colleges with a measure of relative class standing. The second is to provide the student with extrinsic incentives to take appropriately challenging courses while in high school to adequately prepare the student for a college curriculum. These two objectives are very closely tied together. If the incentives are not properly constructed, students may not take courses that would best prepare them for college and therefore, Class Rank would be a far less accurate depiction of class standing. Unfortunately, from the data presented previously in this paper, it is apparent that the vast majority of high schools are currently using faulty methodologies in this respect. The few districts that address these flaws do so at the expense of creating a system that is difficult to interpret and impossible to use for inter-district comparisons. Lang (1997) attempted to eliminate these flaws by creating Cumulative Difficulty Weight (CDW) of a student's portfolio of coursework compared to the baseline required load of courses and then weighting the entire GPA by this CDW to create an index for calculating Class Rank. This was first implemented by Peoria Unified School District in Glendale, Arizona and has since been used by a couple of additional districts. While the aforementioned mechanical flaws of typical Class Rank procedures are addressed, the complexity of this system makes it challenging for those outside of the school district to digest.

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APPENDIX

The email stated that:

I was conducting research on methods that high schools use in determining class ranks and valedictorians. And, in particular, that I was interested in all of the rules and regulations that your schools use in determining grade point averages, weighted grade point averages, class rank, and valedictorians. Please send a written document on this

topic if there is one available for your schools. I also stated that I was interested in interested in knowing who sets this policy for your schools. For example, is it a school policy or a district policy set by the school board. Thank you so very much for your assistance. Please feel free to contact me if there are any questions or concerns.

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