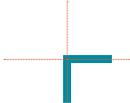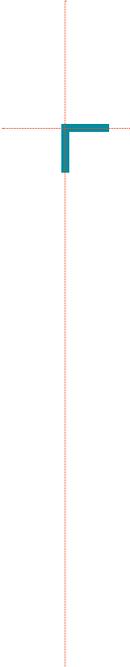# Hopes, Fears, & Reality

A BALANCED LOOK AT AMERICAN CHARTER SCHOOLS IN 2006

Robin J. Lake *&* Paul T. Hill, *Editors*

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The National Charter School Research Project (NCSRP) brings rigor, evidence, and balance to the national charter school debate.

NCSRP seeks to facilitate the fair assessment of the value-added effects of U.S. charter schools and to provide the charter school and broader public education communities with research and information for ongoing improvement.

NCSRP:

- Identifies high-priority research questions.
- Conducts and commissions original research to fill gaps in current knowledge or to illuminate existing debates.
- Helps policymakers and the general public interpret charter school research.

The Project is an initiative of the Center on Reinventing Public Education.

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CHAPTER *7*

Calculating Graduation Rates: A New Challenge for Charter Schools

Mary Beth Celio

I s it possible that the graduation rate for the public high schools of the city of Chicago is 82 percent? Yes, as a matter of fact, depending on the data used and the definitions applied, such a graduation rate is a possibility. Perhaps Chicago's graduation rate is only 46 percent? Well, oddly enough, depending on who is doing the calculating, that is a plausible number too. Which is correct? They are both correct, but the value judgments and methods underlying each are quite different.

Why should charter schools care about any of this? Because coming soon to a charter school near you is a huge argument about high school graduation rates. Charter schools will inevitably be caught up in the discussion, and they will be well advised to become familiar with the terms of the debate.

To date, most argumentation around charter schools has hinged on test scores earned by charter school students. Such studies continue to appear.[1] However, because *No Child Left Behind* (NCLB) mandates the reporting of high school graduation rates along with academic assessments for *all public high schools* (emphasis added), attention is now being focused on how such rates should be measured and reported. Clearly, charter schools will soon be judged by this emerging criterion: how well do charters do in keeping students in high school and on track to graduate?

On the whole, the expansion of charter school assessments to areas other than test scores is a development to be welcomed. But it is critical to recognize that evaluations of graduation rates at charter schools will be caught in the same methodological bind facing all public high schools: the most economical and readily available methods are

> *Charter schools will soon be judged by this emerging criterion: how well do charters do in keeping students in high school and on track to graduate?*

deficient in many ways, and the method that some consider the "gold standard" is likely to produce the most negative results.

The methodological bind facing both charter and traditional public high schools arises from the following: states are free to adopt any of several approaches to establishing graduation rates that meet NCLB guidelines.[2] A majority (41 of the 51, which includes the District of Columbia)[3] are using methods for calculating and reporting graduation rates that have the effect of maximizing reported high school completion rates in individual schools and entire districts. Charter schools will likely report their own graduation rates using the methodology prescribed by their state. One benefit of this is that all schools in a state will be subject to the same errors, if any, in methods and measurement. But a major drawback is the inability to compare graduation rates across state lines, for either charter or non-charter schools. Such comparisons will be confounded by the fact that different methods and measurements produce different results, even if the same data source is used.

Charter school operators and supporters need to understand this issue. They should be aware of what the methodologies are and how their use affects the reported results. It should not need saying, but researchers and policymakers should be comparing apples and apples, not apples and oranges. They should be aware that comparison is possible only when the same definitions and bases are being used.

THE DUST-UP OVER GRADUATION RATES

When a number of new, much-publicized graduation studies appeared in 2006, not one mentioned charter schools. This absence was due in part to the fact that the studies were looking at graduation rates only at the aggregate level: nation, state, or large city school district. Charter schools, making up only about 3 percent of all public schools and 2 percent of all public school students in 2004-2005, would hardly make a blip in that sea of districts and schools. In addition, charters schools have been operating for an average of less than five years and few of the schools that include grades 9 to 12 (25 percent of charter schools) have been in existence long enough to have graduated more than one or two classes of students.[4] But this lack of attention is unlikely to continue; the controversies around charter school effectiveness continue, and examining charter school graduation rates will undoubtedly become grist for the mill.

Counting high school graduates would seem to be a fairly easy task; just count those students receiving a diploma in a given year and compare that number with some earlier base. But what base should be used?

In the best of all research worlds, it would be possible to trace every student's path through school across district and state boundaries and thus to know precisely how many students were enrolled at any given time and which students ended up with a diploma at the end of 4 or 5 years, no matter where they completed their schooling. Such longitudinal or "cohort" approaches are considered the gold standard in the field, since they promise to give the most accurate picture of the number of graduates and are able to take account of students who transfer (in or out), move out of district, obtain GEDs, suffer incapacitating long-term illnesses, wind up in jail or juvenile facilities, or take longer than the traditional four years to graduate. The cohort approach tracks individuals, rather than projecting their graduation rates based on age- or grade-group demographics. However, only about ten states (and an unknown number of districts) have adopted this approach.

As a result, most researchers currently use school-, district-, or state-level data collected by one or another government agency to *estimate or project* graduation rates. It is important to understand this. Some "graduation rates" are little more than educated guesses.

A few researchers use U.S. Census data, including data from the American Community and Current Population Surveys (ACCPS), to provide what they claim to be the most accurate picture of high school graduation trends. Most researchers, however, use data collected by the National Center for Education Statistics, available in the Common Core of Data (CCD). Some of these analysts compare the number of graduates to the number of ninth graders reported in the CCD four years earlier; others adjust this base for immigration or by averaging a number of grades. Another method uses only two years of data from the CCD to calculate the probability that a student now in the ninth grade will graduate four years later. What all of these methods have in common is reliance on static "snapshots" of the school population; counts taken at particular points in time. The summary numbers obscure much of what actually goes on in American high schools.

Each of the major data sets (and how they have been employed in graduation rate analyses) is described below.

- *U.S. Census data:* Mishel and Roy set off the current controversy about graduation rates in early 2006 with the publication of *Rethinking High School Graduation Rates and Trends*.[5] To counter what they felt to be inaccurately low graduation rates, they used IPUMS,[6] an integrated database combining 1 percent and 5 percent samples from the decennial U.S. Census, and yearly Current Population and American Community Surveys for areas with 100,000 or more population. The two analysts concluded that the national high school completion rate (diploma or GED) is currently between 87 and 91 percent, indicating that graduation rates are fairly high and rising. The database and methodology used by Mishel and Roy can be used to project graduation rates for the country as a whole, for states, and for large cities/metropolitan areas.

- *The CCD Averaged Freshman Graduation Rate:* Most of the data published on graduation rates comes from the Common Core of Data maintained by the National Center for Education Statistics (NCES). NCES itself recently published a report on what it calls "averaged freshman graduation rates" that simply calculates the on-time graduation rate as the number of students graduating with a regular diploma in a given year, divided by an average of the eighth, ninth, and tenth grade enrollment for that hypothetical cohort.[7] NCES reports that the averaging is intended to account for prior year retentions in the ninth grade that can sometimes inflate the reported number of ninth graders by 15 percent or more, a problem facing all uses of ninth grade enrollment as a base for calculating graduation rates. The NCES analysis concluded that the national graduation rate for 2003-2004 is 75 percent.

- *Greene and Winters (of the Manhattan Institute for Policy Research):* Greene and Winters recently described their methodology and conclusions in *Leaving Boys Behind: Public High School Graduation Rates*.[8] Greene's method for calculating graduation rates has evolved over the years. The latest iteration has the graduation rate equaling regular diplomas in spring of a given year, divided by the averaged freshman number (using the same approach NCES used), adjusted for population change at the appropriate level (that is, district, state or nation). Greene and Winters estimate the 2003 national graduation rate to be 70 percent for the nation overall, with major differences among states and districts and between students by race and gender within states and districts.

- *Cumulative Promotion Index (CPI):* Swanson, formerly of the Urban Institute's Education Policy Center and now with Editorial Projects in Education Research Center, took another approach in a 2006 Gates Foundation-supported study.[9] Swanson compares promotion rates across all four high school classes over a two-year period to yield a national graduation probability of 69.6 percent, which, he explains, is the likelihood that, under current conditions within the country as a whole, a given ninth grader will graduate with a regular diploma in four years. The same method can be used at state, district or individual school levels.

- *Tracking of individual students (the cohort method):* Almost all researchers dealing with graduation rates recommend that schools, districts, and/or states develop data systems that can track all students as they move through the schools. A recent white paper is very specific about the need for such a system and recommends both longitudinal databases and indicators derived from them.[10] It is expressly assumed by those recommending longitudinal tracking systems that this approach will assure that dropouts are really counted as dropouts, transfers as transfers, and graduates as graduates. With rigorous recordkeeping and follow-up, and with tracking systems spanning district, state, and even national boundaries, those aims could potentially be realized. The burden of all this counting falls on the lowest administrative units, schools (charter or traditional), whose responsibility it is to keep track of individual students as they enter, move through, and leave the school. Schools then report this information to the next higher level (for example, district or authorizing agency), which aggregates the data to be reported to the next level (for example, region or state), where it is again aggregated. The data at any given level are only as good as the data from the level below and as useable as the system that aggregates the data.

A comparison of the results of these different methods reveals quite remarkable differences in results. It also illustrates the gap between what really goes on in American high schools today and the data and mental models employed by researchers.

Although it scarcely stands up to reflection or common sense, the commonly held image of the high school experience assumes a stable cohort of teenagers progressing year-by-year through four years of schooling in the same district. In practice, many students transfer schools within a district, many more are retained in grade (especially at the end of the ninth grade), and students move into and out of the district and even the state at rates that cannot be tracked except by fully developed longitudinal systems. Yet all of the graduation rate methods discussed above, with the exception of the U.S. Census and longitudinal analyses, assume a largely constant (static) base of students, counting students at the starting gate (ninth grade or some combination or average of grades) and then at the finish line. The longitudinal databases have the advantage of tracking movement into and out of a cohort over a 4- or 5-year period but (as will be discussed below) this apparent advantage applies only when the data are accurate and easily useable (conclusions that cannot be reached with the data on hand).[11] Indeed the apparent advantage can readily turn into a disadvantage when the longitudinal graduation rates that are now possible with existing data systems are compared with rates assuming a static population.

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TWO URBAN CASE STUDIES

Large-city analyses of the consequences of employing different approaches illustrate just what remarkable differences can be produced. This author has analyzed results in one major Western city, and the Consortium on Chicago School Research has examined the results in the Windy City.[12]

In the Western district studied by the author, the CCD records that 2,640 students obtained high school diplomas in 2004, compared to the 4,355 students (a number of whom had been retained from the prior year) enrolled in ninth grade four years earlier. The graduation rate seems to be 61 percent for the Class of 2004. However, if the CCD and Greene approach is used and the eighth, ninth, and tenth grade enrollments for the class of 2004 are averaged, the count at the starting gate becomes 4,125. This lower denominator leads to a somewhat better graduation rate of 64 percent.

What happens if Greene's adjustments are used in this city? Adjusting for migration yields an even higher graduation rate of almost 71 percent. However, it turns out that a total of 5,737 students were part of the Class of 2004 at one time or another between 1999-2000 and 2003-2004: 3,900 were first-time ninth graders at the beginning of the 2000-2001 school year and 1,837 joined the class later, at some time before the beginning of the twelfth grade. Thus, the longitudinal graduation rate might be as low as 52 percent. The same general pattern is seen in the Chicago data.

A summary of graduation rates (according to the different methodologies) for the nation as a whole and for both the Western district and Chicago is displayed below.

TABLE 1: GRADUATION RATES

District	Census/CPS[1]	CCD Averaged Freshman[2]	Metropolitan/ Greene Grad Rate[3]	Cumulative Promotion Index[4]	Cohort Tracking[5]
	2000-2005 19-24 yr olds	Class of 2004	Class of 2004	Class of 2004	Class of 2004
National	87.8%	75.0%	70.0%	69.6%	N.A.
Chicago	81.8%	52.8%	48.6%	52.2%	46.0%
Western District	86.0%	64.0%	70.7%	53.5%	51.7%

1. National figure is reported in Mischel and Roy, Rethinking High School Graduation Rates, p. 40. Chicago and Western district figures were computed by the author averaging across ages 19-24 from CPS data for 2000-2005, IPUMS-CPS, for the given metropolitan area, not including immigrants after 1995 or people living in another city/state/country the year before.

2. National estimate is reported in IES/NCES/CCD, The Averaged Freshman Graduation Rate, June 2006. To compute Chicago and Western district estimate, author used CCD method with corrected district-level CCD data.

3. National, Chicago, and Western district estimates found in Table 5 ("Districts Ranked by Overall High School Graduation Rate") in Greene and Winters, Leaving Boys Behind.

4. EPE/RC Research Center, Diplomas Count: An Essential Guide to Graduation Policy and Rates, The Graduation Project 2006, with support from the Bill & Melinda Gates Foundation. June 2006.

5. Chicago data are published in Allensworth, Graduation and Dropout Trends in Chicago. The Chicago study looked at students who started in the district's schools as 9th graders in 1999-2000 or joined the class in a regular school later. The other study also used only those students who entered regular schools. Neither study adjusted for transfers (i.e., the base is all students who were ever in the cohort).

The five different approaches currently used to calculate graduation rates yield strikingly different results nationally and in these two districts. The most positive graduation rates overall are based on U.S. Census data; the most sobering rates for the two districts come from longitudinal cohort tracking; and the others follow no apparent pattern. It is impossible to know whether these two districts are typical of most urban school districts, but it would be logical to assume that they are not radically different.

Which is the best measure? The author believes that rates generated from longitudinal tracking studies promise to be the most reliable, and in that sense the best. However, it is clear that the current longitudinal tracking systems can track only those students who fall within their grasp. A student who moves to another district that does not share the tracking system or to another state without a system may eventually drop out or graduate but is "lost" to his or her original district in either case. After all, students are constantly in motion; they come and go; they stay for one month or four years. Each student, no matter how long his or her tenure, is a student who is "at risk" for leaving a particular school or district with or without a diploma and should hypothetically be a part of the base count. However, there is no way right now to track most students beyond district/state boundaries. The graduation rates calculated from these longitudinal systems are likely, then, to produce biased and possibly low graduation rates.

As discussed above, the actual base count derived from current individual student tracking systems is inevitably going to be larger than the count at the starting point, and this more realistic, and larger, base count means a smaller success rate. Thus, calculating graduation rates using a total cohort (rather than only those starting the ninth grade together) is likely to result in a less politically palatable outcome, especially in urban schools and districts where there is high mobility and in those schools that are designed to serve the needs of students who are not succeeding in traditional schools or along the expected pathway.

WHAT DOES THIS MEAN FOR CHARTER SCHOOLS?

Regardless of which approach is adopted at the state or district level, charter school operators and authorizers need to be on the alert.

Regardless of which approach is adopted at the state or district level, charter school operators and authorizers need to be on the alert. School districts and individual public schools, whether traditional or charter, will probably not have the luxury of selecting which approach they will use for purposes of federal or state accountability about high school graduation. If the data are accurate at all levels and from all sources, then com-

parisons between states, districts, and individual schools can be made, assuming the methodology and data sources are the same.

Assume that charter schools, which are smaller on average than traditional public schools, are able to track their students with some accuracy and thus know whether a given student has dropped out, received a diploma at that school, or enrolled elsewhere. To what would these dropout, graduation, and transfer rates be compared? Given the woeful condition of most state and district data systems for tracking students during the high school years (and the fact that the CCD does not contain information on graduates from individual schools), it is probable that the comparison group would either be a district-wide graduation rate based on static data or a school-specific rate using school-level, but also static, data. In either case, the charter school is likely to be put at a disadvantage, since the non-charter rate is almost guaranteed to be significantly higher than the longitudinal cohort rate calculated for the charter school.

Without a basis for meaningful comparison, it is impossible to know whether the very low graduation rate from Texas charter schools indicates a resounding failure for charter schools or a major achievement.

A good example of the potential dangers ahead is provided by one of the first available assessments of charter school graduation rates. A researcher at the Texas Center for Educational Research tracked students in charter high schools in Texas from tenth grade until the time they would be expected to graduate.[13] The author found that 30 percent of the charter students received a regular diploma in the three years of the study. The longitudinal data source was Texas's Public Education Information System (PEIM), which the author reported to have significant problems with missing and inconsistent and non-existent data, typical of most longitudinal tracking systems.

How consequential were these data gaps in affecting the results? It is impossible to tell what the precise effects bad and missing data might have, and, in addition, there is no way to assess the importance of a graduation rate that seems shockingly low. The only comparisons available are from the recent studies discussed in this report for Texas as a whole. The EPE Research Center (Swanson's CPI) estimates the graduation rate for the state at 66.8 percent; the NCES averaged freshman graduation rate for Texas is 76.7 percent; Greene and Winters report a state-wide graduation rate of 69 percent. In other words, the charter school graduation rate could conceivably be reported to be less than half the graduation rate for the state as a whole. But these are the apples-to-oranges comparisons. More legitimate approaches would ask about the cohort graduation rates for similar schools and/or similar students. None of these comparisons are currently available.

It goes without saying that, without a basis for meaningful comparison, it is impossible to know whether the very low graduation rate from Texas charter schools indicates a resounding failure for charter schools or a major achievement. Is it possible that almost none of these Texas charter students would have graduated with a regular diploma if they had remained in their original schools? Or, rather, are existing alternative schools and regular public high schools doing a far better job with this difficult population? It is essential that such questions be posed and answered to provide a meaningful assessment of charter school graduation rates. At the moment, those questions cannot be answered in most districts with existing data.

In their 2006 review of charter school research, Betts and Hill note that researchers will not be able to document that charter schools caused a difference in students' outcomes unless they know how students fared in charter schools, and how the same students would have fared had they instead attended regular public schools.[14] Reporting only one of the two outcomes (how the students fared) may be detrimental to the fortunes of charter schools. Researchers and school officials need to address this dilemma, not only for charter schools, but for all public schools and school districts. The graduation rates now available in most districts may be politically appealing because they paint a relatively positive picture of high school success. But that optimistic picture will not improve high schools for teenagers, especially in large urban school districts.

What can be done? At the moment, there is little research available to assess the success of charter high schools in enabling their students to graduate. That makes it all the more important that policymakers and foundations that fund charter school research commit to investments that create an even analytic playing field. They can do so by either sponsoring apples-to-apples comparisons between charter and non-charter graduation rates, or by investing in accurate student-tracking systems in both charter schools and public school districts. More careful research will not preclude some of the misunderstandings and misuses of graduation data that are almost inevitable in the future. But avoiding the pitfalls of previous studies is critical to developing a fair assessment of how high schools, both charter and traditional, succeed or fail.

The graduation rates now available in most districts may be politically appealing because they paint a relatively positive picture of high school success. But that optimistic picture will not improve high schools for teenagers, especially in large urban school districts.

NOTES

1. Henry Braun, Frank Jenkins, and Wendy Grigg, *A Closer Look at Charter Schools Using Hierarchical Linear Modeling*, NCES Report 2006-460, U.S. Department of Education, August 2006, http://nces.ed.gov/nationsreportcard/pdf/studies/2006460.pdf.

2. Christopher Swanson, *Ten Questions (and Answers) about Graduates, Dropouts, and NCLB Accountability*, No. 3 in Series, "Learning Curve: Facts and Perspectives," Urban Institute, October 21, 2003, http://www.urban.org/UploadedPDF/310873_LearningCurve_3.pdf. Swanson emphasizes that NCLB requires graduation, not dropout, rates. Thus, this chapter discusses only graduation rate methodologies.

3. Editorial Projects in Education Research Center, *Diplomas Count: An Essential Guide to Graduation Policy and Rates, Education Week,* Vol. 25, Issue 41S, June 22, 2006, http://www.edweek.org/media/ew/dc/2006/41s-dc-nclb.pdf.

4. Robin J. Lake and Paul T. Hill, eds., *Hopes, Fears, & Reality: A Balanced Look at American Charter Schools in 2005* (Seattle: Center on Reinventing Public Education, National Charter School Research Center, November 2005) 3, 7, http://www.ncsrp.org/cs/csr/print/csr_docs/pubs/hopes.htm.

5. Lawrence Mishel and Joydeep Roy, *Rethinking High School Graduation Rates and Trends* (Washington, DC: Economic Policy Institute, 2006), http://www.epi.org/books/rethinking_hs_grad_rates/rethinking_hs_grad_rates-FULL_TEXT.pdf.

6. Integrated Public Use Microdata Series, http://www.ipums.org.

7. Marilyn Seastrom, Lee Hoffman, Chris Chapman and Robert Stillwell, *The Averaged Freshman Graduation Rate for Public High Schools from the Common Core of Data: School Years 2002–03 and 2003–4* (Washington, DC: Institute of Education Sciences, National Center for Education Statistics, Common Core of Data, June 2006). Available online at http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2006606rev.

8. Jay P. Greene and Marcus A. Winters, *Leaving Boys Behind: Public High School Graduation Rates*, Center for Civic Innovation at the Manhattan Institute, Civic Report #48, April 2006, http://www.manhattan-institute.org/html/cr_48.htm.

9. Editorial Projects in Education Research Center, 2006. The method used in this study is also described in Christopher B. Swanson, *Keeping Count and Losing Count: Calculating Graduation Rates for All Students under NCLB Accountability* (Washington, DC: Urban Institute, Education Policy Center, 2003).

10. Craig D. Jerald, *Identifying Potential Dropouts: Key Lessons for Building an Early Warning Data System—A Dual Agenda of High Standards and High Graduation Rates.* White paper prepared for Staying the Course: High Standards and Improved Graduation Rates, a joint project of Achieve and Jobs for the Future, February 15, 2006.

11. Research conducted by the National Center for Educational Accountability about state data systems determined that none of the state data systems currently in place includes every one of what they consider to be ten essential elements. The Data Quality Campaign hopes to have such systems in place by 2009. Data Quality Campaign, "Results of 2005 NCEA Survey of State Data Collection Issues Related to Longitudinal Analysis," *Creating a Longitudinal Data System: Using Data to Improve Student Achievement*, 2006, http://www.dataqualitycampaign.org/files/Publications-Creating_Longitudinal_Data_System.pdf, http://www.dataqualitycampaign.org/activities/survey_result_2005.cfm.

12. Elaine Allensworth, *Graduation and Dropout Trends in Chicago: A look at cohorts of students from 1991 through 2004* (Chicago: Consortium on Chicago School Research at the University of Chicago, January 2005).

13. Catherine Maloney, *The Effect of Texas's Charter High Schools on Graduation Outcomes: An Analysis of Charter School Program Characteristics*. Paper presented at the American Educational Research Association Conference, April 2006. Conference draft.

14. Charter School Achievement Consensus Panel, *Key Issues in Studying Charter Schools and Achievement: A Review and Suggestions for National Guidelines*, National Charter School Research Project White Paper Series, No. 2 (Seattle: Center on Reinventing Public Education, 2006) 11.