

Inflation of Official Florida Graduation Rates
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SUMMARY

The official Florida graduation rate, a formula that relies on longitudinal tracking of individual student records, is in theory superior to crude graduation measures, if the tracking is accurate and if students in each cohort are properly accounted for. However, the official rates have no check on the quality of codes indicating why a student left a school, and the official formula inflates the graduation rate in two ways. First, Florida does not count one category of dropping out as a dropout: those who drop out and immediately enroll in a GED program. Second, Florida credits itself for non-academic diplomas, including GEDs, in the graduation rate. This system of accounting allows Florida schools to be excused from responsibility for students who drop out to enter GED programs, only to be credited with their graduation if they succeed on the GED test. Estimates of adjusted graduation rates suggest that these two errors inflate the graduation rate by at least 9-10%. Five simple steps can dramatically improve the accuracy of Florida's official calculation of graduation rates.

INTRODUCTION

Since the graduating class of 1999, the Florida Department of Education has produced an annual cohort-based graduation rate. This annual report has shown a consistent year-to-year increase in the official graduation rate between 1999 and 2005, from 60.2% in the first cohort measured to 71.9% for those expected to graduate in 2005, and this apparently dramatic change has been the basis for claims that Florida school reforms have improved the chances of teenagers' graduating (Florida Department of Education, 2005a). Yet this calculation is different from the estimates of researchers interested in graduation rates. For example, Warren (2005) estimated Florida's 2002 graduation rate as 63.1% (contrasted with the official 67.9%). The rates for 2003 range from Swanson (Education Week, 2006) at 57.5% to Greene and Winters (2006) at 61%, the U.S. Department of Education's estimate (Seastrom, Hoffman, Chapman, & Stillwell, 2006) of 66.7%, and the state's official 69% rate. There is thus no agreement as to how well Florida's schools currently retain students through graduation.

In 2004, the public-television Merrow Report claimed that an increasing number of teenagers are being diverted from regular school programs into alternate certification (GED) programs (Tulenko, 2004). This video segment pointed specifically to Florida's method of calculating the graduation rate, which removes such "adult education transfers" from the base cohort denominator, inflating the graduation rate. This report did not, however, calculate how much the removal of dropout-to-GED attrition changed the graduation rate.

There are other reasons to be concerned about the way that any state calculates its official graduation rate. The official method is part of the judgment of high schools' Adequate Yearly Progress under the No Child Left Behind Act and thus has consequences for the set of sanctions

that accompany the failure to meet Adequately Yearly Progress. In addition, there is always the possibility that any individual method of calculating school performance will lead to perverse incentives to underserve children or to perform triage instead of educating all students (e.g., Orel, 2003).

FLORIDA'S GRADUATION MEASURE

Florida's official graduation rate attempts to follow individual cohorts from their first enrollment in ninth grade through exiting the state's public schools. The following definition is from the Florida Department of Education (2006) guide for calculating the rate:

Determining the denominator for the formula involves the following steps: determine the cohort of students who enrolled as first-time ninth-graders four years prior to the year for which the graduation rate is to be measured; add to this group any subsequent incoming transfer students who are on the same schedule to graduate; and subtract students who transfer out for various reasons, or who are deceased. The numerator simply consists of the number of graduates from this group (diploma recipients). (p. 5)

Theoretically, this is one fair way of providing a longitudinal graduation rate, if the adjustments are appropriate and accurate. The official Florida method has the following additions to the size of the cohort:

- Students who transfer into the applicable high school cohort

The official Florida method identifies the following classes of students to be subtracted from the size of the cohort:

- Students who die
- Students who transfer to private schools
- Students who withdraw to be homeschooled
- Students who move out of state (for the state calculation)
- Students "who left to enroll in an adult education program" (Florida Department of Education 2006, p. 3)

Any completion certificate counts as a diploma for the calculation of the official graduation rate. These include:

- Academic diploma
- Special education diploma
- GED certificate

Table 1 shows the key elements of the graduation-rate calculation for the seven years of data currently available. One should note that these are graduation rates as of four years after each cohort first entered ninth grade. Following the cohort for several more years would yield higher graduation rates, although later diplomas are more likely to be non-academic (special-education or GED certificates) than diplomas earned in four years.

Table 1. *Florida's official graduation rate calculation, 1999-2005 cohorts*

Graduation year	Original cohort plus transfers in ^a	Transfers and deaths	Dropouts-to-GEDs ^b	Total diplomas ^c	Official graduation rate
1999	225,517	47,992	10,789	100,435	60.2%
2000	230,302	50,950	11,629	104,446	62.3%
2001	240,209	53,269	15,639	109,299	63.8%
2002	246,413	54,731	17,479	118,328	67.9%
2003	254,706	56,694	17,434	124,577	69.0%
2004	248,133	57,672	15,729	125,160	71.6%
2005	258,983	59,903	16,111	131,507	71.9%

Source: Florida Department of Education.

^a The Florida Department of Education did not make available separate counts for first-time ninth graders and those transferring into the cohort.

^b This column represents W26 withdrawal codes, students who leave K-12 programs to enter GED-preparation adult-education programs.

^c Diplomas include academic diplomas, special-education certificates, and GED certificates.

THREATS TO ACCURACY

There are three primary threats to the accuracy of the state's official graduation rate:

1. Inaccurate recording of transfers into and out of public schools.
2. Uncertainty of proper cohort placement for students who transfer into Florida's public schools
3. Inappropriately removing dropouts from a cohort count that schools are held accountable for.
4. Inappropriately adding to the diploma count schools are credited with.

The following paragraphs discuss each in turn.

Inaccurate Recording of Transfers

Florida's database of students is one of the oldest in the country, whose management includes steps that counties take to clean data before it is uploaded to the state department of education. However, there is no auditing of the withdrawal codes. If a student or a student's parent claims that a student is leaving to move to another state, to enter a private school, or to be homeschooled, there is nothing in law or written rule to prevent the data processing clerk from recording that as reported. There is no guarantee that the recorded code is an accurate reflection of what happens when the student leaves the school building, as there is no public record of any follow-up procedure. Inaccuracy does not require intent to deceive by school staff. It may be inherent in transfers self-reported by students or parents. There is sufficient experience nationwide of reporting flaws that one should not assume accuracy without confirmation (Lewin & Medina, 2003; Schemo, 2003).

Uncertainty of Cohort Placement for Transfers into Florida Schools

There is no official procedure for identifying the proper cohort for a student transferring into a Florida public school. The most common (and appropriate) placement would be in the cohort for whom the student's current grade is the modal grade (i.e., an incoming ninth-grader would be placed with first-time ninth graders, an incoming tenth-grader with those who were ninth-graders for the first time the prior year, etc.). Nevertheless, the existence of grade retention potentially conflates the student's current grade with the proper cohort. One would reasonably assume that the bias from such errors is likely to be minimal. However, it would be sensible to simulate different placements to estimate the potential bias in such errors.

Inappropriate Removals from a Cohort

The transfer/migration/mortality adjusted cohort is, in theory, a way to make sure that schools are responsible only for the students who stay in the public schools until they either drop out or graduate. Thus, removals from a cohort should only consist of students who have died or who have left to enter another K-12 school system. Florida's removal from a cohort of so-called "adult education" students (withdrawal code W26) is a misrepresentation, as students are leaving the school system without transferring to other K-12 schools or graduating. These are students who are dropping out and entering a GED program, which is neither a regular curriculum nor a program leading to an academic diploma.

Inconsistent Diploma Counts

Currently, Florida includes standard academic diplomas, GED certificates, and special-education diplomas in its graduation rate. Whether to include non-standard certificates in the graduation count is a political question, not a statistical one, but it is potentially an inconsistency that the state requires passing a test as a requirement of a standard diploma, on the one hand, and yet counts those who do not pass that test in its graduation rate.

It is an especially interesting inconsistency in accounting that the state removes dropouts who enter GED programs from the accounting of students for whom the public schools are responsible, in the denominator of the graduation rate, and then credits the schools with graduating any who successfully earn a GED, for the numerator. It is not known how many students who withdraw to enter GED programs are both removed from their relative cohort and also become credits to their cohort upon earning a GED.

CORRECTING FLORIDA'S OFFICIAL GRADUATION RATES

Correcting Transfer Counts

There is no independent evidence on the accuracy of Florida's recording of withdrawals as transfers to private schools or to out-of-state public schools. That fact does not mean that the transfer records are necessarily inaccurate, but it does mean that there is no process for confirming the accuracy. The record of similar errors in other states, including a state with a student-level database such as Florida's, means that this is a likely source of hidden error. In

addition, while there are methods to simulate the sensitivity of graduation rates to different net migration rates, such methods require an original-cohort count as well as transfer counts. Florida’s Department of Education did not provide such original counts to the author, and thus such simulations were not possible for this paper.

Correcting Errors in the Cohort Placement for Transfers into Florida Schools

One should reasonably expect that errors in the cohort placement of transfer into Florida public schools would be minimal, but there is no data publicly available that would allow the simulation of such possibilities for this paper.

Correcting the Exclusion of W26 Withdrawals

Because the Florida Department of Education provides the counts of W26 withdrawals by cohort, it is a relatively simple calculation to include the W26 withdrawals in the denominator, as shown in Table 2.

Table 2. *Florida’s graduation rate, including dropout-to-GED attrition in each cohort*

Graduation year	Official denominator	Corrected denominator	Official rate	Corrected rate
1999	166,736	177,525	60.2%	56.6%
2000	167,723	179,352	62.3%	58.2%
2001	171,301	186,940	63.8%	58.5%
2002	174,203	191,682	67.9%	61.7%
2003	180,578	198,012	69.0%	62.9%
2004	174,732	190,461	71.6%	65.7%
2005	182,969	199,080	71.9%	66.1%

The difference between the official rate and the rate corrected for the W26 exclusions ranges between 3.7% (for the 1999 cohort) and 6.2 (for 2002) and averages 5.3%.

Counting Academic Diplomas Only

Calculating the longitudinal cohort graduation rate based only on academic diplomas is difficult given the inconsistencies in the data available from the Florida Department of Education. The department thus far has not made available the distribution of cohort-specific diplomas as academic, special-education, and GED. The best available option is to extrapolate the proportion of academic diplomas given the reporting of total diplomas in a year from the state Department of Education. But reporting is inconsistent. For example, for the 2002-03 school year, the department reported on its website 120,905 academic diplomas, 6,160 *special diplomas*, 6,225 *standard certificates of completion*, and 115 *special certificates of completion* (Sims, 2003). To the U.S. Department of Education, the state reported 127,484 academic diplomas, 14,161 *diploma equivalents*, and 6,326 other types of completion documents (U.S. Department of Education, n.d.). In its cohort calculations, the state used a final figure of 124,577 total diplomas of all types. One source of variation is the difference in the count of graduates for a cohort, on the one hand, and all diplomas issued in an academic year, on the other hand. Some of the

variations also come from different definitions of categories—the federal request for reporting of all *other* exit documents presumably includes certificates of completion (e.g., for regular-curriculum students who do not pass the graduation tests in Florida), a number not included in the state’s official graduation-rate numerator. But the state’s own reporting does not include an explicit count of GEDs.

Given the insufficient and noncomparable data, one must make assumptions about the proportion of cohort credentials earned as academic, standard diplomas. From the federal figures, one calculates that 86.2% of all reported diplomas were academic diplomas. The state’s reporting implies a potential 90.6% of exit documents as standard academic diplomas. For this exercise, I have assumed a generous constant 91% proportion of reported cohort diplomas as standard academic diplomas and have scaled the W26-corrected graduation rate accordingly. It is very likely that the true proportion of diplomas that are standard academic diplomas is lower and that it varies every year. The last column of Table 3 thus provides a generous estimate of the public-school academic-diploma graduation rate in Florida, corrected for the W26 exclusions. One should be especially wary of taking the trends at face value, because of the uncertainties in the transfer counts and the proportion of diplomas that are from standard academic programs.

Table 3. *Florida’s graduation rate, corrected for W26 exclusions and narrowed to academic diplomas only (assuming that 91% of each cohort’s diplomas are standard academic diplomas)*

Graduation year	Official rate	Corrected for W26s	Standard diplomas only
1999	60.2%	56.6%	51.5%
2000	62.3%	58.2%	53.0%
2001	63.8%	58.5%	53.2%
2002	67.9%	61.7%	56.2%
2003	69.0%	62.9%	57.3%
2004	71.6%	65.7%	59.8%
2005	71.9%	66.1%	60.1%

DISCUSSION AND RECOMMENDATIONS

Inaccuracies in the Official Graduation Rate

Table 3 illustrates the problems with Florida’s official graduation-rate calculation. By excluding dropout-to-GED teens from the cohort denominator and including non-academic diplomas in the numerator, the official graduation rate inflates what many adults in Florida and may assume is the meaning of the number: what proportion of first-time ninth graders graduate with an academic diploma in four years? It is notable that the National Governors Association (2005) compact on graduation rates coincides with this common-sense definition of a graduation rate. Table 3 suggests that at a *minimum*, the official formula overestimates academic graduation by 9-10%. No one should feel comforted, however, by the fact that the simulated estimate in the last column of Table 3 tracks the official rate’s rise since 1999. The simulated correction for two of the problems in the official rate puts Florida’s graduation rate among the lowest in the nation either under Education Week’s (2006) or Seastrom et al.’s (2006) estimates. In addition, because of uncertainties that remain, even after the correction for W26 exclusions and the simulation of a

91% academic diploma proportion, the trend illustrated in the simulated correction may still be spurious.

Evidence of Triage?

One of the accusations raised by Lewin and Medina (2003) as well as Orel (2003) and Turenko (2004) is that schools respond to high-stakes accountability systems by pushing teens out of school. One looking at the W26 statistics in Table 1 would see some evidence for concern, as the raw number who left regular school for a GED program increased by 62% between the 1999 and 2002 cohorts, and the proportion of the adjusted cohorts who left school in that route rose from 6.1% of the 1999 cohort to 9.1% of the 2002 cohort. Both the raw numbers and the proportions have leveled off in the few years since, and there may be multiple reasons for the sudden rise in W26 dropouts after 1999. Yet the rise is sufficient reason for concern and investigation of this possibility, especially as administrators would have been aware that W26 dropouts were not counted against a school's graduation rate.

Recommendations

There are several steps that Florida's Department of Education can take to provide accurate, transparent information on graduation:

1. The Florida Department of Education should stop removing dropout-to-GED teens from the cohort size in calculating graduation rates. The W26 exclusion is the least justifiable part of the formula that the state currently uses to estimate graduation. Students who leave K-12 schools to enroll in GED programs should be counted in their cohort. According to the June 28, 2006, response of a Florida Department of Education staff member to a draft of this paper, there may be a statutory mandate to exclude W26 dropouts from cohorts. If so, the legislature should change statutory language to conform with a common-sense definition of graduation and cohort, and until then, the Florida Department of Education should publish enough information per cohort to allow an independent calculation of a more accurate rate.

2. The Florida Department of Education should explicitly separate the cohort counts of exit documents into academic and other diplomas and provide separate graduation rates by exit route. Because the decision to include non-academic diplomas in a graduation rate is a political decision, it is important that a public agency be transparent in the calculation of important indices. The exit codes clearly distinguish among the different diplomas, and there is no reason not to provide the diploma counts and rates separately. According to the June 28, 2006, response of a Florida Department of Education staff member to a draft of this paper, there may be a statutory mandate to include GEDs as diplomas. If so, that provides a *minimum* requirement for inclusion and does not forbid disaggregation of exit documents and rates.

3. The Florida Department of Education should disaggregate the cohort counts into original ninth-grade members of the cohort, transfers into the cohort, and paths out of the cohort. It is possible to simulate the effects of different migration/transfer rates, if there is complete information on the original cohort size as well as additions and deletions. That should be available from the state.

4. The Florida Department of Education should follow a sample of recorded transfers in 2006-07 to audit the withdrawal codes and accurately estimate the proportion of students recorded as transferring who are documented as enrolling in another school. Most of the withdrawal codes in Florida's student database represent unaudited, unconfirmed statements, typically entered into a school database by a data processing clerk. For any outcome measure to rely on such a system is surprising, given both Florida's accountability policies and also the inclusion of graduation rates in the federal No Child Left Behind system. The first step to improving the accuracy of the withdrawal codes is an audit. This audit should separately investigate the accuracy of transfers among Florida public schools, between Florida's public schools and private schools, and between Florida's public schools and public schools in other states.

5. The Florida Department of Education should consider the calculation of cohort statistics by birth cohort as an alternative or substitute for cohorts of first-time ninth graders. Because the grade level of incoming transfers is not always an indication of when the student was first a ninth-grader, and because of the conflation of grade retention with cohort placement, the Florida Department of Education should pilot the calculation of cohort graduation rates by birth cohort. Parents and guardians must show a birth certificate upon enrolling a student, providing confirmation of a student's age. Basing cohorts on age would eliminate potential errors from a grade-based cohort.

Measuring graduation is an inherently tricky business, but there is no reason to settle for clearly documented inaccuracies and fail to improve the official graduation rate calculation for the state. Both the state Department of Education and the legislature can and should take reasonable steps to do so.

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Biographical Note

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This short paper is part of a larger project on graduation and attainment. One manuscript from the larger project, which includes some of the information presented here, is currently under review at a refereed journal. Readers should be aware that this paper has not been through a peer-review process, nor is it the central part of the larger project. Recommended citation:

Dorn, S. (2006). *Inflation of official Florida graduation rates*. Working paper retrieved [date] from <http://www.shermandorn.com/>.

**FLORIDA DEPARTMENT OF EDUCATION RESPONSE TO DRAFT
JUNE 28, 2006**

An e-mail from a staff member of the Florida Department of Education to Sherman Dorn contained the following response to an earlier draft of the paper. (The only passages not included in that draft address the concerns of this response directly or discuss the issue of placing incoming transfer students into the correct cohort.) The response is repeated below verbatim:

Accuracy of Reported Transfers

You suggest that Florida schools and districts may, under some circumstances, mis-report certain types of withdrawals as transfers. The Department has no evidence to suggest that Florida school districts intentionally mis-report withdrawal codes on student records, including records that show students have transferred to another public school, another district, another school out of state, or to a private school, home education program, or adult education program.

In fact, the number and percent of students transferring and enrolled in adult education within graduation rate cohorts has remained consistent over the last four years.

Edits have been implemented in the data reporting process to help ensure accuracy both at local and state levels. Further, penalties for intentional falsification of records are substantial.

Adjusting the Cohort to Remove Transfers to Adult Education Programs

You suggest that students who transfer to adult education programs should be classified as dropouts.

Florida law defines dropouts in s. 1003.01(9), Florida Statutes. Section 1003.01(9)(c) explicitly states that students who withdraw to attend adult education programs are not dropouts.

Further, it's worth noting that Florida does not include fifth-year graduates in its graduation rate calculation. For 2004-05, inclusion of fifth-year graduates would have raised Florida's published graduation rate from 71.9% to 75.3%, a full 3.7 percentage points higher.

Classifying GED-based Diploma Recipients as Graduates

You suggest that GED-based diploma recipients should be counted as non-graduates in Florida's graduation rate calculation.

However, Florida law stipulates that all "high school equivalency diplomas . . . shall have equal status with other high school diplomas for all state purposes, including admission to any state university or community college," per s. 1003.435(6)(a), Florida Statutes.

Thus, per statute, the department's grad-rate calculation includes GED-based diploma recipients as graduates.

It is also worth noting, that when it comes to graduation rate calculations in Florida, differences of opinion are decided via the legislature and are policy decisions. They do not reflect a problem with the data system.

Data Consistency, Data Availability

Finally, you note inconsistencies in available data provided by the Florida Department of Education on graduates. However, statistics cited in your paper are for varying groupings of graduates. For example, the number of graduates limited to high school grades will differ from a comprehensive count of graduates that includes both high school and adult diplomas. And the number of graduates in a four-year cohort cannot be equated with all diplomas awarded during the year, since graduates from a four-year cohort include only those students who graduated within a four-year window of their initial entry into high school, whereas all diplomas awarded during the year will invariably include diplomas for students who took longer than four years to graduate.

Statutory References from Department of Education Response

Below is the text of Florida Statute sections referred to in the staff response:

F.S. 1003.01 (9).

- (9) "Dropout" means a student who meets any one or more of the following criteria:
- (a) The student has voluntarily removed himself or herself from the school system before graduation for reasons that include, but are not limited to, marriage, or the student has withdrawn from school because he or she has failed the statewide student assessment test and thereby does not receive any of the certificates of completion;
 - (b) The student has not met the relevant attendance requirements of the school district pursuant to State Board of Education rules, or the student was expected to attend a school but did not enter as expected for unknown reasons, or the student's whereabouts are unknown;
 - (c) The student has withdrawn from school, but has not transferred to another public or private school or enrolled in any career, adult, home education, or alternative educational program;
 - (d) The student has withdrawn from school due to hardship, unless such withdrawal has been granted under the provisions of s. 322.091, court action, expulsion, medical reasons, or pregnancy; or
 - (e) The student is not eligible to attend school because of reaching the maximum age for an exceptional student program in accordance with the district's policy.

F.S. 1003.435 High school equivalency diploma program.— [in a section authorizing the GED program]

(6)(a) All high school equivalency diplomas issued under the provisions of this section shall have equal status with other high school diplomas for all state purposes, including admission to any state university or community college.

Statutory References to *Graduation Rate(s)*

There are three sections of Florida statutes which mention “graduation rate” or “graduation rates.” F.S. 446.609, F.S. 1003.492, and F.S. 1008.45. None are referred to by the state staff member’s response, and none define a graduation rate in any specific manner.