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OFFICE OF THE SUPERINTENDENT

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February 5, 2008

TO: School Board Members

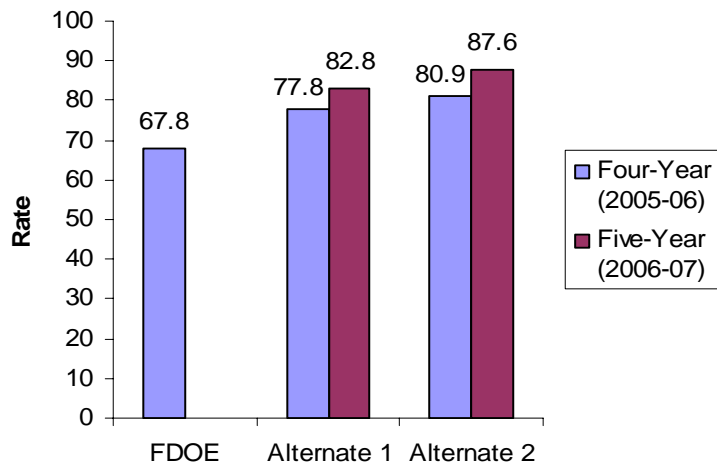
FROM: Katherine Blasik, Ph.D., Associate Superintendent
Research, Evaluation, Assessment & Boundaries

VIA: James F. Notter
Superintendent of Schools

SUBJECT: **RESEARCH BRIEF: THE CALCULATION OF DROPOUT AND GRADUATION RATES**

Graduation and dropout rates are key indicators of high school and school district success in preparation of students for successful outcomes. While there is no national consensus on the appropriate computational methods for graduation and dropout rates, the Florida Department of Education (FDOE) has established the formulas which are applied for all districts and schools in Florida. The attached Research Brief details the computational methods used by FDOE and alternative analyses conducted by Broward County Public Schools (BCPS) Research Services staff.

As shown in the figure, FDOE computed a graduation rate of 67.8% for BCPS in 2005-06. The FDOE rate includes students who transfer into BCPS schools at any point during their high school education. The alternate graduation rates computed by Research Services staff include only those students who were enrolled in BCPS for their entire high school education. *Alternate Rate 1* includes students who were expected to return but who did not. *Alternate*



Rate 2 was calculated without those students. As such, the calculation of two rates provides a range that realistically represents the graduation success of BCPS students in this cohort. **Among these non-mobile students, the graduation rate was a full 10 percentage points higher, ranging from 77.8% to 80.9%, compared to the FDOE rate.** Following these students for an additional year

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indicated that successful graduation increased another five percentage points, ranging from to 82.8% to 87.6%. These data suggest that students who enter BCPS after ninth grade have greater difficulty meeting graduation requirements.

The report also includes a full description of all possible high school outcomes for this cohort of students, along with a school-by-school listing of the alternate graduation rate. These analyses will be a useful guide to Broward's Graduation Task Force in their charge to improve high school student outcomes in BCPS.

The current Research Brief presents preliminary analyses of the four-year and five-year outcomes of a cohort of BCPS students who entered grade nine for the first time in 2002-03. To facilitate the decision-making of the District's Graduation Task Force, the following additional analyses will be conducted. First, Research Services staff will examine the graduation rates and high school outcomes student subgroups represented in Broward's 2005-06 four-year cohort. Second, Research Services staff will replicate the present investigation with the 2006-07 BCPS four-year cohort. These data will be provided to the District's Graduation Task Force. Questions or comments concerning these analyses should be addressed to **me at 754-321-2470 or Dr. Russell Clement, Director, Research Services at 754-321-2500.** This Research Brief may be accessed via the Research Services Web site (http://www.broward.k12.fl.us/research_evaluation/ResearchServices.htm).

JFN/KAB/RWC:gks

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Attachments

cc: Executive Leadership Team

Area Directors

Leah Kelly, Executive Director, Student Support Services & Exceptional Student Education

Dr. Laurel Thompson, Director, School Social Work & Attendance

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High School Principals

Center Principals

Research Brief



The Calculation of Dropout and Graduation Rates

Dropout and graduation rates are two indicators commonly used to provide perspectives on student, school, and district success. Graduation rates are included as an indicator in the calculation of Adequate Yearly Progress of high schools under the federal No Child Left Behind (NCLB) legislation. Dropout and graduation rates are both reported in the NCLB School Public Accountability Reports (<http://doeweb-prd.doe.state.fl.us/eds/nclbspar/index.cfm>) and the Florida School Indicators Report (<http://data.fldoe.org/fsir/>). Because there are many different ways that students exit high school, and a variety of different computational methods, dropout and graduation rates are only indirectly related. Each indicator provides unique information so they must be considered independently (The School Board of Broward County, Florida, 1997, 2003a). In response to a request from The School Board of Broward County, Florida (SBBC), for a detailed examination and local computation of dropout and graduation rates, Research Services staff has reviewed methods used to compute these indicators and compiled a detailed analysis of Broward's high school student outcomes.

Relationship Between Dropout Rates and Graduation Rates

Florida is among a small number of states with the capability of tracking public school students from Pre-Kindergarten (PK) through grade 12 by using a series of codes indicating entry and exit for each school attended. Nine Florida Department of Education (FDOE) codes track entry, and re-entry, of students and 33 different withdrawal codes track students who leave school, move within a school, move within a district, or withdraw from school (FDOE, 2007a). Only withdrawal codes are relevant to dropout and graduation rates. Eight of the withdrawal codes are identified as "Dropout Codes" and 15 are identified as "Diploma Codes." The additional 10 withdrawal codes represent other types of student mobility. Five of these additional "Other" withdrawal codes are assigned to students who are promoted, retained, or transferred within the same school as well as those who move to another public school in the District or the state, or to a private school (in or out of state). The remaining five "Other" withdrawal codes are assigned to students who withdraw and are under the age of 16, those who leave to attend a Home Education or adult education program, those who leave subsequent to receiving one of several "non-standard" diplomas, and to those who are deceased. A recent Research Brief profiles the students who met the criteria for these other types of mobility from 2004-05 through 2006-07 (SBBC, 2007a). The Dropout, Diploma, and Other codes are described in Appendix A.

In Florida, only students identified with Dropout Codes are used in the calculation of dropout rates while students with Diploma Codes are used in the calculation of graduation rates. However, the specific Diploma Codes included in any particular graduation rate calculation will depend upon the criteria set for that particular analysis. Broward County Public Schools (BCPS)

graduation rates and dropout rates are calculated by the state (FDOE, 2007e). Both four-year and five-year graduation rates are reported (FDOE, 2007c). Reports of both dropout rates and graduation rates for specific schools are available at the FDOE School Indicators Report Web site (<http://data.fldoe.org/fsir/>).

Each state has developed its own coding system and method of computation for dropout and graduation rates, hence limiting national comparability of these indicators. While BCPS has not historically calculated its own rates for these two indicators, the District does conduct ancillary analyses designed to uncover the issues that prevent BCPS students from graduating (e.g., SBBC, 1995, 2003a, 2003b, 2007b).

Calculating Dropout Rates in Florida

In Florida, a dropout is defined as any student in grades 9-12 who withdraws from school for any of eight reasons cited in statute that are reflected in the FDOE Dropout Codes (FDOE, 2007a, 2007d). These codes are reflected in Table A1 of Appendix A. A Technical Assistance Paper (FDOE, no date) delineates the requirements for data reporting and stipulates district and school responsibilities regarding policies and procedures related to dropouts. The calculation of dropout rates is the unduplicated count of students in grades 9-12 with a valid dropout code divided by the total number of grades 9-12 students who were enrolled in the school at any time during the school year, including “DNE” students who did not enter as expected (FDOE, no date). Note that this computational method does not track a specific cohort of students and, therefore, is not aligned to the state’s calculation of graduation rates.

Calculating Graduation Rates in Florida

In 1998-99, the State of Florida implemented a four-year cohort-based method for calculating graduation rates based on the compilation and tracking of individual student records (FDOE, 2007b). The specifics of the calculation of the state’s method are detailed in an FDOE Technical Guide (FDOE, 2007b). The state’s integrated information database tracks students by individual student identification numbers so that students who transfer in and out of a school or district can be included in, or deleted from, the calculation as appropriate. That is, school districts are held responsible only for those students who actually remain in the district. Table A3 of Appendix A lists the 15 withdrawal codes defined by FDOE as Diploma Codes (FDOE, 2007a). These codes are categorized as representing standard diplomas, certificates of completion, special diplomas, and State of Florida diplomas.

Four-year and five-year graduation rates are calculated according to the same basic method (FDOE, 2007c). The calculation of a four-year graduation rate begins with the list of all students who entered ninth grade for the first time in the fall term, four years prior to the graduation year. Students who transferred in as ninth grade students in the first year of tracking, as 10th grade students in the second year of tracking, as 11th grade students in the third year of tracking, and as 12th grade students in the fourth year of tracking are added to the cohort. Students who transferred out of the school system are removed from the cohort. The group that remains is comprised of graduates, dropouts, and other non-graduates including students who remain enrolled and continue working toward graduation. This is the adjusted cohort, which

is the denominator for the calculation of the four-year graduation rate. The numerator is the number of students from the adjusted cohort who graduated within the four-year period. Table 1 displays the FDOE dropout and four-year graduation rates during the past five years for Broward and the state. From 2002-03 to 2005-06, the dropout rate in Broward County has been lower than the statewide rate; however, in 2006-07 Broward's dropout rate (3.2%) was nearly identical to that of the state (3.3%). For all five years examined, Broward's four-year graduation rate was lower than that of the state (SBBC, 2006).

Table 1
Dropout and Graduation Rates, 2002-03 to 2006-07

Year	Broward		Florida	
	Dropout	Graduation	Dropout	Graduation
2006-07	3.2	66.3	3.3	72.4
2005-06	2.7	67.8	3.5	71.0
2004-05	1.7	67.1	3.0	71.9
2003-04	1.1	66.2	2.9	71.6
2002-03	1.0	62.7	3.1	69.0

Computation of a five-year graduation rate takes the adjusted cohort from the four-year rate and applies the same process during a fifth

year of tracking, resulting in a revised adjusted cohort. The numerator then becomes the number of students from the revised adjusted cohort who have graduated within the five-year tracking period (including graduates from the four-year adjusted cohort). The District's 2004-05 four-year graduation rate was 67.1%. The 2005-06 five-year graduation rate reflected an increase of 3.1 percentage points to 70.2% (FDOE, 2007c).

By virtue of the computation methods employed by the state, districts and schools are held accountable for mobile students that transfer into the District and/or school from elsewhere. The final high school success or failure of these students is partially dependent upon the quality of instruction these students received prior to entry into BCPS. Previous research has demonstrated that mobile students, especially those transferring into the District from other systems, have a reduced probability of success (SBBC, 1995, 2003a, 2003b). Consequently, an alternate approach to assessing high school success is to examine the outcomes of students who were served by the District since initial entry into ninth grade, with the exclusion of students who transferred into the District at a later time.

To investigate outcomes for those students who spent their entire high school career in BCPS, the Research Services Department conducted a cohort analysis by tracking first-time entering ninth grade students in 2002-03 for four and five years. Students transferring into the District during this period were not added to the cohort because historical data on these students are not available. Consequently, the data in the present report are not equivalent to those generated by FDOE analyses. However, this analysis will provide a unique insight into the outcomes for our non-mobile BCPS high school students.

Methods

The cohort for the present analysis was defined as the group of students who entered grade nine for the first time in 2002-03. The data on the pool of students from which this cohort was drawn was retrieved from the District's Data Warehouse on December 3, 2007. First time ninth grade

BCPS students in 2002-03 were identified using the ninth grade code for the 180th day of 2002-03. To ensure their status as first-time ninth graders, students were included in the cohort only if they were also enrolled in eighth grade in the District in the previous year, as identified by an eighth grade code on the 180th day of 2001-02. Ninth grade students enrolled in agencies, Department of Juvenile Justice (DJJ) facilities, Broward Virtual Education, and home education were not included in the original cohort. Students identified for inclusion in the cohort were tracked for the entire period of analysis. No students were added or removed from the cohort, representing a divergence from the state's method for calculating graduation rates. Data for any student who left BCPS, and returned to BCPS, during the period of analysis are included in the summary of outcomes as indicated by their final District database status.

Once the cohort was selected, final withdrawal codes for each student were identified using the Assignment History and Student All catalogs in the Data Warehouse. Tracking of the students in the cohort was accomplished through retrieval of the student record at the end of 2003-04, 2004-05, 2005-06 (four-year outcomes), and 2006-07 (five-year outcomes). The current outcome analyses represent the percentages of students who fit the criteria for each of the possible outcome categories.

To evaluate the success of students whose entire high school education was obtained in BCPS, two alternate graduation rates were calculated for this cohort based upon outcome analyses. For these computations, the following criteria were applied.

- The numerator includes only those students coded with a Diploma Code that reflects graduation from high school. Students receiving certificates of completion were not counted as graduates.
- The denominator includes students with codes that indicate graduation, dropout, certificate of completion, and still enrolled.
- Students with transfer codes or adult codes were not included in the calculation.

The only difference between the calculations of the two rates is the inclusion or exclusion of students who were expected to return but who did not and whose codes were never updated. In reality, some of the students in this group ($n=541$ in 2004-05 and $n=760$ in 2005-06) should have been recoded as "DNE," representing a Dropout Code, which would mean that these students would be included in the denominator of the equation. The remainder of these students would likely have been appropriately coded as a transfer, which would mean that they would not be included in the equation. Consequently, the calculation of two rates (one including these students and one eliminating these students), provides a range that realistically represents the graduation success of BCPS students in this cohort.

Results

Appendix B summarizes all possible four-year (2005-06) and five-year (2006-07) outcomes according to withdrawal codes for BCPS students who entered ninth grade in the District for the first time in 2002-03. These data represent the outcomes for 18,097 students who fit the criteria for inclusion in this cohort. Withdrawal categories have been organized to be consistent with the state's classifications: Dropout Codes, Graduation Codes, and Other Withdrawal Codes. Percentages reflect the number of students in a category divided by the total number of

students in the cohort ($n=18,097$). That is, percentages do *not* represent either graduation or dropout rates that are comparable to those calculated by the state. However, the summary data provided in Appendix B formed the basis for computation of alternative graduation rates that are presented in Table 2.

Table 2

Comparison of FDOE Graduation Rate and Locally-Computed Alternatives

	FDOE	Alternate 1	Alternate 2
Four-Year (2005-06)	67.8	77.8	80.9
Five-Year (2006-07)		82.8	87.6

Alternate Graduation Rate 1

The calculation of an alternate four-year graduation rate that includes non-returning students who were expected to return yields a rate of 77.8%. This represents the total number of four-year graduates ($n=11,011$) divided by the total number of graduates, dropouts, students receiving certificates of completion, those still enrolled, and students expected to return who did not ($n=14,149$). Using this strategy, the calculation of an alternate five-year graduation rate yields a rate of 82.8%. This represents the total number of five-year graduates ($n=11,416$) divided by the total number of graduates, dropouts, students receiving certificates of completion, those still enrolled, and students expected to return who did not ($n=13,791$).

Alternate Graduation Rate 2

The calculation of an alternate four-year graduation rate that does not include non-returning students who were expected to return yields a rate of 80.9%. This represents the total number of four-year graduates ($n=11,011$) divided by the total number of graduates, dropouts, students receiving certificates of completion, and those still enrolled ($n=13,608$). Using this second strategy, the calculation of an alternate five-year graduation rate yields a rate of 87.6%. This represents the total number of five-year graduates ($n=11,416$) divided by the total number of graduates, dropouts, students receiving certificates of completion, and those still enrolled ($n=13,031$).

Figure 1 represents the FDOE four-year graduation rate for BCPS alongside the four-year and five-year alternate rates for the District. Although the FDOE and alternate rates were calculated using different methods and direct comparison of FDOE and alternate rates is not possible, these results suggest that outcomes for students who begin, and end, their high school education in the District are enhanced in relation to the outcomes for all students.

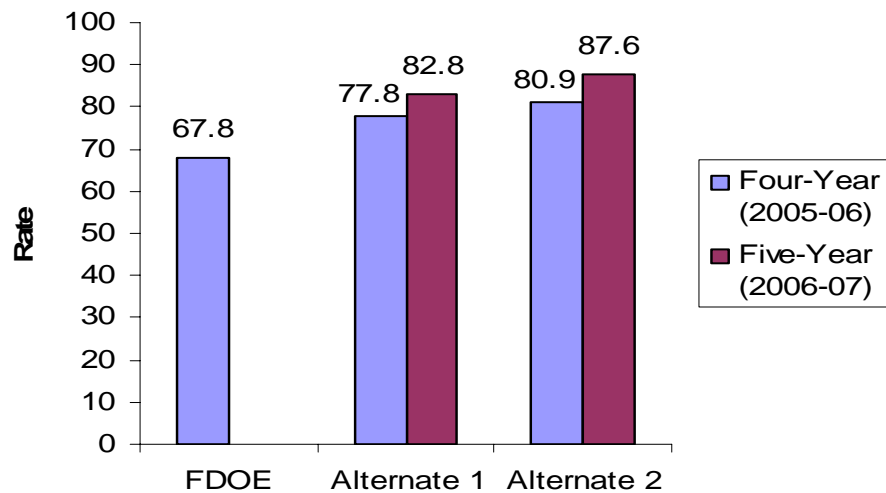


Figure 1. BCPS four-year FDOE graduation rate and four- and five-year alternate rates.

All Outcomes

Graduation rates provide a useful summary of outcomes for high school students. However, in order to address the needs of students, it is necessary to understand the specific outcomes of those students who are not successful. To that end, the four-year and five-year outcomes detailed in Appendix B have been summarized in Figures 2 and 3, respectively. Figure 2 depicts the 2005-06 four-year outcomes of BCPS students in the cohort. The largest group is the number of students who met the state criteria for graduation in 2005-06 ($n=11,011$, 60.8%). This figure does not include the number of students who received certificates of completion ($n=620$, 3.4%) and are not included as graduates in the calculation of graduation rates by the state. The next largest group in this cohort represents transfers, including transfers out of state, out of District, to adult education, to private school, to Home Education programs, and students who are deceased ($n=2,406$, 13.3%). Students in this group are not included in the state calculation of graduation and dropout rates. The next largest groups represent those students who were still enrolled in the District in 2006-07 ($n=1,446$, 8.0%) and those students who were expected to return and who did not and for whom no further information is available ($n=541$, 3.0%). Dropouts represent 2.9% of this cohort ($n=531$). The remainder have been classified for our purposes as “Adult Non-Success,” which includes students in the original cohort who transferred to, and then left, an adult education program under a variety of circumstances ($n=1,542$, 8.5%). According to FDOE criteria, these students should have been removed from the calculation of dropout and graduation outcomes as of the time that they originally transferred to an adult education program.

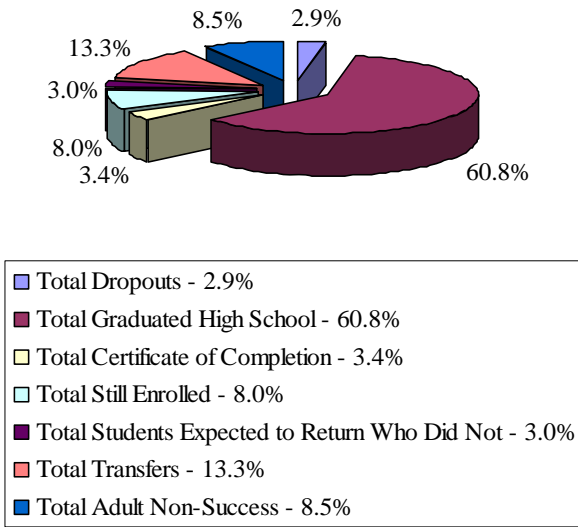


Figure 2. Four-year outcomes by withdrawal category.

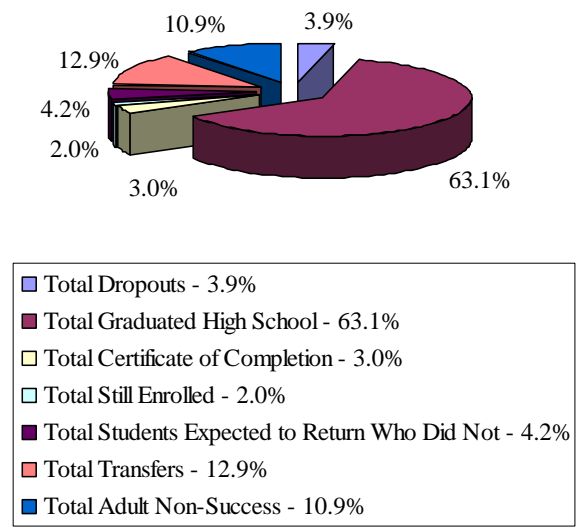


Figure 3. Five-year outcomes by withdrawal category.

The five-year outcomes for this cohort are also detailed in Appendix B and summarized in Figure 3. The largest group includes the students who met the state criteria for graduation in 2006-07. That is, 11,416 (63.1%) of students in the 2002-03 cohort graduated in either four or five years, which represents a modest increase from the four-year graduation outcomes (60.8%). This figure does not include the number of students who received certificates of completion ($n=547$, 3.0%). The next largest group in this cohort represents transfers (including transfers out of state, out of District, or to adult education, private school, Home Education programs, and students who are deceased, $n=2,336$, 12.9%). Again, students in this group are not included in the state calculation of graduation and dropout rates. The next largest group represents those students who were expected to return and who did not and for whom no further information is available ($n=760$, 4.2%). Dropouts represent 3.9% of the five-year outcomes ($n=705$), while students from this cohort who were still enrolled in the District in 2007-08 represent 2.0% ($n=363$) of the group. In year five, students classified as “Adult Non-Success” represent 10.9% ($n=1,970$) of the cohort. Again, these students would have been removed from the state’s calculation of dropout and graduation outcomes as of the time that they originally transferred to an adult education program.

As indicated previously, students in the cohort who transferred out of the District and then returned continued to be represented in the cohort. One result is seen in the reduced number of transfers in year five, compared to year four. This occurred when students who transferred out of the District returned to the District in their fifth year. Of these 70 students, 25 actually completed their fifth year with a valid graduation code. Similarly, the reduced number of certificates of completion in year five, compared to year four, includes 62 students who were coded as having received certificates of completion in year four who completed their fifth year with a valid graduation code.

A school-by-school list of four-year and five-year alternate graduation rates for BCPS high schools can be found in Appendix C. Only the more conservative rate (Alternate Rate 1) was calculated for both cohorts. Consistent with the procedures for the District-level alternate rates, schools were held responsible only for their own students. Specifically, school-level calculations exclude students who left the District or transferred to another school within the District. Students who left, and then returned to, their original high school are included in the outcomes for that school. As such, the school-level calculations reflect the outcomes of graduates, dropouts, students still enrolled, and students who received certificates of completion for first-time ninth graders in 2002-03 *at their respective schools*.

Discussion

The cohort analyses presented here provide a refined picture of the outcomes of BCPS high school students. However, the results of these analyses should not be confused with the state's report of graduation and dropout rates. Any analyses conducted locally are limited to the information stored in the District's databases. Information about students after they transfer out of BCPS to another district, state, or private school is not reflected in the BCPS Data Warehouse. Similarly, information about students before entry into a Broward public school is largely not reflected in District databases. These limitations preclude the replication of FDOE computations.

The alternate graduation rates presented here represent the success of a cohort of students who received their entire high school education in the District, providing additional insight into the outcomes of BCPS students. Alternate four-year graduation rates suggest that, of this group of non-transient students who began their high school education in BCPS in 2002-03, between 77.8% and 80.9% graduated in four years. Similarly, the alternate five-year graduation rates suggest that between 82.8% and 87.6% successfully graduated in five years. These data provide additional support for previous District studies that have reported that student mobility is associated with compromised outcomes (SBBC, 1995, 2003a, 2003b). One District study reported that 41% of all BCPS students were new arrivals or made an intradistrict move over the three years of the study and that, on average, mobile students in the grades under study (5, 8, and 11) scored lower than their non-mobile counterparts across every measure of academic achievement investigated (SBBC, 1995). Results across all measures indicated that academic achievement was negatively affected in both new arrivals to the District and students who move within the District with performance being compromised to a greater degree in the students who are new arrivals to BCPS. A subsequent investigation of mobility and achievement (SBBC, 2003a), which used a ninth grade cohort method similar to the present study, reported that non-mobile students were three times more likely to have received a standard diploma than mobile students. In that study, mobile students were also more likely to require a fifth year of high school in order to graduate. A follow-up study that investigated the relationship between mobility and performance on standardized tests in this cohort of students demonstrated that the mean Normal Curve Equivalent (NCE) scores of the mobile population were lower on norm-referenced tests than those of the non-mobile population of students. Similarly, the proportions of mobile students scoring at or above criterion on the Florida Comprehensive Assessment Test—Sunshine State Standards (FCAT-SSS) Reading, Mathematics, and Writing subtests were lower than the non-mobile students (SBBC, 2003b).

Computation of Graduation Rates Across the United States (U.S.)

The wide variety of data codes, procedures, and systems utilized across U.S. school districts for the calculation of graduation rates has been an obstacle to the identification of a single methodology that would allow comparison of these data across states. For the purposes of NCLB accountability, the Editorial Projects in Education (EPE) Research Center (2006) reports seven different formulas that are currently in use for the calculation of graduation rates. In 2006, the National Forum on Education Statistics (NFES) established the National Cooperative Education Statistics System to assist in producing and maintaining comparable and uniform education information and data and to propose principles of good practice. A taxonomy for standardized student exit codes was proposed as a first step toward establishing a system that would allow comparison across states (NFES, 2006).

In addition to the noted procedural disparities that impact the ability to compare graduation statistics across states, the variability in state coursework requirements for high school graduation is also a factor that should be considered. The United States Department of Education, National Center for Education Statistics (2007), *The Condition of Education 2007*, presents the 2005 state coursework requirements for graduation for all states and the District of Columbia. The course requirements across all states are presented in standardized (i.e., Carnegie) units. As of 2005, all but six states stipulated minimum state coursework requirements for high school graduation. Across all states, the number of credits required for graduation, measured in Carnegie units, varies from 13 to 24. Florida is one of only five states that require 24 credits. That is, Florida is setting the bar higher than most.

Despite non-standardized codes, procedures, and requirements across the U.S., a number of strategies have been utilized to compare graduation data across states for purposes that range from basic accountability to the award of scholarship monies. In 2005, the National Governors Association (NGA) convened a Task Force on State High School Graduation Data to devise recommendations regarding the development of a high-quality, comparable high school graduation measure. The task force developed a strategy for calculating graduation rates that has come to be known as the NGA Graduation Rate Compact. In the NGA report, Florida's adjusted four-year cohort graduation rate, based on the compilation and tracking of individual student records, was lauded as a model strategy (NGA, 2005). While the EPE Research Center (2006) indicates that 10 states utilize a cohort rate for NCLB, FDOE (2007e) reports that Florida is the only state currently using a cohort method to calculate graduation rates that tracks each individual student from ninth grade through graduation, which yields a more precise rate. The Council of Chief State School Officers (no date) has issued a set of recommendations related to the implementation of the NGA Graduation Rate Compact, which cited Florida as one of the four states with long-standing exit code data collection systems that can support the calculation of a cohort graduation rate and serve as a model for schools looking to implement such a system.

Of all methods for calculating a graduation rate that are currently in use, only two strategies—the NGA Graduation Rate Compact and Florida's four-year cohort rate—track students over four years on an individual basis to yield an accurate measure of high school graduation outcomes. All other methodologies utilize a variety of estimation procedures. There are only minor differences between the NGA and Florida's four-year cohort strategies that are outlined in a recent NGA update (NGA Center for Best Practices, 2006).

Data Issues

The source of data must be considered in any discussion of educational outcomes. FDOE calculations are based upon data that is entered at the level of the school, compiled at the level of the District, and submitted by the District to the state. However, many of the researchers reporting “standardized” data for the purposes of comparing across U.S. school districts utilize other sources of data (e.g., U.S. Common Core of Data Web site, <http://nces.ed.gov/ccd/>) that may or may not align with the data reported by districts.

The greatest challenge to the calculation of graduation rates on an individual basis is the tracking of codes for highly mobile students over the years that they are enrolled. Transient students, in many cases, may already represent students who are “off track” and are more likely to encounter obstacles to graduation. When students move in and out of District schools and centers, and even in and out of the state, the tracking of withdrawal codes is cumbersome and less likely to be accurate. The following represent examples of data issues uncovered in the context of the current analysis. Each example represents a number of instances related to an issue that obscures the true nature of student outcomes and negatively impacts the calculation of accurate dropout and graduation rates.

First, more than 700 students in this cohort were found to have outdated codes. These students were expected to return to their school (W01) or the District (W02) in the subsequent school year but, in fact, did not re-enter. The codes for these students should have been corrected to reflect that they left the District (W3A) or the state (W3B) or, in the absence of follow-up information, should have been changed to a DNE code. Students who left the District or the state would not be included in dropout and graduation calculations. Students with a DNE code and the outdated W01 and W02 codes are reflected as non-graduates in the state’s calculation of dropout and graduation rates. This example represents the importance of tracking individual students and updating records.

Second, as students move in and out of the District’s adult education programs, tracking becomes more difficult. A number of students transfer to adult education programs (W26) and then show up at a later time with a non-adult re-entry and withdrawal code. Students who transfer to an adult education program are not included in the calculation of dropout and graduation rates. Students who move in and out of adult education programs may, or may not, be included in the state’s calculation depending upon how the inclusion and exclusion criteria are implemented and the particular withdrawal code in a student’s file at the time that the data are retrieved. This example highlights the problems inherent in the non-standard application of codes.

Third, vagaries in the assignment of student codes pose a number of problems. For example, several instances were encountered where a student with a valid graduation code also was assigned a subsequent non-graduate code (adult code or DNE). BCPS Career, Technical and Adult/Community Education (CTACE) programs and services are provided to thousands of adults and children each year. Some students earn a diploma from BCPS and then return to the District for technical training in a CTACE program. In those instances, the final code for a student may represent the adult enrollment and/or withdrawal code instead of the appropriate graduation code. That is, under these circumstances some graduates may be mischaracterized as non-graduates.

Finally, in a number of instances there was a conflict between the student's last withdrawal code in the Assignment History catalog and the student's last withdrawal code in the Student All catalog. In some cases, the date of the withdrawal code in the two catalogs was identical, but the codes were discrepant. In these instances, it was impossible to determine which code was accurate for that student.

Despite the difficulties concerning the data, the analysis of this cohort of students provides valuable insight into student outcomes, which is not available in the traditional calculation of graduation rates. Specific knowledge of unsuccessful student outcomes is necessary for the development and implementation of appropriate interventions.

Next Steps

The current Research Brief presents preliminary analyses of the four-year and five-year outcomes of a cohort of BCPS students who entered grade nine for the first time in 2002-03. To facilitate the decision-making of the District's Graduation Task Force, the following additional analyses will be conducted.

1. Research Services staff will conduct analyses that address the outcomes of specific subgroups of Broward's 2005-06 four-year cohort.
2. Research Services staff will replicate the present investigation with the 2006-07 BCPS four-year cohort.

The findings from these planned analyses will be provided to the District's Graduation Task Force to guide their discussions and recommendations.

References

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The School Board of Broward County, Florida prohibits any policy or procedure that results in discrimination on the basis of age, color, disability, gender, national origin, marital status, race, religion, or sexual orientation.

Appendix A

Table A1

FDOE Withdrawal Codes: Dropout Codes

WITHDRAWAL FROM FLORIDA PUBLIC
SCHOOLS: GRADE PK-12 STUDENTS

DNE	Any PK-12 student who was expected to attend a school but did not enter as expected for unknown reasons.
W05	Any student age 16 or older who leaves school voluntarily with no intention of returning.
W13	Any PK-12 student withdrawn from school due to court action.
W15	Any PK-12 student who is withdrawn from school due to nonattendance.
W18	Any PK-12 student who withdraws from school due to medical reasons.
W21	Any PK-12 student who is withdrawn from school due to being expelled.
W22	Any PK-12 student whose whereabouts is unknown.
W23	Any PK-12 student who withdraws from school for any reason other than W01 - W22 or W24 - W27.

Table A2

FDOE Withdrawal Codes: Other Withdrawal Codes

WITHDRAWAL FROM FLORIDA PUBLIC
SCHOOLS: GRADE PK-12 STUDENTS

W01	Any PK-12 student promoted, retained or transferred to another attendance reporting unit in the same school.
W02	Any PK-12 student promoted, retained or transferred to another school in the same district.
W3A	Any PK-12 student who withdraws to attend a public school in another district in Florida.
W3B	Any PK-12 student who withdraws to attend another public school out-of-state.
W04	Any PK-12 student who withdraws to attend a nonpublic school in- or out-of-state.
W12	Any PK-12 student withdrawn from school due to death.
W24	Any PK-12 student who withdraws from school to attend a Home Education program.
W25	Any student under the age of 6 who withdraws from school.
W26	Any student who withdraws from school to enter the adult education program prior to completion of graduation requirements.
WPO	Any student who is withdrawn from school subsequent to receiving a W07, W08, W8A, W09, or W27 during the student's year of high school completion.

(Appendix A continues)

Appendix A (continued)

Table A3

FDOE Withdrawal Codes: Diploma Codes

WITHDRAWAL FROM FLORIDA PUBLIC SCHOOLS: GRADE PK-12 STUDENTS	
STANDARD DIPLOMAS	
W06	Any student who graduated from school and met all of the requirements to receive a standard diploma.
W6A	Any student who graduated from school and met all of the requirements to receive a standard diploma, based on the 18-credit college preparatory graduation option.
W6B	Any student who graduated from school and met all of the requirements to receive a standard diploma, based on the 18-credit career preparatory graduation option.
W10	Any student in a GED Exit Option Model who passed the GED Tests and the graduation test and was awarded a standard diploma.
WFA	Any student who graduated from school with a standard diploma based on an 18-credit college preparatory graduation option and satisfied the graduation test requirement through an alternate assessment.
WFB	Any student who graduated from school with a standard diploma based on an 18-credit career preparatory graduation option and satisfied the graduation test requirement through an alternate assessment.
WFT	Any student who graduated from school with a standard diploma and satisfied the graduation test requirement through an alternate assessment. (For students meeting accelerated high school graduation option requirements, see WFA and WFB.)
WFW	Any student who graduated from school with a standard diploma and an FCAT waiver.
WGA	Any student in a GED Exit Option Model who passed the GED Tests, satisfied the graduation test requirement through an alternate assessment, and was awarded a standard diploma.
CERTIFICATES OF COMPLETION	
W08	Any student who received a certificate of completion.
W8A	Any student who met all of the requirements to receive a standard diploma, except passing the graduation test, and received a certificate of completion and is eligible to take the College Placement Test and be admitted to remedial or credit courses at a state community college as appropriate.
W09	Any student who received a special certificate of completion.
SPECIAL DIPLOMAS	
W07	Any student who graduated from school with a special diploma, based on option one—mastery of Sunshine State Standards for Special Diploma.
W27	Any student who graduated from school with a special diploma, based on option two—mastery of employment and community competencies.
STATE OF FLORIDA DIPLOMA	
WGD	Any student participating in the GED Exit Option Model who passed the GED Tests, but did not pass the graduation test and was awarded a State of Florida diploma.

Appendix B

Current Withdrawal Codes for First Time Grade Nine Students in 2002-03

WITHDRAWAL CATEGORY	Withdrawal Code	Withdrawal Reason	4-year		5-year	
			n	%	n	%
Dropout Codes						
Dropout	DNE	Did not enter as expected	218	1.2	355	2.0
	W05	Over age 16 leaves voluntarily	31	0.2	37	0.2
	W13	Withdrawn due to court action	1	0.0	1	0.0
	W15	Withdrawn due to nonattendance	186	1.0	217	1.2
	W18	Withdrawn due to medical reasons	2	0.0	3	0.0
	W21	Withdrawn due to being expelled	6	0.0	4	0.0
	W22	Whereabouts unknown	20	0.1	23	0.1
	W23	Withdrawn for any other reason	67	0.4	65	0.4
Total Dropouts			531	2.9	705	3.9
Diploma Codes						
Graduated High School (incl in graduation rate)	W06	Graduated with standard diploma	10,248	56.6	10,508	58.1
	W6A	Diploma - 18 credit college prep	35	0.2	35	0.2
	W6B	Diploma - 18 credit career prep	11	0.1	11	0.1
	W10	Left School with GED & FCAT/HSCT	53	0.3	82	0.5
	WFA	18 credit college prep (alternate assmt)	1	0.0	1	0.0
	WFB	18 credit career prep (alternate assmt)	4	0.0	4	0.0
	WFT	Std diploma (alternative assmt)	209	1.2	244	1.3
	WFW	Std diploma and FCAT waiver	87	0.5	100	0.6
	W43	Adult standard diploma	3	0.0	11	0.1
	W45	Adult GED	94	0.5	127	0.7
	W07	Special diploma Option 1	252	1.4	278	1.5
	W27	Special diploma Option 2	14	0.1	15	0.1
Total Graduated High School			11,011	60.8	11,416	63.1
Certificate of Completion (not incl grad rate)	W08	Certificate of Completion	113	0.6	84	0.5
	W8A	Cert of Completion eligible to take CPT	507	2.8	463	2.6
Total Certificate of Completion			620	3.4	547	3.0
Other Withdrawal Codes						
Still enrolled	W01-current	Returning to the same school	875	4.8	211	1.2
	W02-current	Move to different school in the District	571	3.2	152	0.8
Total Still Enrolled			1,446	8.0	363	2.0
Students Expected to Return Who Did Not - codes not updated	W01-old	Returning to the same school	122	0.7	150	0.8
	W02-old	Move to different school in the District	419	2.3	610	3.4
Total Students Expected to Return Who Did Not			541	3.0	760	4.2
Transfers	W03	Transfer Out of District/State (old code)	1,366	7.5	1,344	7.4
	W3A	Transfer Out of District (replaced W03)	139	0.8	153	0.8
	W3B	Transfer Out of State (replaced W03)	130	0.7	139	0.8
	W04	Transfer to Private School	180	1.0	180	1.0
	W24	Transfer to Home Education	37	0.2	29	0.2
	W12	Deceased Student	16	0.1	19	0.1
	W26	Transfer to Adult Education Program	537	3.0	471	2.6
	W28	Adult completed job prep program	1	0.0	1	0.0
Total Transfers			2,406	13.3	2,336	12.9
Adult Student "Non-success" Codes	W40	Adult Left for Other Known Reason	1,524	8.4	1,950	10.8
	W41	Adult Student Left for Unknown Reason	16	0.1	16	0.1
	W38	Adult Student Left for Family Problems	1	0.0	1	0.0
	W47	Adult Withdrawn Expected to Return	1	0.0	1	0.0
	W42	Adult Student Expelled from School	0	0.0	1	0.0
	W48	Adult Left Without Completing Program	0	0.0	1	0.0
Total Adult Non-Success			1,542	8.5	1,970	10.9
		Total 2003 First Time Grade 9 Cohort	18,097	100.0	18,097	100.0

Appendix C

School-by-School Alternate Graduation Rates for Four-Year and Five-Year Cohorts

School Name	Four-Year 2005-06 FDOE Graduation Rate	Total First Time 9 th Graders <i>N</i>	Four-Year Cohort (2005-06)				Five-Year Cohort (2006-07)			
			Non-mobile Students		Number of Graduates	Alternative Rate	Non-mobile Students		Number of Graduates	Alternative Rate
			%	<i>N</i>	<i>n</i>	%	<i>N</i>	<i>n</i>		
Anderson, Boyd H. High	46.4	648	46.1	299	214	71.6	45.1	292	224	76.7
Atlantic Technical High	78.8	145	64.1	93	93	100.0	64.1	93	93	100.0
Coconut Creek High	55.3	655	44.0	288	226	78.5	44.3	290	244	84.1
Cooper City High	84.8	542	77.9	422	395	93.6	77.5	420	398	94.8
Coral Springs Charter School	81.3	277	59.6	165	160	97.0	60.3	167	163	97.6
Coral Springs High	78.5	681	64.8	441	405	91.8	64.3	438	411	93.8
Cypress Bay High	86.4	1,046	71.9	752	711	94.5	72.1	754	719	95.4
Deerfield Beach High	60.0	700	56.0	392	305	77.8	56.0	392	324	82.7
Dillard High	59.2	452	60.4	273	194	71.1	57.5	260	210	80.8
Ely, Blanche High	59.1	824	50.8	419	333	79.5	49.5	408	346	84.8
Flanagan, Charles W. High	67.7	1,322	34.6	458	411	89.7	34.1	451	422	93.6
Fort Lauderdale High	63.5	508	56.1	285	242	84.9	53.7	273	247	90.5
Hallandale High	51.6	384	53.6	206	146	70.9	51.8	199	157	78.9
Hollywood Hills High	67.2	580	46.0	267	240	89.9	45.5	264	246	93.2
McArthur High	68.6	570	57.2	326	269	82.5	57.4	327	281	85.9
McFatter, W. T. Technical High	93.7	142	80.3	114	114	100.0	80.3	114	114	100.0
Miramar High	70.6	649	51.6	335	301	89.9	51.5	334	304	91.0
Northeast High	69.4	506	59.7	302	273	90.4	58.7	297	277	93.3
Nova High	81.0	501	68.7	344	321	93.3	67.7	339	326	96.2
Parkway Academy @ BCC	80.5	70	38.6	27	26	96.3	37.1	26	26	100.0
Pembroke Pines Charter High*	89.1	256	72.3	185	183	98.9	71.9	184	183	99.5
Piper High	62.3	824	56.1	462	403	87.2	55.2	455	409	89.9
Plantation High	69.7	740	54.5	403	367	91.1	54.9	406	381	93.8
Pompano Beach High	86.3	212	61.3	130	125	96.2	60.8	129	126	97.7
South Broward High	66.6	626	50.3	315	257	81.6	49.2	308	265	86.0
South Plantation High	70.9	672	55.1	370	337	91.1	54.5	366	344	94.0
Stoneman Douglas, Marjory High	80.2	1,029	50.0	514	480	93.4	49.1	505	485	96.0
Stranahan High	60.7	586	52.9	310	272	87.7	52.6	308	276	89.6
Taravella, J. P. High	80.3	801	60.8	487	462	94.9	61.0	489	470	96.1
Western High*	80.2	601	66.6	400	377	94.3	65.9	396	377	95.2

Note. Schools with less than 10 graduates are omitted. The first year of enrollment was after 2002-03 for Coral Glades, Everglades, Life Skills, Monarch, Smart School Institute, and Somerset Conservatory High Schools, so these schools had no students in the cohort. College Academy and Sheridan Technical do not enroll students in grade nine. Somerset Academy High had fewer than 10 graduates in both years. District Centers and Broward Virtual School were not included.

* An increase in the 5th year graduation rate, with no increase in the number of graduates, reflects reduced enrollment in year five due to student transfers.