Mississippi Department of Education

Procedures for Calculating Graduation, Completion and Dropout Counts and Rates by Tracking Cohorts of Students in MSIS

This document presents proposed procedures for calculating graduation, completion, and graduation counts and rates. The procedures for calculating dropout and completion rates are new.

The proposed procedures for calculating graduation rates differ from those currently used by the Department of Education. Whereas earlier calculations were based on student counts, the procedures proposed in this document involve tracking individual students over time using data in the Mississippi Student Information System (MSIS).

The proposed procedures include:

- Establishing the cohort to be tracked.
- Identifying and coding events (transfer, death, drop out, completion).
- Determining appropriate denominators for calculating rates.
- Statistical estimation, where necessary.
- Calculation of rates representing different time spans (4, 5, 6 years).

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Introduction

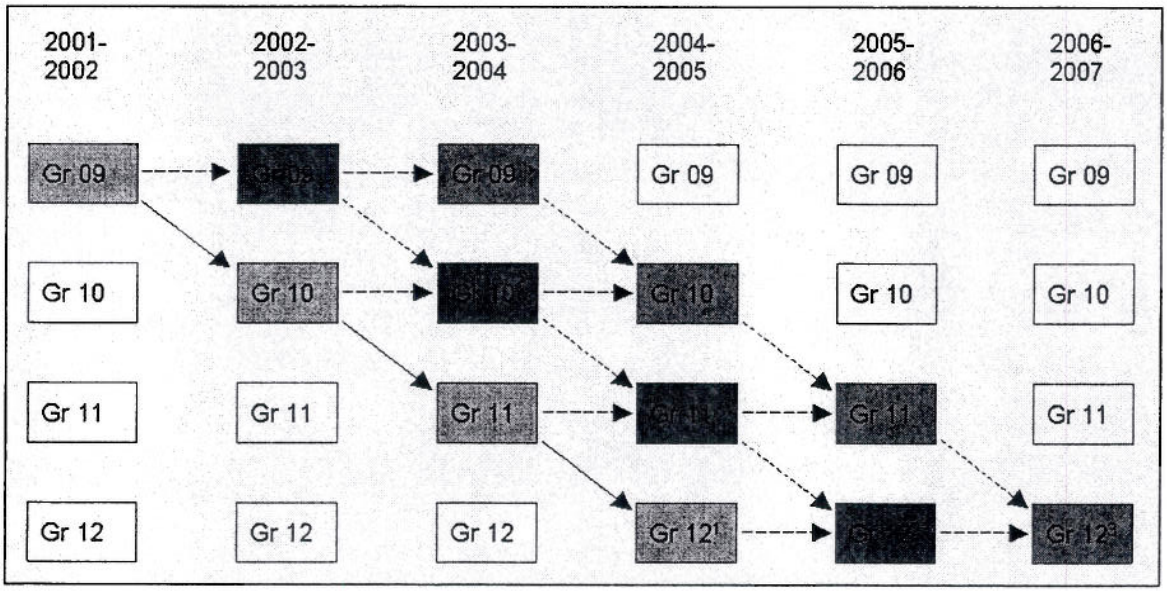
The most accurate graduation, completion, and dropout statistics result from procedures that track individual students over time. The Mississippi Student Information System (MSIS) was implemented statewide at the beginning of the 2001-2002 school year. As of the end of school year 2005/2006, five complete years of student data are available in MSIS.

Accurate tracking of individual students is technically complex, especially for students who transfer into, out of, and within the state during the target time span. The figure below shows how a cohort of students would be tracked using MSIS.

School completion and graduation rates are generally calculated using 9th grade as a starting point. The box in the upper left corner of the figure represents 9th grade students during school year 2001-2002 (the first year of MSIS). Most of those students would have been 10th graders in 2002-2003, 11th graders in 2003-2004, and 12th graders in 2004-2005. At the end of the 2004-2005 school year (over a 4-year time span), most of the students who were 9th graders in 2001-2002 had completed high school and earned a high school diploma. During the four years, some students transferred out of the state public school system, a few died, and many dropped out.

In addition to those students who completed, transferred, died, or dropped out, some students fell behind and were still enrolled in school at the end of the 2004-2005 school year. The figure shows how some of the 9th grade students remained in 9th grade during the 2002-2003 school year. Likewise, the figure shows how students may have fallen behind one or more times at different grades.

Tracking Student Cohorts in MSIS



To get a complete picture of the results for the cohort beginning with 9th graders in 2001-2002, separate statistics (graduation, completion, and dropout rates) must be calculated for different time spans. Four-year rates can be computed using data available through the end of the 2004-2005 school year (represented by the box containing Gr 12[1]). Another set of statistics, showing what happened to the cohort over five years, can be calculated using the 2005-2006 school year data (Gr 12[2]) and a set of 6-year statistics can be calculated at the end of the 2006-2007 school year (Gr 12[3]).

Establishing a "Full" 9-12 Cohort

So far, the discussion has focused on a "true" cohort of students – those who were 9th graders at the beginning of school year 2001-2002 – and what happened to those students over different lengths of time. However, other students who enter Mississippi public schools must be added to the cohort. Since students are added to the cohort based on the grade they enter the system, we use the term, "full" 9-12 cohort. For the remainder of this document, the simple term "cohort" will mean the full 9-12 cohort. The full cohort is constructed as follows.

- Start with students entering 9th grade for the first time at the beginning of the starting year for the cohort.
- Add students entering as 9th graders during the rest of that school year.
- Add students entering as 10th graders the second year.
- Add students entering as 11th graders the third year.
- Add students entering as 12th graders the fourth year.

Note: Self-contained special education students enter the cohort based on peer grade (using student's age).

Student Transfers Out of the Cohort

Students who die or who transfer to other educational settings outside the state's public school system are removed from the cohort before calculating dropout, completion, and graduation rates. School districts determine the reason and code the student appropriately in MSIS as follows.

- Valid transfers out of the cohort
    - Transfer to a private school in Mississippi
    - Transfer to a home school situation in Mississippi
    - Transfer to an approved community-based GED program
    - Transfer to a school out of state or in another country
- Student death is handled the same as a transfer out.

Note: Students coded as valid transfers outside Mississippi public schools are removed from the cohort. Those transferring within Mississippi are simply reported at the new school district.

Dropouts

For students who drop out of school, districts are required to determine the reason and code the student appropriately in MSIS.

Note: Students coded as dropouts are not removed from the cohort. However, if a student returns to school anywhere in Mississippi, the student is reported at the new enrollment location and the original dropout code is ignored.

Dropout Denominator

The dropout denominator represents the students from the cohort for which the state or a particular school district will be held accountable when calculating dropout rates. The dropout denominator is determined as follows.

- Begin with the full cohort N-count.
- Subtract transfers out and deaths.

Note: The dropout rate is calculated by dividing the number of dropouts by the dropout denominator. The dropout denominator will be different for different time span calculations because additional students will have transferred or died during year 5 and year 6.

Completion/Graduation Denominator

The completion/graduation dropout denominator represents the students from the cohort for which the state or a particular school district will be held accountable when calculating completion and graduation rates. Separate dropout and completion/ graduation denominators are used because it is not reasonable to expect all students, particularly certain special education students, to complete high school within four years. The completion/graduation denominator is determined as follows.

- Begin with the full cohort N-count.
- Subtract transfers out and deaths.
- Subtract certain special education students who are expected to take longer to complete.

Note: The completion rate is calculated by dividing the number of completers by the completion/graduation denominator. The graduation rate is calculated by dividing the number of diploma recipients by the completion/graduation denominator The completion/graduation denominator will be different for different time span calculations because additional students will have transferred or died during year 5 and year 6 and because the special education students expected to complete school at the end of years 5 and 6 are added back into the denominator for the 5- and 6-year calculations.

Statistical Estimation

Information entered into MSIS by school districts is used when tracking student cohorts. However, there are reasons why some information may not be available for some cohort students. For example students who were enrolled at the end of school year 2001-2002, but were not enrolled in the state at the beginning of school year 2002-2003 – and – students who were enrolled at the end of school year 2002-2003, but were not enrolled in the state at the beginning of school year 2003-2004. Although MSIS had been implemented, there was no way for districts to code a reason for students who left school during the summers of 2002 and 2003. There is now a procedure that allows (and requires) districts to code a reason for every student who leaves during the summer.

There is no way to know for sure what happened to students who left during the summers of 2002 or 2003 – some of the students transferred to private schools, home schools, and out of state schools; a few died; and some dropped out. In order to account for the cohort students with an unknown final disposition, a procedure was developed for apportioning the students into transfer/death and dropout estimates. For the state and for each individual district, apportioning was based on the percentage of students coded by districts as transfers/deaths and as dropouts when they coded students who left during the summers of 2004 and 2005. Thus, if 40% were coded as transfers and 60% were coded as dropouts in 2004 and 2005, we would estimate that 40% of the students with unknown final distributions were transfers and 60% were dropouts.

- When statistical estimation is used the calculated dropout, completion, and graduation rates are <u>estimates</u>.
- An analysis of the 4-year dropout, completion, and graduation estimates for the cohort of students beginning with 9th graders in 2001-2002 indicated that the state level values were accurate to within approximately +/- 5%.
- The number of students with unknown final dispositions will decrease significantly for calculations involving the cohort beginning with 9th graders in 2002-2003. Since students in the cohort beginning with 9th graders in 2003-2004 were subject to MSIS coding for every summer, calculations for it (and for all subsequent cohorts) should involve little or no statistical estimation.

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Students Counted as Graduates

All students completing high school are included when calculating the completion rate. That includes students earning a diploma, those earning a GED through a district GED program, special education students receiving a certificate of attendance, and students completing all state and local requirements for a diploma except for a passing score on one or more of the Subject Area Tests. However, not all completers are included when calculating the graduation rate.

- Students earning traditional diplomas are graduates.
- Special Education students earning occupational diplomas are graduates.
- Special Education students earning certificates of attendance are not graduates, but they are counted as completers.
- Students earning a GED from a district program are not graduates, but they are counted as completers.

Reporting Schedule

For each school year, calculations will be performed for an additional year for existing student cohorts and initial calculations will be performed for the next subsequent cohort. Once enough data are available in MSIS, additional dropout calculations will be applied to a Grade 7-12 cohort. The reporting schedule for the first two cycles is presented in the following table.

Reporting Time	Target Cohort	Reporting Time Span	Reported Elements	Comments
January 2007	Cohort beginning with 9th graders in school year 2001/2002 (SY0102G09)	4-Years (through SY 2004/2005)	Dropout Rate Completion Rate Graduation Rate	All reported elements are estimates. Apportioning applied for two summers.
January 2007	Cohort beginning with 9th graders in school year 2001/2002 (SY0102G09)	5-Years (through SY 2005/2006)	Dropout Rate Completion Rate Graduation Rate	All reported elements are estimates. Apportioning applied for two summers.
January 2007	Cohort beginning with 9th graders in school year 2002/2003 (SY0203G09)	4-Years (through SY 2005/2006)	Dropout Rate Completion Rate Graduation Rate	All reported elements are estimates. Apportioning applied for one summer.
January 2008	Cohort beginning with 9th graders in school year 2001/2002 (SY0102G09)	6-Years (through SY 2006/2007)	Dropout Rate Completion Rate Graduation Rate	All reported elements are estimates. Apportioning applied for two summers.
January 2008	Cohort beginning with 9th graders in school year 2002/2003 (SY0203G09)	5-Years (through SY 2006/2007)	Dropout Rate Completion Rate Graduation Rate	All reported elements are estimates. Apportioning applied for one summer.
January 2008	Cohort beginning with 9th graders in school year 2003/2004 (SY0304G09)	4-Years (through SY 2006/2007)	Dropout Rate Completion Rate Graduation Rate	Reported elements reflect district-entered data (little or no estimation).
January 2008	Cohort beginning with 7th graders in school year 2001/2002 (SY0102G07)	6-Years (through SY 2006/2007)	Dropout Rate	Reported rate is an estimate. Apportioning applied for two summers.