

# **High School Completion Rates: Investigating a**

An example of an estimated longitudinal indicator is the graduation rate computed by the U.S. Department of Education. This measure divides the number of regular diploma recipients in a given school year by the number of students enrolled in the ninth grade four years earlier, as reported in the Common Core of Data (CCD; Clements, 1990). These rates are then adjusted for inter-state migration rates to reflect the movement of students in and out of each state; however, since the methodology does not track individual students, the resulting rates are only estimates.

A status indicator looks at a pool of people in a given age range, at a given point in time, and determines the proportion of persons who are not enrolled in high school and not high school graduates. For example, the National Center for Education Statistics (NCES) reported that 11.5 percent of 16 to 24 year-olds nationwide were not enrolled in high school and were not high school graduates in 1994 (McMillen & Kaufman, 1996).

The fourth type of estimate of school success looks at longitudinal data and determines, to the greatest extent possible, what has happened to a group of students, or cohort, over a given period of time by tracking individual students in that cohort. An example of a longitudinal measure is the Holding Power Index (Hartzell, McKay, & Frymier, 1992). Since it is the methodology investigated for replacing the dropout rate used in the Texas accountability system, it is discussed in further detail.

### **Holding Power Index**

The Holding Power Index was originally conceived by William Denton of Dallas Independent School District and modified through work by Ruben Carriedo of the San Diego Unified

School District, Sharon Johnson-Lewis of the Detroit Public Schools, and Larry Barber, Jack Frymier, and Neville Robertson of Phi Delta Kappa (Hartzell, McKay, & Frymier, 1992). The formula for the Holding Power Index measures a school's ability or power to "hold" students in school through graduation. Any student who graduates, obtains his or her GED certificate, or continues to be enrolled after Grade 12 can contribute to a school's "Holding Power" under this methodology. Although the index is a measure of a school's success at keeping students enrolled in school, it can also provide practical information to schools about the types of students they lose over a four-year period.

### **Definition**

Seven assumptions underlie the formula for the Holding Power Index.

1. There is a relationship between what goes on at a high school and the percentage of students who graduate from that high school.
2. There are also factors beyond the control of the high school that contribute to a student's decision to leave early and schools should not be held accountable for those students.
3. The graduating class cohort is the appropriate unit of analysis in calculating the HPI for a school.
4. High school represents Grades 9-12.
5. Four years, starting with Grade 9 and ending with Grade 12, is the appropriate time frame for measuring dropout and graduation rates with the Holding Power Index.
6. A dropout is any student who cannot be accounted for at the time his or her graduating class reaches the end of 12th grade.
7. The HPI is defined as "the percentage of students in each graduating class cohort, including those who constitute the original

membership of the cohort at the start of the ninth grade and those who subsequently transfer in, who graduate or are still enrolled when the cohort finishes grade 12" (Hartzell, McKay, & Frymier, 1992, p. 14).

### **Methodology**

Given the assumptions behind the index, the HPI methodology requires tracking a cohort, or class of students, individually and determining each student's status at the end of Grade 12. The original cohort consists of first-time ninth graders in the starting year and adds any new students to the cohort each successive year. A student who transfers to a different public school is removed from his or her original cohort and added to the cohort in the student's new school. A student who transfers to a private school or a public school in another state is removed from the calculation of the Holding Power Index. At the end of four years, the cohort used in computing the denominator of the index consists of the original ninth grade cohort plus any students who have transferred in, minus any students who have transferred out. The numerator for the index consists of on-time graduates, early graduates, and students still enrolled. Since the methodology behind the Holding Power Index focuses on tracking students over a given time period, the status of a student is determined at the cohort's typical graduation date (four years after Grade 9).

### **Advantages and Disadvantages of a School Completion Rate**

One of the advantages of reporting a longitudinal measure of success is that it is more consistent with the public's understanding of what a dropout or school completer is — someone who enters high school and, during the next four or five years, either com-

pletes the program or drops out. A longitudinal measure can be expected to be more stable over time than an annual measure. Fluctuations in a district's annual dropout rate may not necessarily reflect the success or failure of the district's dropout prevention program. Also, a school completion rate is a more positive indicator than the dropout rate, measuring school success instead of failure.

Another advantage of a longitudinal completion rate is the length of time schools have to encourage students to return and graduate from high school before they are held accountable for that student. Because the status of a student is not determined until the end of four years, schools have up to four

computation of school completion rates for Texas.

**Methodological Issues**

When calculating a school completion rate, criteria for deciding who belongs in the numerator need to be clearly defined. In the Holding Power Index, the definition of the numerator includes on-time graduates, early graduates, and students still enrolled. However, when students drop out of high school in Texas, some of these students complete their high school education by obtaining a GED certificate. This effort, to complete an alternative high school education, is reflected in the accountability system by not considering GED certificate recipients as dropouts. Therefore, in computing school completion rates for Texas, GED certificate recipients also might be considered school completers in the Holding Power formula. If GED certificate recipients are included in the numerator, the amount of time a student has to complete the GED certificate once they have withdrawn from school also will need to be decided.

Table 1 shows the effect of different definitions on the state completion rate computed for 1994-95. Including only regular diploma recipients (early and on-time graduates) in the numerator produces a state completion rate of 70.8 percent. The rate increases to 77.6 percent if students who do not graduate but are still enrolled are included. Including non-traditional graduates, such as GED recipients, increases the state rate to 87.9 percent.

Another methodological issue is the treatment of students who transfer from district to district. As part of the methodology for the Holding Power Index, students who transfer in and out of a district throughout the four years also transfer in and out of the

<b>Table 1. 1994-95 Completion Rates Based on Different Definitions of Completers</b>			
	<b>Traditional Graduates</b>	<b>Graduates and Continuing Students</b>	<b>Graduates, GED Recipients, and Continuing Students</b>
<b>Number of Students</b>	161,647	177,019	200,647
<b>Completion Rate</b>	70.8%	77.6%	87.9%

Source: TEA PEIMS (1990-91 – 1995-96)

In 1994-95, traditional graduates produced a completion rate of 70.8 percent. When different definitions of completers were applied to the state completion rate, the rate increased as high as 87.9 percent.

cohort within that district. The district to which the final status of that student is attributed is the last district the student attends rather than the first district. For example, a district that loses a student (i.e., due to a family move) after teaching him or her for the first three years of high school would not receive credit for the final graduation status of that student given the current computation of the indicator. Similarly, a dropout also would be attributed to the last district the student attended rather than the first district from which he or she dropped out.

For consistency with the current calculation of the dropout rate, it has been suggested that the school completion indicator should track a seventh grade cohort versus a ninth grade cohort. As with any longitudinal methodology, the length of tracking can compound any problems in the data. Using the example of the alternate personal identification numbers described above, this data problem would be compounded with each year of tracking. Therefore, tracking across four years versus six years (a seventh grade cohort) minimizes this problem. The impact of

changes to the PEIMS Data Standards over time also would be minimized with a four-year tracking process. What is lost in tracking a ninth grade cohort are students who never make it to high school. The impact of losing seventh and eighth grade students before high school will not be reflected in a completion rate calculated for a ninth grade cohort.

A related methodological issue is the level of analysis used. Because the completion rate is a cumulative measure, it is only comparable for campuses that include all the grades covered in the rate. Most Texas high schools are Grade 9-12 schools. However, many smaller districts have Grade K-12 or Grade 7-12 schools. Completion rates based on a seventh grade cohort would not be comparable for Grade 9-12 schools and Grade 7-12 schools. Completion rates based on a ninth grade cohort would be comparable because both campus configurations include all the grades included in the calculation.

An argument can also be made for computing the completion rate only at the district level to enhance the equity of the accountability system. Middle

and high schools must meet standards on more indicators than elementary schools under the current accountability system, making it more difficult to achieve the highest accountability ratings. Yet the problems students face in secondary schools that result in dropping out, for example, often begin in elementary school. For this reason, it may be more equitable to compute measures such as the completion rate only at the district level. However, using a school completion rate only at the district level as a base indicator in the accountability system would require a change in statute.

### ***Issues in the Transition to the Accountability System***

The state accountability system is designed to improve student performance by: (1) being fair and recognizing student diversity; (2) recognizing high levels of performance and providing assistance to schools with inadequate performance; (3) complying with statutory requirements; (4) allowing flexibility at the local level in designing programs to meet the needs of the students; (5) relying on districts to develop and implement their own accountability systems that complement the state system; (6) supporting the public's right to know levels of student performance; and (7) providing a stable and realistic time line for measurement, data collection, planning, staff development, and reporting (TEA, 1996a).

Changing indicators in the accountability system disrupts the stability of the system and requires starting over to build trend data. However, this disruption is minimized by the phase-in process for new accountability indicators. New indicators are phased in over several years. Typically, the new indicators are first benchmarked for 1 year, reported for the next 2 years against a standard, and then used in the system to rate districts and

campuses during the 4th year (TEA, 1996a). This process permits early identification of technical difficulties in a measure, allows districts and campuses to become comfortable with new indicators, and allows them to see how they compare to the standards before they are held accountable for them.

A longitudinal indicator is a new concept in the Texas accountability system. Current ratings are based on current and prior year data only, calculated annually. Including a longitudinal indicator in the system would require districts and campuses to be accountable for data submitted 4 or 6 years prior to the year it is used in the rating. Also, districts may object to being rated for students who dropped out 4 to 6 years earlier. Accountability appeals may extend across 6 years of data, based on either changes in the PEIMS Data Standards over the period included in the completion rate or on reporting errors from earlier years. Given the time required to resolve each appeal, it may be necessary to limit the range of appeals. Also, the impact of new dropout prevention and recovery programs would be reflected in a completion rate more gradually than an annual dropout rate because the completion rate for each year is based only on the class of students who began Grade 9 four years earlier, for example, rather than all Grade 9-12 students.

One of the biggest potential issues in transitioning to a school completion indicator is how districts and campuses will respond to the change. Due to the current accountability criteria and standards for small numbers of students, not all districts and campuses are required to meet the standards for the annual dropout rate. Switching to a completion rate could require more districts to achieve a standard they did

not have to achieve before. (Only 351 of 1,044 districts had total dropout rates used for ratings in the 1996 accountability system; 704 districts would have had completion rates based on the data presented in this report.) If the completion rate is implemented at the campus level, not only more but different campuses would be rated. (The estimated 926 campuses with completion rates does not include all of the 694 campuses with total dropout rates used in the 1996 accountability ratings.) Although changing to an indicator that applies to more districts would be more equitable, it may not be well received by those districts who have an additional hurdle to achieve, even if sanctions are phased in over a 4-year period. Also, some districts and campuses with acceptable performance on the annual dropout rate indicator may not perform as well on the longitudinal completion rate. Based on districts who would have had a completion rate used in the 1996 accountability ratings, there is only a moderate correlation between district rankings on the two rates.

Another issue in transitioning to a school completion rate is the overlap between data used in the annual dropout rate and data used in the completion rate during the first few years after moving to a longitudinal measure. For example, the 1996-97 completion rate would include students who were in Grade 9 in 1993-94. Districts were held accountable for 1993-94 dropouts in the 1995 ratings and would be accountable for them again in the 1998 ratings if a school completion rate is used.

If student withdrawal information is collected, decisions need to be made about how to handle unreported withdrawals while that change is being phased in. If unreported withdrawals are treated as unreported

	<b>1993-94 Cohort 1</b>	<b>1994-95 Cohort 2</b>
Original 9th Grade Cohort	272,326	285,028
Incoming 10th Graders	25,174	18,072
Incoming 11th Graders	10,873	12,596
Incoming 12th Graders	8,593	8,126
Total Cohort	316,966	323,822
Students transferring out of the Texas public school system	<94,290>	<95,567>
Final Cohort (minus students transferring out)	222,670	228,255

**Table 3. State Level School Completion Rates Disaggregated by Ethnicity, Gender, and Socioeconomic Status**

	Cohort 1 (1993-94)			Cohort 2 (1994-95)		
	Final Cohort	Completers	Rate	Final Cohort	Completers	Rate
<b>Ethnicity</b>						
White	110,562	102,317	92.5%	114,020	106,691	93.6%
African American	30,224	23,826	78.8%	30,793	25,187	81.8%
Hispanic	75,616	59,630	78.9%	77,198	62,938	81.5%
Other	6,268	5,647	90.1%	6,244	5,831	93.4%
<b>Gender</b>						
Male	115,184	97,911	85.0%	117,465	102,007	86.8%
Female	107,486	93,509	87.0%	110,790	98,640	89.0%

**Cohort 1 (1993-94)**

**Cohort 2 (1994-95)**

	Cohort 1 (1993-94)					Cohort 2 (1994-95)				
	Number of Districts	Lowest Rate	Median Rate	Highest Rate	Percent of Districts Meeting State Goal of 95%	Number of Districts	Lowest Rate	Median Rate	Highest Rate	Percent of Districts Meeting State Goal of 95%
<b>Ethnicity</b>										
White	962	66.7%	95.2%	100.0%	54.3%	958	0.0%	96.3%	100.0%	62.1%
African American	597	0.0%	94.1%	100.0%	48.9%	601	0.0%	100.0%	100.0%	53.6%
Hispanic	829	0.0%	89.7%	100.0%	39.9%	843	0.0%	92.3%	100.0%	45.6%
Other	358	0.0%	100.0%	100.0%	80.4%	361	0.0%	100.0%	100.0%	85.6%
<b>Gender</b>										
Male	969	0.0%	92.6%	100.0%	39.3%	968	50.0%	93.8%	100.0%	45.7%
Female	969	0.0%	93.2%	100.0%	42.6%	968	0.0%	94.4%	100.0%	49.7%
<b>Socioeconomic Status</b>										
Economically Disadvantaged	952	0.0%	87.5%	100.0%	33.4%	966	0.0%	89.7%	100.0%	36.3%
Non-economically Disadvantaged	966	50.0%	95.0%	100.0%	53.6%	966	0.0%	96.3%	100.0%	61.9%

0.96 (l)Tj 0 0 0 1 k (L)T5 09.5 0 TD 5. 125.093 516.837 42 0 TD (AD)Tj 0 0 0 1 k (L)T5 09.5 0 TD 5. 1253.D (.)Tj -0.5 0 TD (9)Tj -0.5 0 TD A56s93.650 TD 0 T TD  
 mo AD.45Tj -2.59Tj -1.10B3103B44.9 (TD)(a)Tj -0.5 0 TD (o)Tj -0.444 0 TD (c)Tj -0.370 T4 071 re f 168.409 516.8385 0 TD (g)Tj -0.444 0 TD (a)Tj c

**Longitudinal Dropout Rate  
Graduating Class of 1995-96**

1992-93 Grade 9	1993-94 Grade 10	1994-95 Grade 11	1995-96 Grade 12	Total
--------------------	---------------------	---------------------	---------------------	-------

of all Grade 9-12 students dropped out during the 1995-96 school year, but does not tell you the likelihood of any one student dropping out before he or she completes high school.

The patterns seen with a school completion rate reflect complementary patterns for the annual dropout rate. As a group, White students have the highest completion rate and the lowest dropout rate of all ethnic groups. Female students have slightly higher completion rates and slightly lower dropout rates than male students. Economically disadvantaged students also have the lowest completion rates and the highest dropout rates. Further analysis with other groups, such as students identified as being at risk, students receiving special education services, students who are overage for grade, and students with limited English proficiency, is likely to

Although a school completion rate has advantages over an annual dropout rate as a performance indicator, it still maintains some of the same problems associated with the dropout rate. The current PEIMS collection of graduate and dropout information is self-reported annually by school districts. Switching to a collection of student withdrawal data will likely improve the methodology and reduce the bias of self-reported data. This also will ensure that standards are set consistently and objectively at the state level. Discussions currently are being held at the Texas Education Agency about collecting student withdrawal information, for implementation during the 1998-99 school year.

## References

- Arrigona, D. (1991). *Calculating graduation rates in Texas schools*. Texas Education Agency: Austin, TX.
- Calderon, D. (1996, January 30). Dropout Controversy. *San Antonio Express-News*, pp. B4-B5.
- Cardenas, J.A., Robledo, M.R., & Supik, J.D. (1986). *Texas school dropout survey project: A summary of findings*. San Antonio, TX: Intercultural Development Research Association.
- Clements, B.S. (1990). *Reporting high school graduation and other high school completer statistics*. (ERIC Document Reproduction Service No. ED 337502)
- Fossey, R. (May/June 1996). Kidding ourselves about school dropout rates. *The Harvard Education Letter*, 5-7.
- Hartzell, G., McKay, J., & Frymier, J. (1992). *Calculating dropout rates locally and nationally with the Holding Power Index*. (ERIC Document Reproduction Service No. ED 343953)
- Kominski, R. (1990). Estimating the national high school dropout rate. *Demography*, 27, 303-311.
- Ligon, G., Stewart, B., & Wilkinson, D. (1990). *Making dropout rates comparable: An analysis of definitions and formulas*. Arlington, VA: Educational Research Service.
- McMillen, M.M., & Kaufman, P. (1996). *Dropout rates in the United States: 1994*, NCES 96-863.
- Texas Education Agency. (1996a). *Accountability manual. The 1996 accountability rating system for Texas public schools and school districts and blueprint for the 1997-2000 accountability systems: Part 1* (GE6 602 02). Austin, TX: Author.
- Texas Education Agency. (1996b). *1994-95 report on public school dropouts* (GE6 601 08). Austin, TX: Author.
- Texas Education Agency. (1996c). *1994-95 report on grade level retention of Texas students* (GE7 601 01). Austin, TX: Author.
- Texas Education Code. (1996). *Texas School Law Bulletin*. Austin, TX: West Publishing Co.