

Oranges to Oranges: A Comparison of Arizona and Texas Annual Dropout Rates

Executive Summary

State to state comparisons of dropout rates are a prominent part of public policy discussions. Many comparisons, however, are inappropriate assessments of the quality of the public school system. The purpose of this paper is to conduct an accurate and meaningful comparison of two state annual dropout rates, Arizona and Texas.

For the 2001-2002 school year, Texas publishes an annual dropout rate of 0.9% for grades 7-12. Arizona publishes the same annual dropout rate at 7.1%, a difference of 6.2%. However, these unadjusted rates are not directly comparable due to substantial differences in dropout definitions and calculations.

Comparable annual dropout rates are calculated by applying Arizona's dropout definition and calculation to Texas' annual dropout rate data. The adjusted results contradict the published annual dropout rates. The adjusted Texas annual dropout rate is between 5.2% and 7.1%, depending on the treatment of certain types of students in the analysis. The gap between the two states is either closed or narrowed to 1.9%.

The study contributes to public policy research by quantifying the dangers of superficial comparisons of state-generated dropout rate statistics. The study also underscores the need to account for differences in dropout definitions and calculations when using state dropout rates.

State to state comparisons of public education indicators, particularly dropout rates, are a prominent feature of the public policy landscape despite the well-documented limitations of such comparisons. The preponderance of state dropout rate comparisons are either invalid or utilize inappropriate indicators of the quality of the public school system. Yet, these interstate comparisons remain important to public policy discussions because they impact economic development opportunities and public perception of public schools.

From the business perspective, the quality of the public education system is a significant part of a marketing strategy to attract new businesses. For example, the Arizona business community seeks comparable education statistics to strengthen their competitive position. Businesses have a specific interest in high school completion and dropout rates because of their relationship to the availability of a skilled labor pool.¹

State comparisons of dropout rates also shape public perception of public schools in all states,

including Arizona. According to one of the most publicized national statistics, 17% of Arizona’s 16-19 year-old population has not received a high school diploma or the equivalent, the highest in the nation.² This finding has received considerable media attention and has contributed to a commonly held belief among the general public that Arizona has one of the worst public school systems in the country.³ A careful analysis of this statistic, however, reveals that while it is an accurate indicator of Arizona’s labor pool it is invalid indicator of the quality of the public school system.⁴ Unfortunately, this important distinction is often lost and the public perception of Arizona’s public schools continues to be shaped by this erroneous inference.

Comparisons of state-generated dropout rates are equally problematic. In fact, many researchers have cautioned against the use of state-generated statistics for comparative purposes due to wide disparities in dropout definitions and calculations.⁵ In addition, recent media investigations have revealed miscalculations and lax oversight of student accounting procedures in the calculation of state-generated annual dropout rates.⁶ The methodological differences and administrative inconsistencies render comparisons of state-generated dropout rates tenuous at best.

The purpose of this paper is to conduct an accurate and meaningful comparison of two state annual dropout rates.⁷ The study contributes to public policy research by enabling a rare opportunity to conduct a well-informed public discussion about annual dropout rates across state lines. In addition, the study underscores the caution one must take when comparing and interpreting state-level statistics that are derived using different dropout definitions and methods of calculation.

Similarities Between Arizona and Texas

The study is a comparison of the Arizona and Texas annual dropout rates.⁸ These states are ideal for comparison because they have similar student populations and share common business interests.

Geographically, both Texas and Arizona share a border with Mexico. The close proximity to Mexico means that both states are faced with the unique challenges presented by a mobile population of immigrant students and their families. These challenges stem from high populations of Limited English Proficient and economically disadvantaged students (see Table 1).

Table 1: Comparison of Arizona and Texas Student Populations with the National Average

	<u>Arizona</u>	<u>Texas</u>	<u>National*</u>
White, non-Hispanic	51.3%	40.9%	60.3%
Hispanic	35.3%	41.7%	17.1%
Black, non-Hispanic	4.7%	14.4%	17.2%
American Indian / Alaska Native	6.6%	0.3%	1.2%
Asian / Pacific Islander	2.1%	2.8%	4.2%
Eligible for Free / Reduced Lunch	49%**	45.4%	36.6%
Limited English Proficient (LEP)	16.1%	14.5%	7.9%

Source: NCES, U.S Dept. of Education, May 2003

* 45 states reported

** Provided by the Arizona Department of Education

In addition, Arizona and Texas compete for the same business investments.⁹ Both states offer similar economic assets (large metro areas, availability of labor, competitive wages and competitive business operating costs) and share proximity to other important markets.

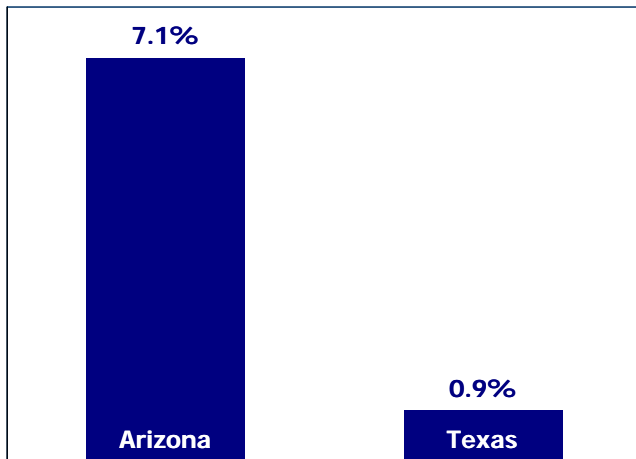
The comparison is accomplished by applying Arizona’s dropout definition and calculation to Texas’ annual dropout rate data. The adjustment is possible because the Texas Education Agency (TEA), the counterpart to the Arizona Department of Education (ADE), reports the annual dropout rate using highly detailed data. The TEA accomplishes this feat through the use of one of the most extensive, student-level data systems in the country. Many states do not report annual dropout rate data with enough detail to employ the methodology to create comparable statistics.

Unadjusted Annual Dropout Rates

The unadjusted annual dropout rates between Arizona and Texas differ significantly. According to the published reports, the Texas 2001-2002 annual dropout rate for grades 7-12 is 0.9%.

Arizona reports the same annual dropout rate at 7.1%, a difference of 6.2% (see Graph 1). These percentages, however, are based on different dropout definitions and calculations. A meaningful interpretation of the differences is impossible without an adjustment to develop comparable statistics.

Graph 1: Unadjusted Annual Dropout Rate, Grades 7–12, 2001 – 2002 School Year



The Process of Calculating Annual Dropout Rates and State Differences

The calculation and publication of annual dropout rates is a collaborative effort on behalf of schools, school districts and state education agencies. This section illustrates the steps required to publish annual dropout rates and highlights procedural differences between Arizona and Texas. The following section addresses the relevance of the procedural differences to employing the methodology.

Formula - Arizona and Texas use the same basic formula to calculate the annual dropout rate (see Graph 2). In both states, the general annual dropout rate formula for the 2001-2002 school year is the total number of dropouts during the 2001-2002 school year divided by the total number of students enrolled at anytime during the 2001-2002 school year (cumulative enrollment). Despite the use of the same basic formula the state results are dramatically different (see the Unadjusted Annual Dropout Rates above). The disparate results are attributable to state

differences in the dropout definition, that is, which students are identified as dropouts and included in the numerator of the formula.

Graph 2: General Dropout Rate Formula Texas and Arizona, 2001 – 2002 School Year

$$\frac{\text{Total Number of Dropouts (2001 – 2002)}}{\text{Cumulative Enrollment (2001 – 2002)}}$$

Data Collection – The identification of dropout students begins at the school level where the base data used to calculate dropout rates is collected. As students enter and exit during the school year, school personnel “code” each student into one of several pre-defined categories depending on the conditions related to the students’ entrance and/or exit.

This study focuses on the exit codes. In general, there are series of exit codes to document circumstances such as transfers to other educational settings (e.g. public schools, private schools, General Equivalency Diploma programs, home schooling), disciplinary actions (e.g. suspended, expelled, withdrawn by court order) and reasons for leaving school (e.g. discontinuing education, parenting, employment). Arizona has 15 exit codes called “withdrawal codes” and Texas has 30 exit codes or “leaver codes.”

Both state agencies publish guidelines that detail the requirements schools must follow when coding students. The guidelines detail the type of documentation that is required before schools can apply exit codes. The biggest differences between the two states lie in the documentation required to apply transfer codes. According to Arizona’s documentation, schools must document student enrollment in another school through either notification by a responsible adult or through a request for transcripts from another school in order to code a student as a transfer.¹⁰ Arizona schools are held harmless for transfers to educational settings that meet Arizona requirements for obtaining a high school diploma (e.g. private schools, public schools outside of Arizona). Student transfers to other educational settings that do not lead to a high school diploma,

such as vocational schools outside the public school system or General Education Diploma (GED) programs, are considered dropouts. In addition, students who return to their home country and do not continue their education are considered dropouts.¹¹

Texas schools, however, can code a student as a transfer based on oral statements by the parent/guardian at the time of withdrawal that the student “would be” enrolling in another school.¹² In addition, students who return to their home country, regardless of whether they continue their education or not, are excluded from the Texas annual dropout rate.¹³

Also, schools account for student summer activity differently in each state. In Arizona, students who are enrolled at the end of the school year are expected to enroll the following school year, with the exception of graduates. For example, all Arizona public school students who were enrolled at the end of Spring 2001 and who did not enroll in school in Fall 2001, transfer during the summer, graduate or die are included as dropouts in the 2001-2002 annual dropout rate. Texas schools do not account for status unknown students in the summer. Students who were enrolled at the end of Spring 2001 (i.e. no leaver code applied) and did not enroll in Fall 2002 are considered “underreported” in the Texas calculation and are excluded from the annual dropout rate calculations.

Data Submittal - Once the student code data are collected, the school district submits it to the state education agency. The timing of data submittal to the state education agency is another major procedural difference between the states. Arizona school districts submit data to the ADE during the summer following the end of the school year. For example, Arizona school districts submitted the data for the 2001-2002 school year in June 2002. As a result, Arizona public schools are not able to update the Spring 2002 withdrawal codes based on Fall 2002 enrollment records. Arizona public schools essentially “close the books” after the school year. Therefore, Arizona students that left school during the 2001-2002 school year and who

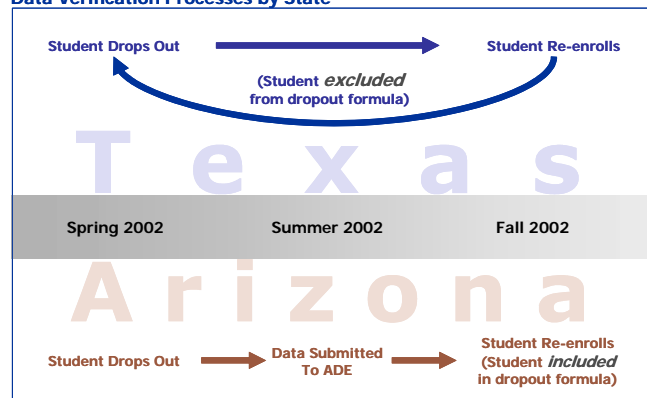
returned to school in Fall 2002 are still counted as dropouts in the 2001-2002 statistics.

Texas school districts, on the other hand, submitted data for the same school year in January 2003. The later submittal date allows Texas schools to track students that received a leaver code during the 2001-2002 and re-enrolled in Fall 2002. In these cases, the school changed the leaver code prior to submitting the data to the TEA. These students are not considered dropouts in the 2001-2002 annual dropout rate (see Graph 3).

In addition, the type of data that school districts submit differs by state. In Arizona, school districts submit aggregate data (total number of students per code) to the ADE. No individual student level information is submitted to the ADE. Thus, the ADE does not have information on individual students. Texas school districts submit student-level information to the TEA.

The detailed data allows Texas to conduct a more thorough data verification process than Arizona. In Arizona, the ADE reviews the aggregate data for mathematical inconsistencies (e.g. more students withdrawn than enrolled) and computational errors. The ADE contacts school districts to correct these miscues. In Texas, the TEA conducts a statewide, student-level search to match Spring leaver codes and Fall enrollment records. Through this process, TEA reconciled cases in which students coded as leavers during the 2001-2002 school year were discovered in Fall 2002 enrollment records. All reconciled cases are excluded from the dropout rate calculation lowering the number of dropouts in the 2001-2002 statistics (see Graph 3).

Graph 3: Impact of Different Data Submittal Dates and Data Verification Processes by State



Dropout Definition - The dropout definition is a major cross-state difference in the calculations. A consistent dropout definition is a prerequisite to an accurate comparison of the annual dropout rates and will be discussed in detail later in the paper.

Publication - The final step is to publish the annual dropout rates. The Arizona annual dropout rate reports can be found at www.ade.az.gov and Texas' report at www.tea.state.tx.us (see Table 2 for a timeline and summary).

Table 2: Timeline and Process for Completing Annual Dropout Rates by State		
	Texas	Arizona
Spring 2002	<p>Data Collection</p> <ul style="list-style-type: none"> Schools assign leaver codes to students that left a TX public school at anytime during the 01-02 school year 	<p>Data Collection</p> <ul style="list-style-type: none"> Schools assign withdrawal codes to students that left an AZ public school at anytime during the 01-02 school year
Fall 2002	<p>Data Submittal</p> <ul style="list-style-type: none"> Districts submit student-level data to the Texas Education Agency (TEA) <p>Data Verification</p> <ul style="list-style-type: none"> TEA conducts a statewide, student level search to match Spring 2002 leaver records and Fall 2002 enrollment records Fall enrollment records and TEA search results used to reconcile data. <p>Calculation</p> <ul style="list-style-type: none"> TEA uses reconciled data to calculate dropout rates 	<p>Data Submittal</p> <ul style="list-style-type: none"> Districts submit aggregate data to the Arizona Department of Education (ADE) <p>Data Verification</p> <ul style="list-style-type: none"> ADE checks for computational errors and makes corrections <p>Calculation</p> <ul style="list-style-type: none"> ADE uses original data submitted by districts to calculate dropout rates
	<p>Publication</p> <ul style="list-style-type: none"> TEA publishes dropout rates 	<p>Publication</p> <ul style="list-style-type: none"> ADE publishes dropout rates

The Relevance of Procedural Differences to Developing the Methodology

The creation of comparable statistics requires a consistent dropout definition and calculation across the two states. To that end, the basis of the methodology is to adjust Texas' dropout rate statistics according to Arizona's dropout definition and calculation. The purpose of this section is to expand upon the major procedural differences between the two states and discuss how the Texas data must be adjusted in order to create comparable statistics that allow for accurate and meaningful interpretations.

Documentation – Arizona public schools have a slightly higher burden of proof than Texas public schools before they can apply transfer codes. Arizona public schools must confirm enrollment in another school in order to code a student as a transfer while Texas schools do not have to confirm enrollment. In fact, approximately 13% of all 2001-2002 transfers were *not* confirmed by either the school or the TEA as having enrolled in another Texas public school.¹⁴ Unconfirmed transfers are excluded from the Texas annual dropout rate. In Arizona, unconfirmed transfers are coded as status unknown students, which are defined as having left an Arizona public school but the school has no indication of their whereabouts. Status unknown students are treated as dropouts in the Arizona annual dropout rate calculation. For the purposes of the adjustment, all unconfirmed Texas leaver records will be treated as status unknown students and regarded as dropouts.

Summer Activity – Under the Arizona annual dropout rate formula, all summer activity is accounted for in the statistics for the following school year. The Texas category of underreported students represents summer activity because the students' academic status changed during the summer. Therefore, Texas underreported students will be considered equivalent to Arizona summer dropouts for the purposes of adjusting the Texas annual dropout rate data.

Data Submittal Dates – Due to differences in data submittal dates, Texas schools have a longer time period to track students and update leaver codes accordingly. The impact of the timing differences can not be accounted for in the adjustment. The net effect, however, is to improve (i.e. lower) Texas' annual dropout rate and does not introduce a negative bias into the methodology.

Data Verification – The statewide, student-level data verification process allows the TEA to reconcile student records across school years and exclude students from the dropout rate calculation. The ADE does not conduct a similar search which precludes an additional opportunity to track students and update withdrawal codes.

The impact of the more thorough data verification process is significant. For example, in the 2001-2002 school year, a total of 21,801 Texas public school students were reported in leaver codes that are treated as dropouts according to the dropout rate formula. Through the data verification process, 5,179 student records were reconciled (e.g. found in attendance somewhere else in Texas) and excluded from the dropout rate calculation, reducing the number of dropouts by almost 24%.¹⁵ The full impact of Texas’ advanced data verification process can not be accounted for in the adjustment. The net effect, however, is to improve (i.e. lower) Texas’ annual dropout rate and does not introduce a negative bias into the methodology. Any cases that are not reconciled by either the school or the TEA were regarded as unconfirmed and treated as a dropout in the adjusted formula.

Dropout Definition – The dropout definitions in Arizona and Texas differ in meaningful ways that impact the comparability of the statistics. There are several leaver codes in the Texas annual dropout definition that are *not* considered dropouts which, according to the Arizona definition, are considered dropouts. All Texas leaver codes that, according to Arizona’s dropout definition, would be considered a dropout will be treated as such in the adjustment (see Table 3).

Methodology

The methodology for developing comparable annual dropout rates involves applying Arizona’s dropout definition and calculation to Texas’ annual dropout rate data. The adjustment of Texas’ data mitigates many of the substantive differences between the two annual dropout rates and allows for accurate comparisons.

The TEA includes a description of the conditions and documentation requirements for each leaver code. This detailed information was used to evaluate the specifics of each leaver code to determine how it should be treated according to Arizona’s dropout definition and calculation. All leaver codes that would be considered dropouts under Arizona’s dropout definition and

calculation were included as such in the adjusted formula. Leaver codes were re-assigned as dropouts in the formula based on at least one of the following reasons:

Unconfirmed Enrollment - Unconfirmed cases are students that were given a leaver code but there is no evidence that the student is enrolled in another school. In Arizona, these types of students are considered status unknown students and are included as a dropout in the calculation. All unconfirmed Texas leaver records were re-assigned as dropouts in the adjusted formula (see Table 3).

Definition Differences - Arizona defines a *dropout* as a student who was enrolled in a public school during any point of a school year but was not enrolled at the end of the school year (or left school during the summer of the prior school year) and did not transfer to another school, graduate or die.¹⁶ Under Arizona’s definition, students must transfer to educational settings that meet requirements for a high school diploma, students who leave to enter a GED program or other educational setting that does *not* meet requirements for a high school diploma are considered dropouts.

Table 3: Texas Leaver Codes Re-assigned as Dropouts

Leaver Code	Records	Reason
Enroll in TX public school	22,032	Unconfirmed enrollment
Official transfer, TX public school	316	
Removed by CPS	176	Definition difference
Alternative program	14,774	
Home country	11,683	
Withdrawn by court order	1,750	
Administrative withdrawal	1,229	
Completed GED/GED Recipient	14,706	
Expelled, cannot return	278	
College	220	
Previous GED	72	
Previous Dropout	880	
Underreported	<u>11,385</u>	Underreported
Total re-assigned	79,501	

There are several leaver codes that are excluded from the Texas annual dropout rate but would be

included according to Arizona’s definition. The inconsistencies include cases such as expelled students who did not return to school by the end of the school year, students enrolled in a GED program or received a GED and enrolled in an alternative program that does not necessarily lead to a high school diploma. In addition, Texas holds schools harmless for circumstances outside of their control that are irrelevant in the Arizona formula. These circumstances include students withdrawn by court order, administrative withdrawals and students removed by Child Protective Services, to name a few. All leaver codes that are inconsistent with Arizona’s dropout definition were re-assigned as dropouts in the adjusted formula (See Table 3).

Underreported Students - Underreported students are treated equivalent to Arizona’s summer dropouts. Underreported students had not left school as of the end of Spring 2002, were expected to return to school in Fall 2002 but did not enroll. Underreported students were re-assigned as dropouts in the adjusted formula (see Table 3).

There are also a number of Texas leaver codes that are consistent with Arizona’s dropout definition and calculation. All the leaver codes that are counted as dropouts in Texas’ unadjusted formula are consistent with Arizona’s definition and are left intact in the adjusted formula. The sum of these leaver codes equals 16,622 records, the unadjusted dropout total (see Table 4). In addition, there are leaver codes which are not considered dropouts according to both Arizona’s and Texas’ dropout definition and calculation. These cases were not re-assigned as dropouts and remain excluded from the

Leaver Code	Records
No reason provided	9,421
Academic performance	3,916
Pursue a job	1,387
Age	963
Got married	421
Pregnancy	296
Homelessness	112
Expelled, had not returned	43
Joined military	42
Drug abuse	21
Unadjusted dropout total	16,622

numerator in the adjusted formula (see Table 5).

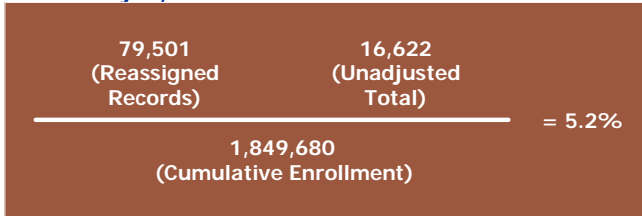
Leaver Code	Records	Reason
Enroll out of state	34,653	
Home schooling	10,882	
Enroll in a TX private school	6,124	
Incarcerated, outside district	1,575	Consistent with AZ formula
Completed, no TAAS	1,371	
Deceased	758	
Entered health care facility	427	
Previous graduate/Graduate	4,691	
ADA ineligible	402	Insufficient information
Duplicate or questionable record	1,796	

There are 34,653 students who withdrew from a Texas public school to enroll in a school outside of Texas. There is no available information to confirm their enrollment out of state and the Texas data verification process is not expected to track students across state borders. Therefore, these students are analyzed two separate ways. The strict analysis is based on the assumption that all out of state transfers are not enrolled elsewhere and they were re-assigned as dropouts in the adjusted formula. The broad analysis is based on the assumption that all out of state transfers are enrolled elsewhere and they were *not* re-assigned as dropouts. The results of these two extreme analyses create lower and upper bounds of the adjusted Texas annual dropout rate.

In addition, there is insufficient information to determine how to treat duplicate or questionable records according to Arizona’s calculation. This leaver code was not re-assigned as a dropout in the adjusted formula. The exclusion of these records does not artificially increase the Texas dropout count and impact the results negatively.

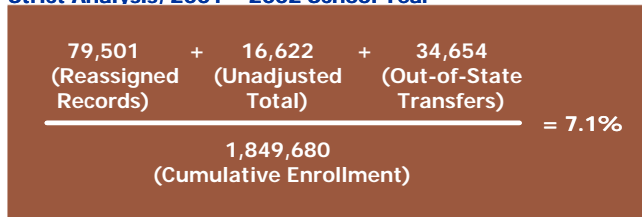
After the leaver codes were re-assigned in the formula, the aggregate student counts per leaver codes were summed to derive the adjusted numerator. In the broad analysis, a total of 79,501 records were re-assigned and counted as dropouts, a sharp increase from the unadjusted total of 16,622. Both figures (re-assigned and unadjusted totals) are summed to create the adjusted numerator of 96,123 (see Graph 4).

Graph 4: Texas Adjusted Dropout Rate Formula Broad Analysis, 2001 – 2002 School Year



In the strict analysis, the 34,653 out-of-state transfer records were added to the re-assigned and unadjusted totals to derive a numerator of 130,776. The same denominator as in the unadjusted formula, cumulative student enrollment for the 2001-2002 school year, was used in the adjusted formula for both analyses. The denominator is 1,849,680 student records (see Graph 5).

Graph 5: Texas Unadjusted Dropout Rate Formula Strict Analysis, 2001 – 2002 School Year



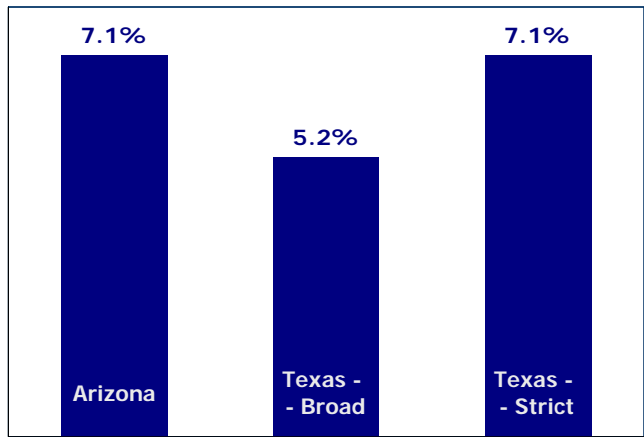
Limitations – The TEA cautions about the existence of duplicate student leaver records in the data. The Texas aggregate reports, however, did not publish any duplicated records. In addition, the data from both states may be affected by non-uniform or poor data collection methods at the local and/or state level.¹⁷ The impact of substandard data collection is unknown.

Results

The adjusted Texas annual dropout rate is between 5.2% and 7.1%, depending on the treatment of students who withdrew to enroll in schools out of state. In the broad analysis, the Arizona dropout rate is 1.9% higher than Texas’. Under the strict analysis, the Arizona and Texas dropout rates are even. The two analyses represent extreme scenarios, but in either case the difference between the two state annual dropout rates is closed substantially once the data are calculated according to similar formulas. The gap

between Arizona and Texas narrows from 6.2% to a range of 0-1.9% (see Graph 6).


Graph 6: Adjusted Annual Dropout Rate, Grades 7-12 2001-2002 School Year



Conclusion

This study quantifies the pitfall of superficial comparisons of state-generated dropout rate statistics. Dropout definitions and formulas vary by state and these differences must be taken into consideration when evaluating dropout rates. Overlooking the differences could lead to erroneous interpretations of the results. Based on published reports, one could understand the public perception in Arizona that Texas has one of the best dropout rates and Arizona one of the worst. An accurate and meaningful interpretation of the results, however, leads one to the conclusion that there is very little difference between the two state annual dropout rates, a finding that is contrary to the reported rates. Unfortunately, few comparative studies are available. Comparative research is necessary to better inform Arizona public policy and vital to any effort to understand the impact of public schools.

Lee McLroy, MA, Ed. contributed to the completion of this study.

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ENDNOTES:

- ¹ Greater Phoenix Economic Council. (2002). *GPEC competitiveness committee 2002 report and recommendation*.
- ² Annie E. Casey Foundation. (2003). *Kids count 2003 data book*. Baltimore, MD: Author. The status dropout rate is derived from a household survey conducted by the Bureau of the Census for the National Center for Educational Statistics.
- ³ Bland, Karina (2001, May 22). State leads U.S. in dropouts. *The Arizona Republic*.
- ⁴ Garcia, David R. (August 2003). *Understanding before action: An explanation of Arizona public school dropout rates*. Arizona Center for Public Policy.
- ⁵ Greene, Jay P. (November 2001). *High school graduation rates in the United States*. Manhattan Institute for Policy Research: New York, NY. Kaufman, Phillip. (January 13, 2001). *The national dropout data collection system: Assessing consistency*. A paper prepared for Achieve and The Civil Rights Project, *Dropout research: Accurate counts and positive interventions*.
- ⁶ Benton, Joshua. (2002, August 21) Bleaker dropout picture painted: Federal figures almost quadruple state's estimation of problem. *The Dallas Morning News*. Medina, Jennifer & Lewin, Tamar. (2003, August 1). High school under scrutiny for giving up on its students. *The New York Times*.
- ⁷ The annual dropout rate is a "snapshot" of dropout activity for all grades 7-12 over a single school year. The annual dropout rate should not be confused with the four-year dropout rate which represents the percentage of students in a cohort class that dropped out during high school.
- ⁸ The study is not a commentary on the quality or superiority of either state annual dropout rate.
- ⁹ Hoffman, Dennis (2003). *Fiscal policy and economic development: A comparison with other states*. A presentation for the Arizona campus. Arizona State University, January 22, 2003.
- ¹⁰ Arizona Department of Education. (2001). *Year end enrollment code descriptions*.
- ¹¹ In both states, it is possible that transfer students may be misreported.
- ¹² Texas Education Agency. (2003). *Secondary school completion and dropouts in Texas public school: 2001-2002*, p. 78.
- ¹³ Texas Education Agency. (2003). *Secondary school completion and dropouts in Texas public school: 2001-2002*, p. 75.
- ¹⁴ Texas Education Agency. (2003). *Secondary school completion and dropouts in Texas public school: 2001-2002*.
- ¹⁵ Texas Education Agency. (2003). *Secondary school completion and dropouts in Texas public school: 2001-2002*.
- ¹⁶ Arizona Department of Education. (2002). *Dropout rate study: 2001-2002 annual dropout rates*.
- ¹⁷ Huerta, Teresa M. (September 2003). *Assessing Arizona's dropout problem: Why current measurement methods are flawed and how to fix them*. Tempe, AZ: Education Policy Studies Laboratory, Arizona State University College of Education.