Understanding Graduation & Dropout Rate Calculations

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Introduction

Graduation rates are an important part of educational accountability and an indicator of school performance for students, parents, businesses, policy makers and the community at large. Today’s economy requires a workforce equipped minimally with a high school diploma and the skills necessary to succeed in postsecondary education and the workplace. People who do not complete high school earn less and have a lower quality of life than graduates. Sadly, dropouts are not the only ones that suffer; society also contends with the following issues associated with high school dropouts (Alliance for Excellent Education, 2008a):

♦ Increased costs of crime-related problems
♦ Medicaid and health care expenditures for the uninsured
♦ Lost wages
♦ Lower tax contributions
♦ Lower lifetime productivity that results from failure to complete high school.

In 2007 alone, dropouts cost the state of Nevada $4.2 billion in lost wages, taxes and productivity over their lifetimes (Alliance for Excellent Education, 2008a). The Alliance for Excellent Education (2008a) reported that if Nevada raised the graduation rates of Latino, African American and Native American students to the levels of White students by 2020, the potential increase in personal income would add more than $2.2 billion to the state economy. In addition, according to the same report, increasing the graduation rate and college enrollment by only 5 percent could lead to a combined savings and revenue of almost $78.4 million each year by reducing crime-related costs associated with high school dropouts.

In order to ensure that all students receive a quality education, it is necessary to know exactly how well schools are performing in terms of graduating their students. Unfortunately, the graduation and dropout rates are often confusing, misleading, inaccurate and inconsistent across districts and states. Since graduation and dropout rates are important tools for educators and policy makers, it is important they be clear, accurate and comparable over time and across schools, districts and states.

Clark County School District (CCSD) Dropout and Graduation Data

According to the CCSD definition, “the dropout rate is a one-time snapshot of the students lost the previous year. This should not be confused with a graduation rate, which encompasses four years of data and a cohort of students. Students who are nongraduates, students who receive adjusted diplomas and students who earn adult diplomas or GEDs are not considered dropouts in the dropout rate, but are considered nongraduates when calculating the graduation rate” (CCSD, n.d.a. p.1). The 2006-2007
overall dropout rate is reported by the CCSD to be 6 percent (CCSD, n.d.b). Approximately 70 percent of the dropouts do not return to school (nonreturn students) in the fall but had attended school, for the most part, the previous year (CCSD, n.d.b.).

Due to inconsistencies in how rates are calculated and because CCSD does not track students over time, exact dropout rates are unknown. Nearly 10,000 students between eighth and 12th grade leave school each year in Clark County (CCSD, n.d.a); this number does not include students who leave school during the middle school years.

According to the CCSD (2007), in 2006, the overall graduation rate was 63.5 percent. The rates by

<table>
<thead>
<tr>
<th>Ethnicity/Gender</th>
<th>Graduation Percentage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>50.6%</td>
</tr>
<tr>
<td>Black/African American</td>
<td>51.7%</td>
</tr>
<tr>
<td>Latino</td>
<td>53.6%</td>
</tr>
<tr>
<td>White</td>
<td>70.8%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>76.1%</td>
</tr>
<tr>
<td>Males</td>
<td>60.4%</td>
</tr>
<tr>
<td>Females</td>
<td>66.5%</td>
</tr>
</tbody>
</table>

Independent firms, however, using different calculation methods report all of these numbers to be much lower (Alliance for Excellent Education, 2008a).

**Methods of Calculating Dropout and Graduation Rates**

The No Child Left Behind (NCLB) Act of 2002 requires that states use a graduation rate calculation defined as, “the percentage of students who graduated from secondary school with a regular diploma in the standard number of years” (Alliance for Excellent Education, 2008b, p.1). Due to a lack of data and capacity, states and school districts employ a range of rate calculations that do not provide an accurate measurement and that significantly underestimates the number of students dropping out each year (Alliance for Excellent Education, 2008b). In essence, states exercise considerable autonomy in how they calculate the rates and respond to the federal mandate. Federal regulations have allowed states to determine the specifics of graduation rate accountability; therefore, in an effort to compare rates across states and document more accurate rates, the U.S. Department of Education (USDE) has announced changes to the Title 1 regulations governing methods states should use to calculate graduation rates under NCLB. Further, in 2005, the National Governors Association’s (NGA) Graduation Rate Compact was signed by all 50 governors. The proposal recommends that all states use the Cohort Method (as proposed by the USDE) to calculate graduation rates. Nevada is scheduled to begin using this method.
While many states are working to implement the cohort-based calculation, the “leaver rate” is the most common method used across the nation. The following is a description of these two calculation methods (EPE Research, 2008):

**Cohort Graduation Rate:** Percent of students from entering ninth grade cohort who graduate with a standard diploma within four years. This method can account for transfer and students retained in grade. Student data may be tracked on a statewide or local basis. Students are assigned to a cohort when they first enter ninth grade. The cohort is a group of students expected to graduate in the same year. At the end of four years, all students are separated into four categories:

- On-track graduate – completed high school with a regular diploma in four years or less.
- Other completer – earned a GED or other certificate, or reached special education maximum age.
- Dropout – left high school permanently during the four-year cohort period or whose whereabouts are unknown.
- Off-track graduated and continuing – completed high school with a regular diploma in more than four years or did not complete high school, but continues in school.

A cohort graduation rate is determined by the formula:

\[
\frac{\text{On-Track Graduates}}{\text{Cohort Total}}
\]

The dropout rates are calculated the same way as graduation rates, substituting the number of dropouts in the numerator. Currently there are 16 states using this method.

**Leaver Graduation Rate:** Defines a graduate as a student who leaves high school with a regular diploma in four years. This does not include certificates of attendance or special education diplomas. The graduation rate is computed by dividing the number of high school graduates receiving a standard diploma by the number who dropped out, graduated with a standard diploma and graduated with other completion credentials as shown by the following formula:

\[
\frac{\text{Number of students who graduate with a regular diploma}}{\text{Number of 9th-12th grade dropouts from appropriate years + graduates + other completers}}
\]

A similar approach may be used to calculate a Leaver dropout rate by dividing the number of dropouts by the number who dropped out, graduated with a standard diploma and graduated with other completion credentials. Calculating the graduation or dropout rate in this way may inflate the figures somewhat because students who move, but are not known to be continuing in school, are excluded from the denominator. Some of those students are likely to have left school. Currently there are 32 states using this method.

* The rest of the states use the persistence rate, composite rate and completion ratio not described here. For more information on those methods go to: [www.edweek.org](http://www.edweek.org)
The dropout rate is not the inverse of the graduation rate. Some dropout rate calculation methods employ a 7-12 grade range while others use a 9-12 grade range. While a 7-12 grade range is considered appropriate for examining dropouts, no system exists in Nevada at this time for calculating a 7-12 grade rate.

Congress intended the NCLB would require high schools to meet rigorous graduation rate standards and to be held accountable for the success of all students. Nonetheless, when it comes to graduation, schools are not held accountable. For example, NCLB does not establish an ultimate graduation rate goal, but allows states to set their own goals. Only three states have set this goal at 100 percent. Nevada has the lowest graduation goal of all the U.S. states, maintaining its current target of 50 percent through the 2013-14 school year (EPE Research Center, 2007). In addition, states are not required to set or meet meaningful progress goals toward higher graduation rates to achieve Annual Yearly Progress (AYP). Thus, as long as schools meet their weak accountability goals, they make AYP, thereby avoiding negative consequences (Alliance for Excellent Education, 2008b). Schools that do not make AYP for two consecutive years are identified as needing school improvement and the students must be given the option to transfer to another school in the district (U.S. Department of Education, n.d.).

National Center for Education Statistics

As an example of the varying graduation rate calculation methods in 2005, Nevada reported the general graduation rate of 64.9 percent. This rate was calculated using the leaver rate. Using a more accurate method called the Cumulative Promotion Index (CPI) method developed by C. Swanson (EPE Research Center, 2008), a 45.4 percent graduation rate was found for the same year (EPE Research Center, 2008). This is a 30 percent gap between the state and independent sources. The same report by EPE Research Center found that Nevada is losing 109 students each school day and has the highest dropout rate in the nation. Unfortunately, EPE Research Center is not able to calculate the rates by ethnicity using the same method (C. Swanson, personal communication, June 12, 2008). The issue is that Nevada does not report disaggregated enrollment data (e.g., number of Latino ninth graders, number of white ninth graders, etc.) to the Common Core of Data (CCD). All states actually have that kind of data and have to calculate disaggregated graduation rates (by race, gender, etc.) for the purposes of NCLB.

For the same year, 2005, the National Center for Education Statistics (NCES) (2007) reported Nevada’s graduation rate to be 57.4 percent. The NCES uses the average freshman graduation rate (see definition).

The NCES reports state event status dropout rates, status dropout rates, status completion rates and averaged freshman graduation rates. The NCES defines these terms as follows (2007, p.1):
• **Event dropout:** estimates the percent of both private and public high school students who left high school between the beginning of one school year and the beginning of the next without earning a high school diploma or equivalent (e.g., a GED). It can also track annual changes in the experiences of students in the U.S. school system.

• **Status dropout:** reports the percentage of individuals in a given age range who are not in school and have not earned a high school diploma or equivalency credential, irrespective of when they dropped out. The rate focuses on an overall age group as opposed to individuals in the U.S. school system so it can be used to study general population issues.

• **Status completion rate:** indicates the percentage of individuals in a given age range who are not in high school and who have earned a high school diploma or equivalency credential, irrespective of when the credential was earned. The rate focuses on an overall age group as opposed to individuals in the U.S. school system so it can be used to study general population issues.

• **Average freshman graduation rate:** estimates the proportion of public high school freshman who graduate with a regular diploma four years after starting 9th grade. The rate focuses on public high school students as opposed to all high school students or the general population and is designed to provide an estimate of on-time graduation from high school. Thus, it provides a measure of the extent to which public high schools are graduating students within the expected period of four years.

The data is drawn from the annual October Current Population Survey (CPS), the annual Common Core of Data (CCD) collections and the annual GED Testing Service statistical reports. CPS data is collected through household interviews and is representative of the civilian, noninstitutionalized population in the United States.

NCES reported the Nevada event dropout rate for grades 9-12 in the 2001-2002 school year to be 6.4 percent. The status dropout rate for the Western region in 2005 was 22.7 percent. The U.S Census Bureau, using NCES educational attainment indicator cites that in 2000, 16 percent of Nevada’s 16-19 year olds were not enrolled in school and were not high school graduates (U.S. Census Bureau, 2000).

**Communities of Color**

Rates are not required to be disaggregated by minority subgroups (Alliance for Excellent Education, 2006). According to the Civil Rights Project at Harvard University, this policy effectively allows for discrimination against minority students. This is especially significant because the dropout crisis severely impacts minority students. Nationally, just over one-half of Latino and African American students graduate on time with a regular diploma, compared to nearly 80 percent of whites (EPE Research, 2008). Latino and African American students are disproportionally excluded from the standard graduation calculations because of “overrepresentation in special education programs, GED programs, the juvenile justice system, incarcerated populations and other ‘Leaver’ groups for which there is little or incomplete data” (Alliance for Excellent Education, 2006, p.7).
Dropout Factories

Johns Hopkins University Center for Social Organization of Schools (CSOS) compares the number of seniors enrolled in a high school to the number of freshmen four years earlier (or three years earlier in a 10-12 high school). According to the center, it is currently the best available estimate of school-level graduation rates that can be used to compare high schools within and across states. This is called Promoting Power. For example, the schools with weak three-year average promoting power are coined “dropout factories.”

A “dropout factory” is a school where no more than 60 percent of the entering freshman actually graduate from high school. The goal of CSOS is “to shine a spotlight on what has been called a ‘Silent Epidemic’ the low graduation rates of the nation’s low income and minority students and to demonstrate that the dropout crisis is concentrated in a relatively small sub-set of schools.” This potentially makes solutions more possible as resources and supports can be targeted to where they are most needed (CSOS, n.d.a). The data gathered demonstrates how successfully schools are graduating their students, the number and characteristics (free lunch level, minority student concentration, size and location) that produce most of the dropouts in each state and the extent to which minority students attend high schools with high and low graduation rates compared to non-minority students (CSOS, n.d.b).

According to CSOS, Nevada has 26 “dropout factories.” Fifteen are located in Clark County, nine are located in Washoe County, one in Elko County and one in Nye County (CSOS, 2007). To see the list of schools designated as dropout factories, go to http://web.jhu.edu/CSOS/images/ListofSchoolswithaWeakThreeYearAveragePromotingPowerRatio.pdf.
Conclusion and Recommendations

It is important to gather accurate data on graduation and dropout rates. The Alliance for Excellent Education recommends the following five policies to help ensure accurate graduation rates in order to focus on a national solution to increase graduation rates (2006):

1. **Build and implement statewide longitudinal data systems**
   States should implement the 10 essential elements and seven design fundamentals outlined by the Data Quality Campaign (DQC) and consider the specific state education agency actions associated with each element. Further, Congress should increase funding for the Institute of Education Sciences’ (IES) statewide data systems program so that capacity can expand to all states.

2. **Collect and report necessary data for independent estimates**
   The Department of Education should collect the following school-level data through CCD: the number of diploma recipients, the number of ninth-grade repeaters; and the number of 9th, 10th, 11th, and 12th graders who have been verified as transferring out. This data should be available to the public on annual state and local report cards.

3. **Adopt more accurate graduation rate indicators**
   States should implement the graduation rate calculation method agreed upon by the NGA Compact and used for NCLB purposes. In the interim, states should use graduation indicators that more accurately estimate the percentage of ninth-graders who receive a regular high school diploma on time. One such indicator is a simple ratio of the number of diploma recipients to the number of ninth-graders four years earlier. Policies should be implemented that ensure that students who leave without graduating are presumed dropouts until otherwise verified.
4. **Implement valid high school accountability systems**
   Congress should include language specifically prohibiting USDE from approving states’ use of alternative graduation calculation methods. Congress should improve federal accountability provisions that determine goals for increasing graduation goals over time. Further, Congress should redefine accountability for high schools to include additional indicators for determining high school success and improvement actions for high schools in need of improvement.

5. **Intervene to raise graduation rates**
   School, district, community, state and federal decision-makers should create policies that address each of the following areas:

   - **Alignment** – align standards, curriculum, assessments and accountability systems with skills and knowledge required by colleges and employers
   - **Accountability** – implement systems that provide accurate measures of student and system performance
   - **Investment** – allocate resources equitably to prepare graduates for college, work and life
   - **Options and interventions** – offer engaging, rigorous and option-based curriculum and interventions
   - **High quality teachers and principals** – ensure all teachers and principals are well-qualified and responsive to the individual needs
   - **Community** – Create a safe and supportive environment in school and outside of school
   - **College access** – Ensure every student has the financial and academic tools necessary for a postsecondary education
For details on these and other recommendations, see the Alliance for Excellent Education Web site: www.all4ed.org/about_the_solution.

The Center for Social Organization of Schools (CSOS) has published a document titled, “What your community can do to end its dropout crisis: Learning from research and practice.” To view these recommendations, go to: http://web.jhu.edu/CSOS/images/Final_dropout_Balfanz.pdf.

In Nevada, to get involved or find out what you can do to help, contact Nora Luna, School Retention Specialist at University of Nevada Cooperative Extension at 702-940-5420 or lunan@unce.unr.edu.

Additional Resources

- Alliance for Excellent Education: www.all4ed.org
- America’s Promise Alliance: www.americaspromise.org
- American Diploma Project Network: www.achieve.org
- Bill and Melinda Gates Foundation: www.gatesfoundation.org
- Communities in Schools: www.cisnet.org
- Editorial Projects in Education Research Center: www.edweek.org/rc
- Educational Policy Institute: www.educationalpolicy.org
- Jobs for the Future: www.jff.org
- John Hopkins University Center for Social Organization of Schools: http://web.jhu.edu/CSOS/index.html
- National Dropout Prevention Center: www.dropoutprevention.org
- Nevada Public Education Foundation: www.nvpef.org
- Silent Epidemic: www.silentepidemic.org
- University of California Los Angeles Civil Rights Project: www.civilrightsproject.ucla.edu

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References


Center for Social Organization of Schools.(2007). *Schools with a three year promoting power ratio of 60% or less.* Johns Hopkins University. Retrieved September 17, 2008 from: http://web.jhu.edu/CSOS/images/ListofSchoolswithaWeakThreeYearAveragePromotingPowerRatio.pdf

Clark County School District.(n.d.a). *Dropout rates fast facts.* Las Vegas, NV.

Clark County School District.(n.d.b). *2006-07 Dropouts by school and region.* Las Vegas, NV.

Clark County School District Accountability Department.(2007). *Clark County School District accountability reports.* Las Vegas, NV.


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