



# Buffalo Public Schools

*Putting children and families first to ensure high academic achievement for all*

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## RESEARCH CAPSULE

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### Focus on Graduation

#### AT A GLANCE

The Nation's graduation rate historically shows a long and winding path looking at it well over a century. In 1870, the earliest date on record, only 2 percent of 17-year-olds in the nation had a secondary-level education. The turn of the 20th century brought rapid social and economic changes, which ushered in a new age for education. In 1940, for the first time, half of all students finished high school, although graduation did not become an established norm until the 1950s. The U.S. graduation rate reached its historical high point at the end of the 1960s, with the graduation rate peaking at 77 percent in 1969.

Originally, the focus of graduation was on four-year graduation which has also been used for school accountability. However, in recent years, five-year, six-year and seven-year graduation has also been discussed, and while the school accountability still seems to capture four-year graduation rate, discussions on the benefits of extended year graduation rate can also be found in the literature. Additionally, different approaches towards graduation rate calculation are reported in the literature. Thus, the purpose of this brief is to: (a) look at different approaches towards graduation rate calculation, (b) bring in the discussions on extended-year graduation.

#### Introduction

##### *Approaches to Graduation Rate Calculation*

Swanson (2003) investigated the state accountability Workbooks provisionally approved and publicly reported by the U.S. Department of Education (DOE) as of June 2003. A review of No Child Left Behind (NCLB) accountability plans approved for the 50 states and District of Columbia suggests that states are planning to take advantage of the substantial regulatory flexibility afforded by DOE in this area of NCLB implementation. States have proposed a wide variety of methods for measuring graduation rates. The most

common approach, pursued by 30 states (including the District), adopts a method developed by the National Center for Education Statistics, the DOE's statistical agency. In the initial stages of implementing their NCLB accountability systems, only 10 states intend to use a true longitudinal graduation rate calculated using data from individual students tracked over time. The accountability Workbooks for the remaining 11 states include a diverse array of strategies for meeting compliance with the law, ranging from using a dropout rate rather than graduation rate *per se* (2 states), to calculating completion rates (4 states), to employing other methods including grade-to-grade promotion ratios (5 states). Figure 1 below presents the preferences of the states.

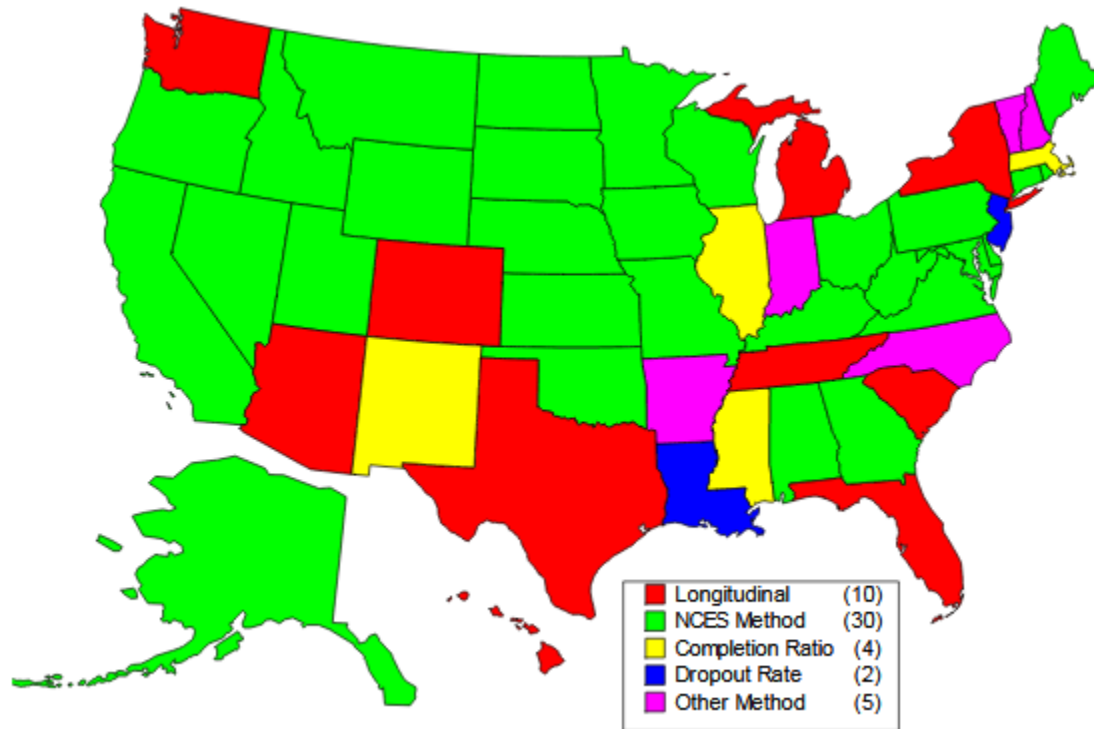


Figure 1: State Approaches for Calculating Graduation Rates for NCLB Accountability (Adopted from Swanson, 2003).

McFarland, Cui and Stark (2018) discuss the benefits of using *adjusted cohort graduation rate* (ACGR) to identify the graduation rate. ACGR provides information about the percentage of public high school students who graduate on time (i.e., 4 years after starting 9th grade for the first time) with a regular diploma. State education agencies (SEAs) calculate the ACGR using detailed data that track each student over time. Researchers find ACGR more accurate than the *averaged freshman graduation rate* (AFGR) calculation that uses aggregated public-school enrollment data and diploma counts to approximate a 4-year graduation rate, and *high school status completion rate* that measures the percentage of all 18- to 24-year-olds living in the United States who have a high school credential (a regular high school diploma, an alternative credential, or a GED) obtained from a public or private school or institution, including credentials from foreign schools or institutions.

Valentine (2018) argued that the four-year adjusted cohort graduation rate (ACGR) does not meet ESSA's own standards for being a valid indicator of "meaningful differentiation" between schools due to the subjectivity of grades and course credits and a lack of uniformity in assigning these between schools and states. Also, an inherent problem exists in using 4-year ACGR is that non-graduating students are attributed to the cohort in which they last attended. Additionally, schools with a graduation rate below 67% are

targeted for intervention. However, schools with highly mobile student population (e.g. low-income urban schools and virtual high schools) typically have lower four-year graduation rates but this rate may not reflect a problem.

### ***Discussions on Extended-Year Graduation***

Sana and Fenesi (2013) used a nationally representative survey to contrast academic and employment outcomes between high school graduates of Grade 12 and Grade 13. The results of the study suggested that Grade 13 graduates who obtain higher grades in high school are more likely to pursue university and are less likely to be employed full time compared with Grade 12 graduates. Among students enrolled in university, Grade 13 graduates report higher grades in university and satisfaction with their program and do not transfer out of their programs compared to Grade 12 graduates. These findings highlight the importance of an additional year of high school to produce better prepared and more satisfied graduates.

Brady and Allingham (2005) conducted a study to examine perceptions of preparedness for post-secondary education in the province of Ontario. Participants were 272 university students enrolled in the first year of a four or five-year concurrent teacher education program and represented two distinctive groups: (a) entrants who had completed the old five-year Ontario Academic Credit system (13 years of education, five-year high school), and (b) those who were admitted to university via the new four-year high school program. They responded to a questionnaire which inquired into the degree to which they believed that their final year of secondary school had adequately prepared them for the transition to university level studies. Although data analysis did not reveal any significant difference between the two groups in terms of academic achievement, Grade 12 reported feeling less prepared overall for the challenges of university, especially in terms of the acquisition of specific academic skills, as well as adjustment to the university social milieu.

Kieffer and Parker (2017) reported a study that showed the benefits of extended year graduation for English Language Learners. They conducted the study using longitudinal administrative data from New York City public schools for 2003/04 through 2012/13 to analyze high school graduation outcomes for students who entered New York City schools in grade 5 or 6 in 2003/04 as English learner students. Approximately 64 percent of students in these cohorts graduated from high school on time (within four years of entering grade 9), and an additional 15 percent graduated within six years of entering grade 9. Since diploma type also means level of preparation, the researchers also explored the diploma types earned. Students in the two cohorts earned a variety of diploma types within six years, including the standard Regents diploma (41 percent), the less rigorous Local diploma (19 percent), and the more rigorous Advanced Regents diploma (19 percent). Researchers built their study on a previous longitudinal study by Kieffer and Parker (2016) that found that most English learner students in New York City public schools took three to five years to reach standards for English proficiency, with a substantial proportion of students (24–44 percent, depending on the grade of entry) not reaching these standards after six or more years of schooling and becoming long-term English learner students. In other words, extended year graduation creates an opportunity for these students to earn a diploma which they would not have earned otherwise.

Dynarski (2018) noted that Since the No Child Left Behind policy was implemented, schools are accountable for graduation rates and the nation has seen a 4-percentage point increase between 2010-2011 (first school year after the regulation) and the 2013-2014 school year. The researcher is questioning whether this increase is due in part to Campbell's Law stating that "the more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor." He references several incidents in which states, districts, and schools have manipulated data/policies to reflect higher graduation rates. The

researcher raises concerns that students are not achieving the required learning and are just being passed along to graduate.

Statser (2014) provides graduation and high school drop-out rates. She estimated the national 4-year ACGR was 79% for SY 2010-11 and 80% for SY 2011-12. However, these rates do not include students who were held back but do eventually graduate, students who require alternative credential, or students dually enrolled in high school and postsecondary school (requires more than 4 years due to increased requirements). Drop-out rate was consistent at 3.3% for both years.

Heckman and LaFontaine (2010) highlight that differences in data and methodology produce large discrepancies in four-year graduation rate estimates that appear in the literature. One problem has been identified as basing estimates on the Common Core of Data by growth in ninth-grade retention (substantially biased downwards). This could be partially remedied by using eight-grade enrollment as a benchmark since retention in this grade is low. The authors also linked part of the measured slowdown in growth of college attendance and completion to lower high school graduation rates. Since 1970s, the decline in graduation rates appeared to flatten college achievement; hence stressing the need to confront the high school dropout problem.

Krashinsky (2014) assessed Ontario's education policy change that eliminated fifth year in high school and replaced it with a traditional four-year plan. Results indicated that the four-year graduation cohort who entered college in the fall of 2003, performed significantly worse than five-year high school graduates and exhibited overall grade point averages approximately one-half of a letter grade. Also, four-year graduates were significantly less likely to have an A in a first-year management course. Results indicated that although the province was able to decrease expenditures on high school, the elimination of grade 13 was not beneficial to high school graduates.

Kostyo, Jessica and Darling-Hammond (2018) discussed many reasons why students do not graduate in four years – incarceration, health issues, pregnancy, necessary employment, special need, and immigrants with little prior education. Given that 1 in 5 students do not graduate in four years (higher percentage in high-need communities), authors suggested that incentives are needed to recognize efforts of schools that continue working on these students even though they will not be counted in the four-year graduation rate. In order to help support efforts, ESSA creates opportunities to include increased resources for students unlikely to graduate in four years. Several states include this in their accountability and improvement systems along with measuring a five-year graduation rate.

Carne and Ireland (2012) used adjusted cohort graduation rates to compare graduation rates in four-year and five-year cohorts. The results of the analysis suggested that an additional 3.9 percent of students in the Class of 2014 graduated during their fifth-year of high school (2014–15) for a total five-year rate of 81.1 percent.

Candal and Ardon (2017) used publicly available DESE data to explore student four-year and five-year graduation rates in Boston Public Schools (BPS) and in charter schools among other things. The results of the study suggested that the four-year graduation rate at charters is roughly five percentage points higher than it is at BPS — 81% compared to 76%. While charter schools have a higher share of students graduating on time, the four-year graduation rates understate the difference between charter schools and BPS. Many of the students who have not graduated after four years were still in school, and charters were able to graduate a much larger share of these delayed students. The five-year graduation rate was 92% at charter schools compared to only 76% at BPS.

Sugarman (2019) noted that the exclusion of the extended year graduation rate from state accountability systems is a concern because English Language Learners are more likely to graduate after a fifth or sixth year of high school than other student subgroups. Comparing 23 states that reported five-year rates for the class of 2015, the greatest increase from the four-year to the five-year rate for all students was 6 percent; meantime, the largest increase for ELs was 13 percent. In 12 of those states, six-year rates were also reported, showing up to 2 percent of all students graduated in their sixth year, while up to 4 percent of ELs did so.

Martin (2016) noted that Every Student Succeeds Act (ESSA) replaced the No Child Left Behind Act of 2001 (NCLB) in December 2015, substantially changing the federal role in education and how schools across the country will be held accountable. For state policymakers, designing new ESSA-compliant accountability systems is a significant opportunity and a serious responsibility. The source discusses what needs to be measured and what choices the state must make. The suggestion is that States must measure the four-year cohort graduation rate, and, at the state's discretion, the extended-year graduation rate and they must determine whether to include an extended-year graduation rate indicator and how to balance the graduation rate measure with other measures. It is also stated that including the percentage of students who graduate within five or six years ensures that schools get credit for all students who graduate, but four-year graduation is traditionally the goal most schools set for students. Policymakers may choose to include extended-year rates and will want to ensure that extended year rates and four-year rates are balanced in a way that align with their goals for students.

Kostyo, Cardichon and Darling-Hammond (2018) noted that ESSA creates opportunities for states to include increased support for students who are unlikely to graduate in four years. Currently, 35 states include extended-year graduation rates in their accountability and improvement systems (see Figure 4). Sixteen of these states are measuring a five-year graduation rate only, and 19 states use a six- or seven-year graduation rate (sometimes in addition to the four- or five-year rate). Two additional states are reporting a five-year graduation rate and two other states are in the process of developing or piloting a five-year graduation rate that will be incorporated into their accountability and improvement system in the 2019–20 school year. The source reports about Illinois, New Jersey and New Mexico that incorporated extended-year graduation data into their accountability systems. The Illinois State Board of Education evaluates state-level data to identify the groups of students most unlikely to meet the 4-year graduation requirements to determine its extended-year cohorts. The state's goal, by 2032, is to have 90% of its students graduate college- and career-ready in four years, 92% in five years, and 92.5% in six years. New Jersey includes in the graduation rate indicator the percentage of students who graduate within five years of entering 9th grade. The state tracks four- and five-year graduation rates with the statewide goal of having 95% of its students graduate within 4 years and 96% within 5 years by 2030, with the same long-term goal for every subgroup. New Mexico tracks four-, five-, and six-year graduation rates, with the statewide goal, by 2022, of having 85% of its students graduate in four years, 88% in five years, and 90% in six years.

Schufter (2011) study explores the high school graduation experiences of students with disabilities, using data from the National Longitudinal Transition Study-2 (NLTS2, 2010), and asking: (a) After entering high school, on average, how long does it take for students with disabilities to graduate? (b) Is time to graduation different for students with different disabilities? Eight years after entering high school, 72.4% of students with disabilities had graduated—with the maximum conditional probability of graduation occurring 5 years after entering high school. In addition, students' type of disability affected both their conditional probability of graduation in each year and the temporal profile of those probabilities.

Gewertz (2009) presents the debate around extended year graduation. Some advocates think that schools should get some credit for students who take more than four years to get a diploma because if only four-year graduation is used, then schools will not have incentive to really work with struggling students and

those are the students who need help most. They think that schools need to be rewarded if they help students who are at risk to graduate even if the time is extended. A suggestion how extended year graduation can be factored into graduation rate was as follows. A state could assign an 80% weight to its four-year graduation and a 20% weight to its extended-year graduation. Or it could set a "more aggressive" annual-improvement target for the five-year rate than for the four-year. Some other advocates worry that because the federal regulations set no clear requirements on how the separate four-year and extended year rates should interact, states could win the right to use formulas that place too much weight on the longer rates. That approach, they say, could essentially lower the pressure on schools to ensure that the overwhelming majority of students graduate in four years.

Cardichon and Darling-Hammond (2017) noted that New York City has long tracked extended-year graduation rate data, and the impact is particularly noticeable in schools serving immigrant youth. For example, a study of the Internationals High School Network, a group of 17 schools with a strong track record of success in graduating recent immigrant English learner students and sending them to college, found that their average graduation rates grew from 63% after four years to 89% by year seven. The study's authors note that, "these data suggest that a four-year graduation measure is inadequate to capture the full impact of the Internationals." These data suggest that when schools are incentivized to keep and support youth with extra challenges, more youth may ultimately graduate. Similarly, in Michigan, for economically disadvantaged students, the six-year graduation rate showed a nine percent increase over the four-year rate and more than a six percent increase in the graduation rate for African American students. These increases are due in part to state, district, and school dropout and prevention recovery efforts that include increased high school redesign options such as flexible programming and programs that blend secondary and postsecondary education and provide wraparound supports. The majority of states collect extended-year graduation rate data. As of 2015, 31 states report five-year graduation rates, and 13 of those states report 6-year graduation rates as well. Including extended-year graduation rates as part of accountability systems provides an important protection against the perverse incentives that existed under NCLB for schools to exclude lower-performing youth to boost accountability metrics focused on test scores and goes further to reward schools for keeping youth if they need more time.

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