

2019 Legislative Report

The Postsecondary Progress and Success of High School Graduates: DEVELOPMENTAL EDUCATION NEEDS



COLORADO
Department of
Higher Education

This report was prepared by the Colorado Department of Higher Education (CDHE) pursuant to C.R.S. 23-1-113 and C.R.S. 23-1-113.3.

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In our complex economy, it's more important than ever for adults to earn a credential, whether it's a certificate, two-year or four-year degree. Today, about three fourths of Colorado jobs require education or training beyond high school, and 97 percent of top jobs—those that pay a living wage and have high growth rates—demand a credential. We work to ensure that all Coloradans, regardless of their background and zip code, can access a higher education opportunity that harnesses their talent and potential.

To guide this vision, our agency and the Colorado Commission on Higher Education set an ambitious goal to reach 66 percent attainment by 2025, a 9 percent increase over the next six years. The Colorado Department of Education adopted this goal in its strategic plan, aiming to send 66 percent of Colorado high school graduates on to postsecondary education. With this historic alignment in place, and with continued progress, we can achieve our goals—but it requires us to take a hard look at policies and programs that get in students' way. And when it comes to developmental education, too often we fail students before they embark on their higher education journey.

As this report shows, nearly 60 percent of students at two-year institutions and a quarter of students at four-year institutions are placed in developmental education courses—prerequisite classes designed to shore up basic academic skills. Although all students should be prepared for college-level work, the traditional remediation model holds most back. Students must pay for and pass these remedial courses before they begin their degree program, forcing many to drop out, incur debt and have no credit to show for their work.

We know we can do better. That's why we're among a vanguard of states that have adopted corequisite remediation, known as Supplemental Academic Instruction (SAI) in Colorado. In SAI programs, students enroll directly into college-level coursework and receive supplemental academic support, such as labs, workshops and tutoring.

Early data shows SAI is working. At Community College of Denver, pass rates more than doubled for English classes and almost tripled for math classes after implementing SAI. By reforming how we deliver developmental education, more students can clear that first-year hurdle, continue in their program and cross the finish line degree in hand.

Equally important, SAI can help erase equity gaps. Colorado has the largest equity gap among white and Latinx students—our fastest-growing ethnic group—of all states with more than a million Latinos and Hispanics. Traditional remediation only exacerbates these inequalities: students of color are disproportionately placed in developmental education, holding back 65 percent of Hispanic and Latinx students, 72 percent of Native American students and 76 percent of black and African American students.

We know the vast majority of students arrived unprepared not because of a lack of ambition or work ethic, but because of systemic inequalities and bias. By intervening early in their college careers, we can empower our students of color and close Colorado's dramatic gaps in attainment by race.

To power our economy, we can't afford to leave any Coloradan behind. SAI honors the potential of every student and ensures institutions accommodate their needs—not the other way around. We look forward to working with college across the state to scale this promising reform.

Dr. Angie Paccione,
Executive Director of the Colorado Department of Higher Education



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Introduction

This supplemental report explores the developmental needs of Colorado’s recent high school graduates, examines the postsecondary success of students who need developmental education and explores equity gaps as they relate to developmental education. It builds upon report titled *The Postsecondary Progress and Success of High School Graduates* released by the Colorado Department of Higher Education (CDHE) in February 2019. Findings in this first report show the following:

- Among the class of 2017, 56.3 percent of high school graduates went on to enroll in a postsecondary institution. These rates have declined since data was first reported in 2009.
- Of high school graduates who attend college, 24 percent enroll out of state. This is an increase of 4.5 percentage points since 2009.
- Outcomes are improving for those who enroll in Colorado postsecondary institutions. Each class since 2009 has experienced a greater percentage of students completing within two, four and six years.
- Equity gaps begin early in the postsecondary pipeline for Colorado students; only 38 percent of Native American or Alaska Native students, 43 percent of Hawaiian/Pacific Islander students, 46 percent of Hispanic students and 54 percent of African American or black students enroll in college compared to 81 percent of Asian students and 78 percent of white students.
- Far fewer students who qualify for free and reduced lunch (*FRL*) are enrolling in postsecondary education than those who do not qualify.

The Colorado Commission on Higher Education’s (CCHE) master plan, *Colorado Rises*, reaffirms the statewide goal of reaching 66 percent educational attainment by 2025 and outlines four key strategic goals: increase credential completion, erase equity gaps, improve student success and invest in affordability and innovation. These goals are essential to reaching the state’s workforce needs, since more than three-quarters of all jobs are expected to require a postsecondary credential by 2020.¹

K-12 and Higher Education Alignment

Student preparation underlies all these strategies and remains a primary factor in postsecondary success. Unfortunately, far too many students enter college without the academic preparation they need to succeed in entry-level postsecondary coursework. These students require additional developmental education, which for many undermines persistence, delays graduation and increases debt.

This report meets the reporting requirements outlined in C.R.S. 23-1-113 and C.R.S. 23-1-113.3 and has been submitted to the education committees of the House of Representatives and the Senate of the Colorado General Assembly as well as the State Board of Education.

To improve student readiness, The Colorado Department of Education (CDE) and CDHE have worked to align policies and programs. CDE’s strategic plan focuses on supporting students through every step of their education and adopts the CDHE’s attainment goal to “ensure

¹ <http://masterplan.highered.colorado.gov/>



that at least 66 percent of the class of 2022 go on to earn a postsecondary credential, certificate or degree within five years.” In conjunction with this plan, CDE’s graduation guidelines help students and their families plan post high school through an expansion of graduation options, such as becoming an apprentice or earning an industry credential. These requirements have been adopted by the Colorado State Board of Education and CCHE. The strategic plan also aims to ensure that more students have access to college-level coursework while they are still in high school through the state’s concurrent enrollment program. This historic alignment between K-12 and postsecondary education has helped forge a student-ready system designed to meet both the needs of students and the talent demands of the state.

At the same time, Colorado higher education institutions recognize that inadequate preparation can no longer be a primary barrier to student’s postsecondary success. To meet the goals outlined in *Colorado Rises*, the state’s system of higher education must improve the effectiveness of placement in and outcomes from developmental education. In recent years, Colorado’s institutions of higher education have improved outcomes through the following strategies: intentionally-designed K-12-to-postsecondary pathways; more effective placement methods; and the implementation of corequisite remediation, or Supplemental Academic Instruction (SAI), as an alternative to traditional, standalone developmental education.

Leading Policy Changes

CDHE has reported on the developmental needs of Colorado’s high school graduates since 2002. Unfortunately, developmental education rates have stayed relatively consistent since the first report was issued. These trends prompted CDHE and CCHE to take a hard look at the remediation landscape and how the state can improve outcomes.

Although the methodology has changed over the years, students have typically been identified as needing developmental education based on assessments defined in CCHE’s Developmental Education Policy or by enrolling in developmental education courses. Colorado is leading the way nationally in rethinking its approach to placement as well as redesigning developmental education course structure and delivery to better serve students.

There is a growing body of research showing that assessment scores used to place students into developmental education are a poor predictor of future college success,² and therefore, college readiness. In addition, colleges have changed both their assessment and placement policies per Colorado’s developmental education reform efforts over the years, causing fluctuations in longitudinal data. The changes in methodology, covered later in this report, consider these external factors and provide a more accurate understanding of the higher education landscape.

² <https://ccrc.tc.columbia.edu/media/k2/attachments/high-stakes-predict-success.pdf>
https://ies.ed.gov/ncee/edlabs/regions/northwest/pdf/REL_2016123.pdf
<https://ccrc.tc.columbia.edu/publications/predicting-success-placement-tests-transcripts.html>



Moving to SAI

During the 2019 legislative session, CDHE supported H.B. 19-1206, which requires Colorado institutions to adopt developmental education reform. This is especially crucial to meet the attainment goal as the traditional remediation model increases costs, time-to-degree and the risk of dropping out.

Among several provisions, this bill requires CCHS to update its Developmental Education Policy and encourage institutions to use multiple measures when placing students into developmental education and ensure their placement policy maximizes the likelihood that a student will succeed in a gateway college-level course within their first academic year. Institutions must consider more than just standardized tests to place students into developmental education courses; leaders may also rely on GPA, high school course-taking behavior and other factors that research shows maximize a student's likelihood of success. Because CDHE will no longer identify remedial need through a single placement instrument, the way the state assesses developmental need will be impacted dramatically. This new policy is designed to reduce developmental education rates and improve overall student outcomes.

Finally, this bill requires institutions to submit a plan to CCHS to replace almost all of their standalone, traditional developmental education courses with SAI. Standalone, traditional developmental education often requires students to enroll in one or more courses before they ever reach credit-bearing, college-level coursework. Although students learn course material, and sometimes pass these courses, they often stop out.³ Although students pay the same tuition rate for these traditional remediation courses, they do not apply as credit toward their degree. Designed with good intentions—helping students hone their academic skills—traditional remediation classes often thwart student success.

Alternatively, in its corequisite model, SAI allows students to enroll directly into college level courses and receive developmental support to help them succeed, such as additional labs and tutoring. This saves students money and time and increases their likelihood of passing gateway courses.⁴

SAI can take many forms depending on the institution, and is showing promising results in Colorado. For example, the Colorado Community College System's 2017 update on developmental education found after implementing SAI that:

English pass rates increased from

Math pass rates increased from

36 percent to 74 percent

16 percent to 40 percent

Colorado has seen broad adoption of SAI since implementing this intervention in 2012. Forthcoming reports from the CDHE will explore the existing outcomes of developmental education in Colorado's institutions of higher education and set a baseline to track outcomes going forward.

³ Bailey, T., Jeong, D. W., & Cho, S.-W. (2010). Referral, enrollment and completion in developmental education sequences in community colleges. *Economics of Education Review*, 29(2), 255-270.

⁴ Complete College America, (2017) Corequisite Remediation: Spanning the Corequisite Divide. Available online at: <http://completecollege.org/SpanningTheDivide/>

Key Developmental Education Findings

Overall the findings in this supplement are similar to those in prior reports despite methodological refinements.

- Approximately 36 percent of Colorado's recent high school graduates require developmental education support when they enroll in postsecondary education.
- A higher percentage of students who enter two-year institutions require developmental education support than for institutions that offer a four-year degree. Four-year institutions, however, serve almost as many students who require developmental education supports by headcount.
- Equity gaps persist across different race and ethnicity groups even when controlling for economic status. Higher-income African American and black students are more likely and higher-income Hispanic students are equally likely to require developmental education when compared to low-income white and Asian students.
- Women are more likely than men to require developmental education.
- Approximately 30 percent of high school students require developmental math, and 22 percent require developmental English.
- Leading indicators suggest that students requiring developmental education support fall behind early in their education. They accumulate fewer credit hours in their first year and are less likely to be on track for on-time completion.
- Students requiring remediation are more likely to pursue certificates or associate degrees.
- Although persistence data are comparable between students requiring developmental education and their peers who do not, there are significant gaps in two- and four-year completion rates.

Important Methodology Notes

Previous developmental education enrollment data were included in a separate CDHE developmental education report. This report, in contrast, focuses solely on the developmental needs of Colorado’s high school graduates. For greater consistency and comparability, data in this report have been aligned with data in the recently released report *The Postsecondary Progress and Success of High School Graduates*. To enable this alignment, this report looks only at the students included in the aforementioned postsecondary progress report as well as a single definition for students requiring remedial education students across all years.



Because of these methodological adjustments, values in this report cannot be compared to prior developmental education report values. To increase interpretability due to these changes, this report includes data back to 2009 using the new methodology. The following table outlines key differences:

	Prior Methodology	New Methodology
Report Cohort	Included all students who graduated from a Colorado public high school and enrolled in an institution of higher education either the following fall or spring.	Includes all students who graduated from a Colorado high school and enrolled in an institution of higher education only the following fall.
Developmental Student Definition	Reports published since 2015 include all students who assessed as needing developmental education, enrolled in a basic skills course or enrolled in an SAI course.	The definition includes all students who were assessed as needing developmental education or enrolled in a developmental education course. ⁵

Additionally, in reviewing past data, the department identified that some institutions using new assessments had not flagged all developmental students in the system. The new data submitted by these institutions also contributes to the differences in this report.

⁵ Students who were not assessed as having developmental education need but took SAI were removed from the developmental education cohort, since some institutions are using SAI to support all students instead of only those with developmental education needs.

Part 1: Developmental Education Needs

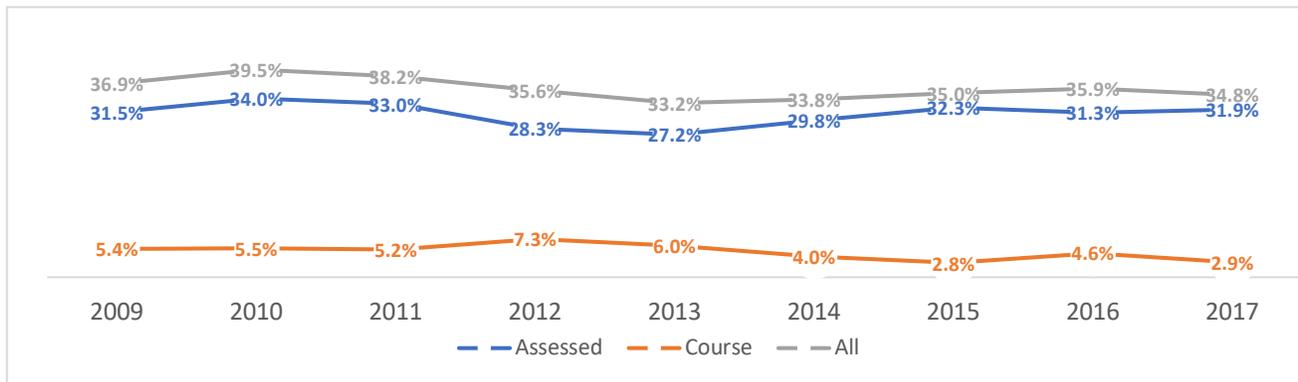
Approximately 35 percent of the class of 2017 who enrolled in college in state were placed in developmental education. Figure 1 depicts overall developmental education needs based on the criteria by which students were identified as needing remediation. Colorado’s developmental education needs have stayed relatively constant since 2009 with a slight downward trend. This decrease is likely driven by multiple factors, including improved preparation of high school students, changing demographics and postsecondary institutions’ changing their developmental education placement policies.

Figure 1. Percent of High School Graduates Assessed as Needing Developmental Education or Enrolled in Developmental Education Courses

Source: CDE, CDHE State Unit Record Data System (SURDS)



Because of these methodological adjustments, values in this report cannot be compared to prior developmental education report values. To increase interpretability due to these changes, this report includes data back to 2009 using the new methodology.



Data Table 1. High School Graduates at In-State, Public Institutions Requiring Developmental Education

Source: CDE, SURDS

HIGH SCHOOL GRADUATION YEAR	HIGH SCHOOL GRADUATES ENROLLING IN-STATE*	ASSESSED AS NEEDING DEVELOPMENTAL EDUCATION	NOT ASSESSED BUT TOOK A DEVELOPMENTAL EDUCATION COURSE IN YEAR 1	TOTAL REQUIRING DEVELOPMENTAL EDUCATION	% REQUIRING DEVELOPMENTAL EDUCATION
2017	21,234	6,770	613	7,383	34.8%
2016	21,444	6,708	989	7,697	35.9%
2015	19,952	6,443	550	6,993	35.0%
2014	19,143	5,714	762	6,476	33.8%
2013	20,196	5,486	1,214	6,700	33.2%
2012	20,220	5,718	1,472	7,190	35.6%
2011	21,790	7,185	1,138	8,323	38.2%
2010	22,297	7,590	1,227	8,817	39.5%
2009	22,601	7,117	1,228	8,345	36.9%

*Cohort is smaller than the cohort used in The Postsecondary Progress and Success of High School Graduates report due to data matching



A higher percentage of high school graduates who enroll in two-year institutions require developmental education courses when compared to four-year institutions (59 percent versus 26 percent). However, **Figure 2** shows that institutions offering four-year degrees serve a slightly higher but comparable number of students with developmental need than institutions only offering two-year degrees.

Data Table 2. High School Graduates at In-State, Public Institutions Requiring Developmental Education by Institution Type
Source: CDE, SURDS

HIGH SCHOOL GRADUATION YEAR	TWO-YEAR INSTITUTIONS		FOUR-YEAR INSTITUTIONS	
	HIGH SCHOOL GRADUATES ENROLLING	% NEEDING DEVELOPMENTAL EDUCATION	HIGH SCHOOL GRADUATES ENROLLING	% NEEDING DEVELOPMENTAL EDUCATION
2017	5,883	58.6%	15,351	25.6%
2016	6,222	55.9%	15,222	27.7%
2015	5,671	61.5%	14,281	24.6%
2014	5,173	56.7%	13,970	25.4%
2013	5,845	58.1%	14,323	23.0%
2012	6,376	62.6%	13,844	23.1%
2011	7,052	65.6%	14,738	25.1%
2010	7,594	66.9%	14,703	25.4%
2009	7,479	64.6%	15,122	23.2%

Figure 2. Number of 2017 High School Graduates at In-State, Public Institutions Who Need Developmental Education by Institution Type
Source: CDE, SURDS

3,448

Two-Year

3,935

Four-Year

Table 3 shows that developmental education rates for all race and ethnicity groups have declined since 2009. However, consistent with national trends, there are significant equity gaps in developmental education needs across race and ethnicity groups. African American, black and Hispanic students are more than twice as likely to require developmental education than white students in Colorado. **Table 4** shows that female students are consistently more likely than their male counterparts to require developmental education. Finally, students qualifying for FRL are almost twice as likely to require developmental education as those who do not qualify for FRL.



Data Table 3. High School Graduates at In-State, Public Institutions Requiring Developmental Education by Race/Ethnicity

Source: CDE, SURDS

HIGH SCHOOL GRADUATION YEAR	AMERICAN INDIAN OR ALASKAN NATIVE	ASIAN*	AFRICAN-AMERICAN OR BLACK	HAWAIIAN OR PACIFIC ISLANDER*	HISPANIC	TWO OR MORE RACES*	WHITE
2017	45.1%	26.2%	58.7%	36.6%	52.5%	30.4%	26.1%
2016	46.8%	27.1%	60.7%	43.5%	53.4%	33.4%	27.5%
2015	54.8%	25.2%	58.6%	48.6%	53.3%	33.7%	27.2%
2014	48.8%	27.8%	63.8%	40.0%	51.5%	31.1%	26.1%
2013	42.1%	26.9%	60.0%	39.0%	49.8%	32.7%	26.5%
2012	53.3%	29.2%	61.7%	47.7%	54.2%	33.9%	28.6%
2011	51.0%		66.9%		57.0%		30.8%
2010	54.0%		69.2%		60.1%		32.8%
2009	50.3%		65.6%		58.3%		30.9%

* Prior to 2011, race/ethnicity categories were reported differently in line with federal requirements

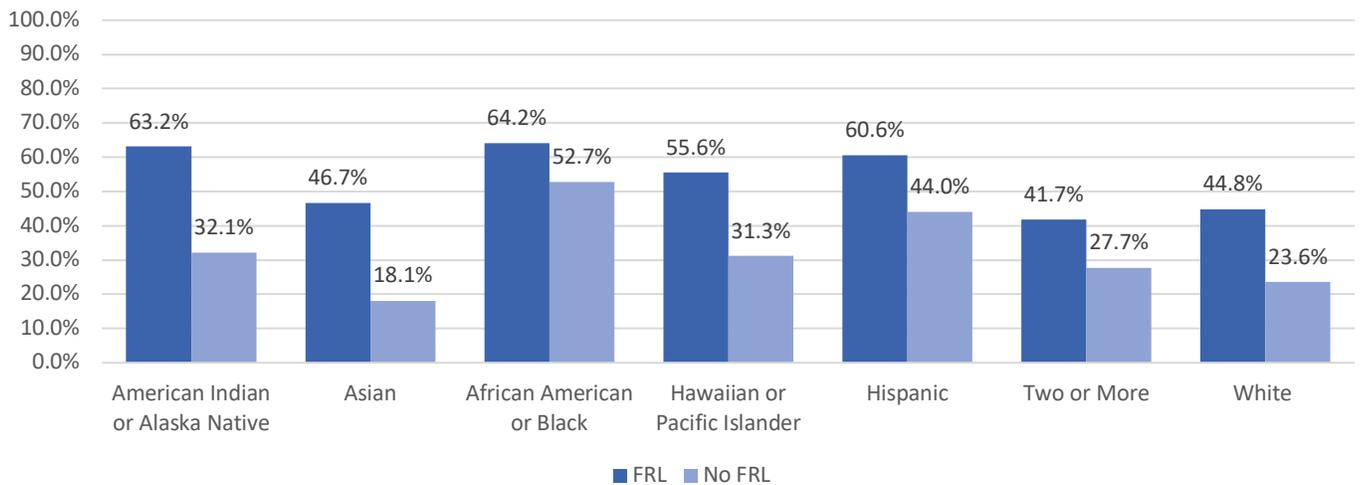
Data Table 4. High School Graduates at In-State, Public Institutions Requiring Developmental Education by Gender and Income

Source: CDE, SURDS

HIGH SCHOOL GRADUATION YEAR	FEMALE	MALE	NOT FRL	FRL
2017	37.4%	31.7%	27.9%	55.2%
2016	38.7%	32.7%	29.9%	54.7%
2015	37.5%	32.2%	29.8%	53.5%
2014	37.8%	29.2%	29.6%	52.5%
2013	35.5%	30.5%	28.1%	52.3%
2012	38.5%	32.2%	29.8%	56.6%
2011	40.7%	35.4%	32.6%	60.7%
2010	42.2%	36.6%	35.8%	61.9%
2009	38.9%	34.9%	32.2%	59.3%

Figure 3 illustrates that for all race and ethnicity groups, developmental rates are higher for students who qualify for FRL. Equity gaps exist across economic status with white, Asian and students who identify as more than one race being less likely to require developmental education. In fact, higher-income African American and black students are more likely and higher-income Hispanic students are equally likely to require developmental education when compared to low-income white and Asian students.

Figure 3. High School Graduates at In-State, Public Institutions Requiring Developmental Education by Race/Ethnicity and Income



Part 2: Developmental Education by Subject

Students in Colorado are more likely to require developmental math than developmental English (either reading or composition). Of the class of 2017, 29 percent required developmental math compared to just 22 percent who required developmental English. Those required to enroll in both math and English comprised 17 percent.

Data Table 5. High School Graduates at In-State, Public Institutions Assessed or Enrolled into Developmental Math

Source: CDE, SURDS

HIGH SCHOOL GRADUATION YEAR	HIGH SCHOOL GRADUATES ENROLLING IN-STATE*	ASSESSED AS NEEDING DEVELOPMENTAL MATH	NOT ASSESSED BUT ENROLLED IN DEVELOPMENTAL MATH IN YEAR 1	TOTAL REQUIRING DEVELOPMENTAL MATH	% REQUIRING DEVELOPMENTAL MATH
2017	21,234	5,625	647	6,272	29.5%
2016	21,444	5,571	993	6,564	30.6%
2015	19,952	5,510	578	6,088	30.5%
2014	19,143	4,731	845	5,576	29.1%
2013	20,196	4,374	1,207	5,581	27.6%
2012	20,220	4,504	1,484	5,988	29.6%
2011	21,790	5,815	1,294	7,109	32.6%
2010	22,297	6,053	1,430	7,483	33.6%
2009	22,601	5,656	1,357	7,013	31.0%

*Cohort is smaller than the cohort used in the Postsecondary Progress and Success of High School Graduates due to data matching

Data Table 6. High School Graduates at In-State, Public Institutions Assessed or Enrolled into Developmental English

Source: CDE, SURDS

HIGH SCHOOL GRADUATION YEAR	HIGH SCHOOL GRADUATES ENROLLING IN-STATE*	ASSESSED AS NEEDING DEVELOPMENTAL ENGLISH	NOT ASSESSED BUT ENROLLED IN DEVELOPMENTAL ENGLISH COURSE IN YEAR 1	TOTAL REQUIRING DEVELOPMENTAL ENGLISH	% REQUIRING DEVELOPMENTAL ENGLISH
2017	21,234	4,468	199	4,645	21.9%
2016	21,444	4,470	292	4,746	22.1%
2015	19,952	4,256	145	4,369	21.9%
2014	19,143	3,633	209	3,816	19.9%
2013	20,196	3,584	723	4,180	20.7%
2012	20,220	3,806	892	4,556	22.5%
2011	21,790	4,719	763	5,335	24.5%
2010	22,297	5,063	785	5,686	25.5%
2009	22,601	4,825	779	5,446	24.1%

*Cohort is smaller than the cohort used in *The Postsecondary Progress and Success of High School Graduates* report due to data matching

Again, the data by subject and sector show that a higher percentage of students at institutions that offer two-year degrees require developmental education. However, institutions that award four-year degrees serve a larger number of students who require developmental supports by headcount. This trend is likely a function of enrollment patterns, since 73 percent of recent high school graduates attend a four-year institution.

Figure 4. Percent of 2017 High School Graduates at In-State, Public Institutions with Developmental Education Needs by Subject and Sector

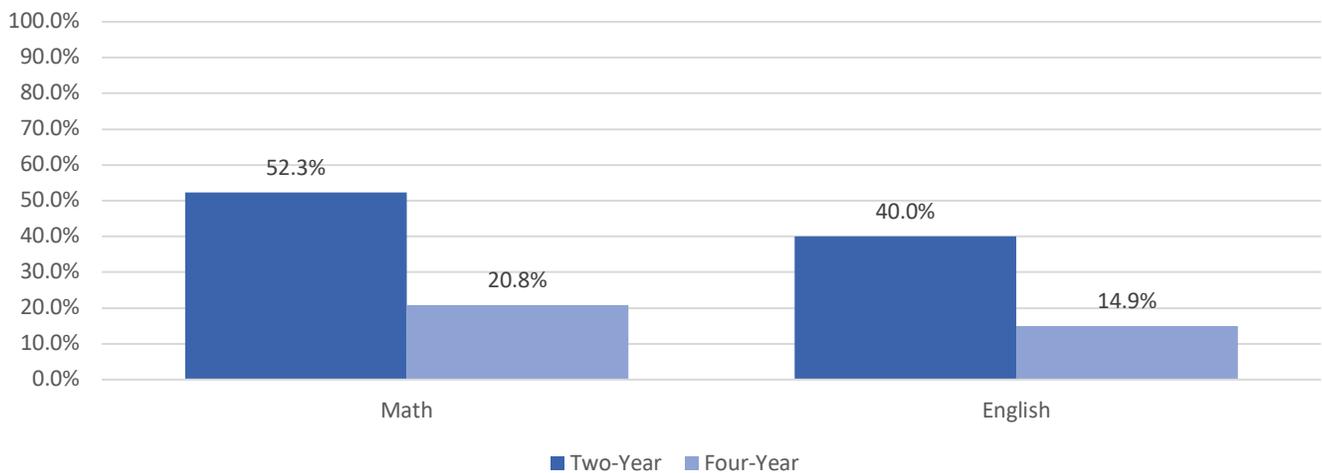


Figure 5. Number of 2017 High School Graduates at In-State, Public Institutions with Developmental Education Needs by Subject and Sector

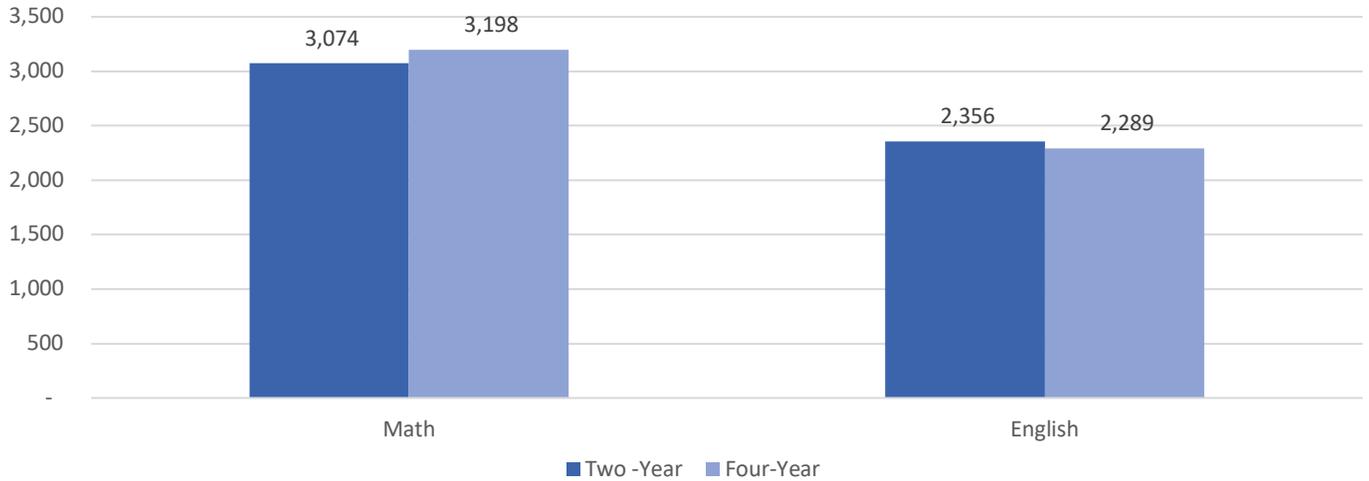
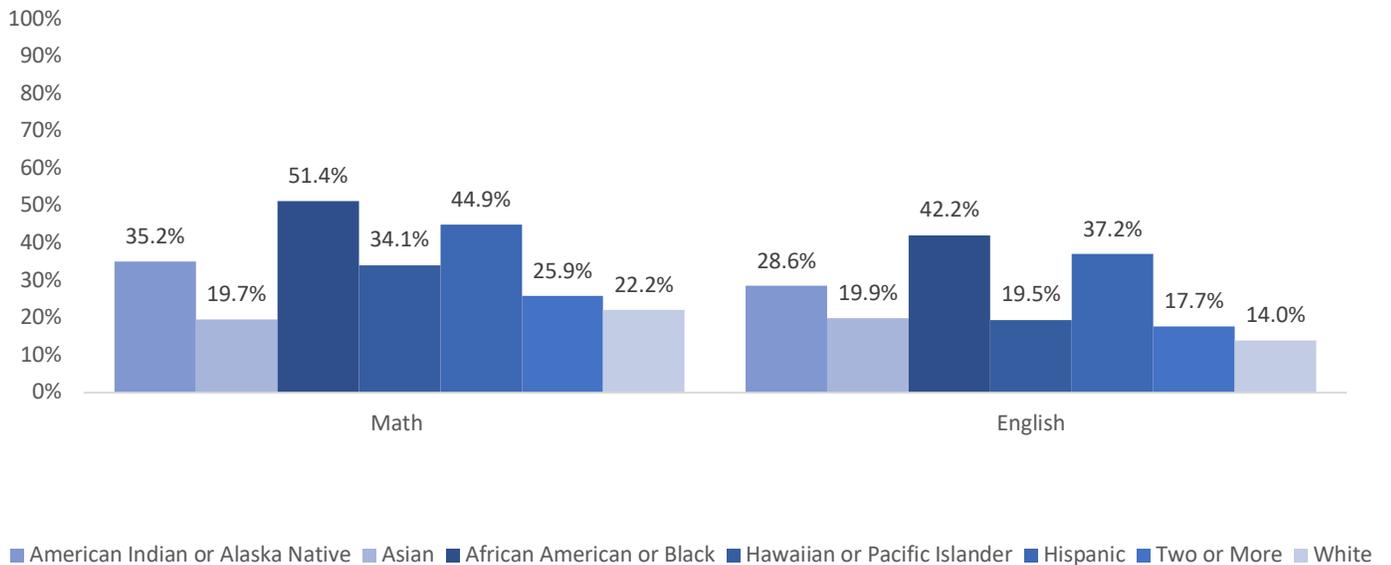


Figure 6 illustrates that gaps in developmental education need by race and ethnicity are consistent for both math and English enrollment.

Figure 6. High School Graduates at In-State, Public Institutions with Developmental Education Needs in Math and English by Race/Ethnicity



For students with developmental needs, early enrollment in developmental education is important for accelerating their time-to-degree and increasing the likelihood of success. **Table 7** illustrates that about 50 percent of students requiring developmental education enrolled in a developmental education course or SAI in their first year. This figure has dropped from almost 65 percent in 2009. As Colorado monitors the progress of developmental education reform and implementation, it's important to explore the factors driving this trend.



Data Table 7. High School Graduates Assessed as Needing Developmental Education Who Enroll in Developmental Education in Their First Year of College

Source: CDE, SURDS

HIGH SCHOOL GRADUATION YEAR	ASSESSED AS NEEDING DEVELOPMENTAL EDUCATION	ASSESSED AND TOOK A DEVELOPMENTAL COURSE IN YEAR 1	ASSESSED AND TOOK SAI IN YEAR 1*	ASSESSED AND TOOK A DEVELOPMENTAL COURSE OR SAI IN YEAR 1	% ASSESSED AND TOOK A DEVELOPMENTAL COURSE OR SAI IN YEAR 1
2017	6,770	2,459	861	3,320	49.0%
2016	6,708	2,666	630	3,296	49.1%
2015	6,443	3,058	516	3,574	55.5%
2014	5,714	2,863	437	3,300	57.8%
2013	5,486	3,160	70	3,230	58.9%
2012	5,718	3,391	37	3,428	60.0%
2011	7,185	4,462	-	4,462	62.1%
2010	7,590	4,868	-	4,868	64.1%
2009	7,117	4,598	-	4,598	64.6%

*Does not include students who enrolled in both developmental education and SAI



Part 3: Leading Indicators and Postsecondary Outcomes for Developmental Education Students

For unprepared students, gaps in academic success appear early in their college experience. **Table 8** illustrates that students who require additional developmental education support have significantly lower credit accumulation; fewer take on a full course load of 24 credits in their first year. Only 20 percent have completed enough credits to be on track for an on-time graduation compared to more than 60 percent of students who do not require developmental support.

Data Table 8. First-Year Leading Indicators of Success by Developmental Education Need

Source: CDE, SURDS

	AVERAGE GPA	AVERAGE CREDITS	% WITH 15 CREDITS OR MORE	% WITH 24 CREDITS OR MORE	% WITH 30 CREDITS OR MORE
Students Needing Developmental Ed.	2.49	21.54	63.9%	41.0%	21.2%
Students NOT Needing Developmental Ed.	2.97	36.66	89.3%	79.4%	62.8%

Table 9 shows that students who are placed in developmental education pursue fundamentally different pathways than their counterparts. About half as many students requiring developmental support pursue bachelor's degrees compared to their peers.

Data Table 9. Program Enrollment Over Time by Developmental Education Need

Source: CDE, SURDS

	CERTIFICATE	ASSOCIATE	BACHELOR'S
Students Needing Developmental Ed.	4.1%	48.4%	46.0%
Students NOT Needing Developmental Ed.	1.5%	16.4%	80.7%

As **Table 10** illustrates, first-year persistence among students attending two-year institutions is comparable between those placed in developmental education and their counterparts. For students attending four-year institutions, however, there is a significant gap in first-year persistence for students who need developmental education compared to their peers. This trend holds even when factoring students who earn credentials in their first-year into the persistence rate.

Data Table 10. First-Year Persistence* or Credential Completion by Developmental Education Need

Source: CDE, SURDS

	FIRST-YEAR PERSISTENCE			FIRST-YEAR PERSISTENCE OR COMPLETION		
	OVERALL	2-YEAR INSTITUTION	4-YEAR INSTITUTION	OVERALL	2-YEAR INSTITUTION	4-YEAR INSTITUTION
Students Needing Developmental Ed.	69.4%	62.4%	75.3%	70.4%	64.0%	75.7%
Students NOT Needing Developmental Ed.	85.1%	65.1%	90.1%	86.1%	68.9%	90.4%

*2016 Cohort

Table 11 shows credential completion rates for two and four-year institutions. Developmental education students who begin at two and four-year institutions are about equally likely to have receive a degree within four years; however, the completion rate for developmental students is about half the completion rate of non-developmental students regardless of the institution type.

Data Table 11. Completion by Institution Type by Developmental Education Need

Source: CDE, SURDS

	CREDENTIAL ATTINAMT WITHIN 2 YEARS*		CREDENTIAL ATTINAMT WITHIN 4 YEARS**	
	2-YEAR INSTITUTION	4-YEAR INSTITUTION	2-YEAR INSTITUTION	4-YEAR INSTITUTION
Students Needing Developmental Ed.	13.3%	NA	21.3%	25.7%
Students NOT Needing Developmental Ed.	21.6%	NA	42.1%	42.2%

*2016 Cohort, **2014 Cohort



Conclusion

In the nearly two decades Colorado has been reporting on the developmental education needs of its high school graduates, only small improvements have been traced over the years. By aligning the missions of K-12 and postsecondary education and focusing on the state's workforce imperative, the system is poised to improve the postsecondary readiness of students and how they are served once they arrive on campus.

New graduation guidelines aligned with college-readiness standards and a continued focus on making college-level coursework available to high school students will help more students enter the postsecondary pipeline ready to complete college-level coursework. In the postsecondary sector, efforts to rethink placement and expand access to SAI for all students will ensure more students persist once they enter college.

Despite these promising reforms, Colorado still has work to do—particularly as it relates to addressing the equity gaps that persist for Hispanic, American Indian and African American and black students and those who are low-income. Efforts to expand prior learning assessments, reform math requirements, creating clear postsecondary pathways and expanding proven interventions that improve students success and close equity gaps are essential for reaching the state's attainment goal.

Methodology

Data Source

To construct these data, the Colorado Department of Higher Education (CDHE) receives data on high school graduates from the Colorado Department of Education (CDE). The data from CDE are then connected to the CDHE's State Unit Record Data System (SURDS) to get postsecondary information from Colorado institutions of higher education. The introduction of the State Assigned Student ID (SASID) in 2009 enabled data to be shared between the two departments; therefore, these kinds of data are not available prior to the 2009 high school graduating class.

Developmental Education Cohort

The developmental education cohort in this report consists of students who graduated from high school in Colorado in a given year and are attending an in-state, public institution in the fall. This cohort is similar to the College Enrollee Cohort used in the report, *The Postsecondary Enrollment and Success for High School Graduates* with two exceptions. First, it does not include the area technical colleges, Colorado State University-Global, Colorado Christian University, Regis University and the University of Denver, as the department does not have sufficient data from these institutions to identify development education needs. Second, it does not include students for whom there is no SASID, which is necessary for CDHE to link students across data sets. We cannot assess developmental education enrollment for students with no match.

Students are identified as developmental education students for the purposes of this report if they meet one or both of the following criteria:

- They are assessed as needing developmental education by a postsecondary institution anytime in the six months prior to high school graduation or when they enroll in college based on the requirements of the CCHE Developmental Education Policy.⁶
- They are enrolled in a basic skills course (developmental education) coursework in the fall immediately following high school graduation.

Students enrolling in Supplemental Academic Instruction (SAI) who were NOT assessed as needing developmental education are not considered developmental education students in this report. However, students enrolled in the Composition and Reading (CCR) course are considered developmental education students. Although this course replaced many writing and reading courses as part of recent developmental education redesign efforts, it is still considered a stand-alone developmental education course.

⁶ <https://higher.colorado.gov/publications/policies/Current/i-parte.pdf>



Academic Years

The academic years referred to in the report coincide with the following fall entry into college of the high school graduates. For example, the 2017 high school graduates tracked in this report enrolled in an in-state, public college in fall 2017. This report, like all reports after 2012, focuses on students who enroll in college in the fall immediately following high school graduation.

Race/Ethnicity

This report uses standard race/ethnicity categories defined by the National Center for Education Statistics. These categories do not always reflect new terminology for race/ethnicity. New racial/ethnicity categories were adopted in 2012 to comply with state and federal reporting standards. As a result, data and comparisons for Asian students, Hawaiian/Pacific Islander students, and students of Two or More Races are not available prior to 2012.

Accessing Data

To make these data more accessible to the public, CDHE created a searchable database and individualized district profiles, on the District at a Glance website at:

<https://highered.colorado.gov/Data/Districtataglance.html>

Contact Information

For more information, please contact Senior Policy Director Katie Zaback: katie.zaback@dhe.state.co.us



Appendix I: Data File Specifications

An excel file with data for each of the cohorts in this report is available. It includes the following information at the High School, District and State Level and can be accessed on the CDHE Website at <https://highered.colorado.gov>.

Developmental Education Cohort

This file includes the developmental education enrollment percentages of all students who graduated from high school in Colorado in a given year who attend a Colorado institution of higher education. It mirrors the data presented in Parts I and 2 and includes institution type.

- # Enrolled in a public in-state institution who are part of the Developmental Education Cohort
- # Assessed as Needing Developmental Education
- # Enrolled in Developmental Education in their First Year
- # Enrolled in Developmental Education in their First Year but Not Assessed
- #, % Total Developmental Education
- # Enrolled in a public two year, in-state institution who are part of the Developmental Education Cohort
- # Students Attending 2-Year Institutions Assessed as Needing Developmental Education
- # Students Attending 2-Year Institutions Enrolled in Developmental Education in their First Year
- # Students Attending 2-Year Institutions Enrolled in Developmental Education in their First Year but Not Assessed
- #, % Students Attending 2-Year Institutions Total Developmental Education
- # Students Attending 4-Year Institutions Enrolled in a public in-state institution who are part of the Developmental Education Cohort
- # Students Attending 4-Year Institutions Assessed as Needing Developmental Education
- # Students Attending 4-Year Institutions Enrolled in Developmental Education in their First Year
- # Students Attending 4-Year Institutions Enrolled in Developmental Education in their First Year but Not Assessed
- #, % Students Attending 4-Year Institutions Total Developmental Education
- # Assessed as Needing Developmental Math
- # Enrolled in Developmental Math
- # Enrolled in Developmental Math but Not Assessed
- #, % Total Developmental Math
- # Assessed as Needing Developmental English
- # Enrolled in Developmental English
- # Enrolled in Developmental English but Not Assessed
- # Assessed as needing Developmental who Enrolled in Developmental Education in Year 1
- # Assessed as needing Developmental who Enrolled in SAI but not Developmental Education in Year 1
- #, % Assessed as needing Developmental who Enrolled in Developmental Education or SAI in Year 1

Developmental Education Outcomes

This file includes leading indicators and outcomes for all students requiring developmental education and those not identified as having developmental need who graduated from high school in Colorado in a given year and who attend a Colorado institution of higher education. It mirrors the data presented in Part 3 of this report.

- #, % Enrolled in a public in-state institution
- #, % Enrolled in a Certificate, Associate Degree or Bachelor’s Degree Program
- #, % Persisted 2nd Year, 3rd Year, 4th Year
- #, % Persisted or Received a credential 2nd Year, 3rd Year, 4th Year
- #, % Completed a Credential (*Certificate Associate Degree or Bachelor’s Degree*) in their 2nd Year, 4th Year, 5th Year, 6th Year