

Maricopa County Community College District

Fall 2015 Developmental Education Report

February 16, 2016



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Key Findings

- Total enrollment in developmental classes (not limited to any cohorts) increased only slightly over last fall (0.7%). Fewer students enrolled in English and reading developmental classes, but 24% more students enrolled in math developmental courses.
- A smaller percentage of students who were new to higher education and degree- or transfer-seeking tested into developmental education; 64% this past fall compared to 65% in 2014.
- Recent high school graduates continued to test into developmental education at lower rates than students who had been out of high school for more than one year (with the exception of reading, which was the same as the prior fall).
- Successful completion rates in developmental courses have improved over the past 5 years from 62% to 70%.
- Success rates in subsequent college-level courses remained stable for math and increased for English compared to last year's report.

Section 1: Scope of Developmental Education

A total of 17,528 students enrolled in one or more developmental courses in the Fall 2015 term. While the number of students enrolled in at least one developmental course remained steady from Fall 2014 to Fall 2015, the number of students in math developmental courses increased by more than 24%, the number of students enrolled in English decreased by more than 18% and in reading by more than 17%. Of the three subject areas, math continued to account for the largest enrollment with more than 12,600 students in Fall 2015.

Enrollment in Developmental Courses (All Students)			
Developmental Courses	Students Enrolled in Fall 2014	Students Enrolled in Fall 2015	Percentage Change from Fall 2014 to Fall 2015
Any Developmental Course	17,412	17,528	+ 0.7%
Math	10,134	12,607	+ 24.4%
English	6,760	5,527	- 18.2%
Reading	6,455	5,352	- 17.1%



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Section 2: Placement

The placement and performance sections of this report (Sections 2 – 4) were largely based on the Student Success Initiative (SSI) cohort, specifically students who were new to higher education and degree- or transfer-seeking. This group of students will be referred to as the “cohort.” In this section of the analysis we compared recent high school graduates (students who graduated high school within the year prior to the Fall 2015 term), to non-recent high school graduates for a more nuanced view of the data.

- The number of cohort students testing into developmental courses decreased from 11,768 in Fall 2014 to 10,808 in Fall 2015 and **the proportion of students who tested into developmental courses decreased slightly from 65% in Fall 2014 to 64% in Fall 2015.**
- Collectively and within each of the three subject areas (math, English, and reading), **recent high-school graduates placed into developmental-level courses at lower rates than students who graduated from high school more than a year prior to coming to MCCC.**

Placements for Math, English, and Reading (combined)						
Course-level	Recent H.S. Graduate		Not Recent H.S. Graduate		Total	
	Count	%	Count	%	Count	%
Developmental	7,249	61%	3,559	72%	10,808	64%
Other*	4,588	39%	1,368	28%	5,956	36%
Total	11,837	100%	4,927	100%	16,764	100%

* Other includes students who placed into college-level coursework in the subject area(s) for which the student had completed a placement exam, as well as students who had no placement scores on record. Not all students completed placement testing in all subject areas of English, math and reading.

- When the data were considered by subject and how recently the students graduated from high school, **the number and proportion of cohort students who tested into developmental-level courses decreased with one exception.** The proportion of recent high school graduates placed into developmental reading increased from 35% in Fall 2014 to 36% in Fall 2015.
- **Cohort students placed into developmental math at a higher rate (55%) than developmental English (35%) or reading (36%) in Fall 2015.** This pattern was consistent for students regardless of the recency of high school graduation.



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The following tables provide course placement data for cohort students with valid placement test scores and a high school graduation or GED date on record.

- **55% tested into a developmental math course; 48% of recent high school graduates and 74% of non-recent graduates.** (In Fall 2014, 56% tested into developmental math, 49% of recent high school graduates and 77% of non-recent graduates.)

Math						
Placement	Recent H.S. Graduate		Not Recent H.S. Graduate		Total	
	Count	%	Count	%	Count	%
Developmental	5,401	48%	2,877	74%	8,278	55%
College-level	5,800	52%	1,036	26%	6,836	45%
Total	11,201	100%	3,913	100%	15,114	100%

- **35% tested into a developmental English course; 32% of recent high school graduates and 45% of non-recent graduates.** (In Fall 2014, 38% tested into developmental English, 33% of recent high school graduates and 50% of non-recent graduates.)

English						
Placement	Recent H.S. Graduate		Not Recent H.S. Graduate		Total	
	Count	%	Count	%	Count	%
Developmental	3,518	32%	1,749	45%	5,267	35%
College-level	7,574	68%	2,155	55%	9,729	65%
Total	11,092	100%	3,904	100%	14,996	100%

- **36% tested into a developmental reading course; 36% of recent high school graduates and 38% of non-recent graduates.** (In Fall 2014, 36% tested into developmental reading, 35% of recent high school graduates, 40% of non-recent graduates placed into developmental reading.)



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Reading						
	Recent H.S. Graduate		Not Recent H.S. Graduate		Total	
Placement	Count	%	Count	%	Count	%
Developmental	4,019	36%	1,507	38%	5,526	36%
College-level	7,232	64%	2,490	62%	9,722	64%
Total	11,251	100%	3,997	100%	15,248	100%

Section 3 – Student Performance

- **Successful completion rates in developmental courses have been improving** for the last five cohort terms, from 62% (Fall 2010) to 70% (Fall 2014).
- From Fall 2013 to Fall 2014, **the developmental success rates increased in math and English, but decreased slightly in reading.**
 - Math success rates increased from 52% to 64%
 - English success rates increased from 71% to 75%
 - Although consistently the highest of the three subjects, reading success rates decreased slightly from 77% to 76%
- **Successful completion has been more volatile for developmental math than it has been for English or reading.** This trend likely relates to changes in the placement exams used and adjustments to cut scores. These modifications resulted in changes in the numbers of students who were assigned to developmental math courses and at what level. As a brief history, ACCUPLACER was generally used for math placement in Fall 2008. Starting in Fall 2009, the ALEKS exam was used at a few colleges (mainly Estrella Mountain, Mesa, and Paradise Valley), and came into wider use by Fall 2011. ALEKS tended to place higher proportions of students into developmental courses. As a result, students with slightly higher math ability were placed into developmental math, and higher levels of successful completion were observed in Fall 2010 and Fall 2011.

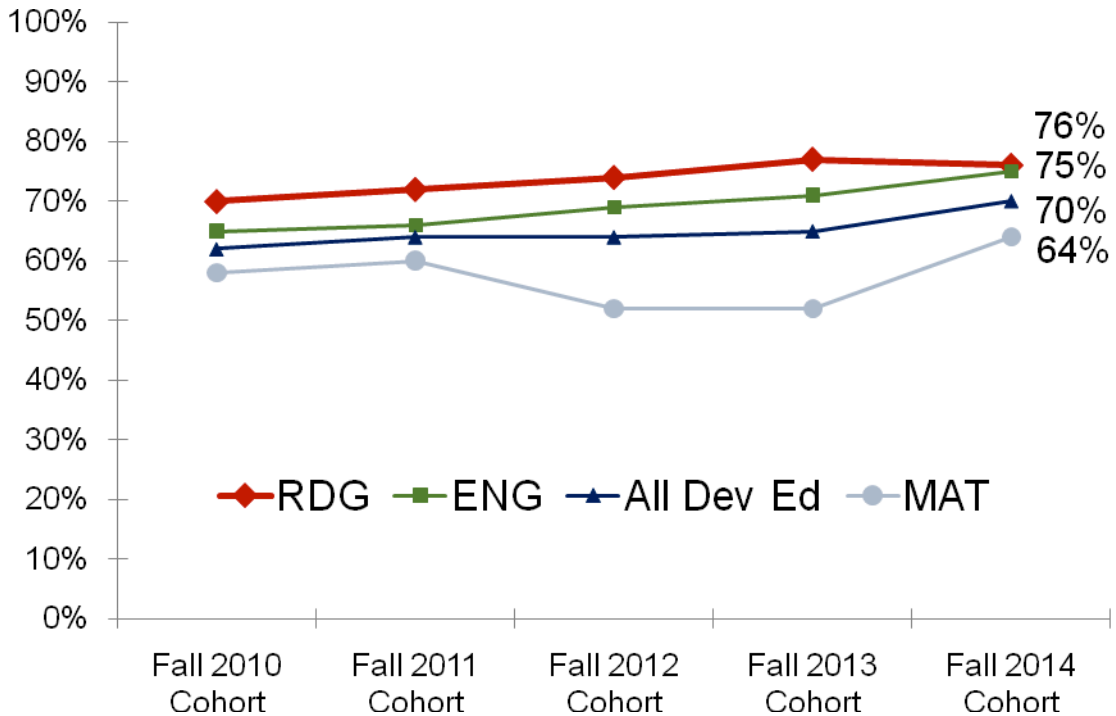
In Fall 2012, the use of the ALEKS was discontinued, replaced by ACCUPLACER. The cut scores associated with ACCUPLACER tended to place fewer students in developmental math. The students placed into developmental math may have had lower math ability than they had under the ALEKS exam. The successful completion rates in developmental math declined in Fall 2012 and 2013. With the start of the Spring 2014 term, MCCCDC revised the ACCUPLACER math placement cut scores to make them more stringent. In turn, the proportion of students who successfully completed developmental math improved in Fall 2014.



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- **Successful completion rates in developmental courses were consistently higher in English and reading than math.**



Demographics

Success rates in developmental courses were disaggregated by demographic variables including gender, race/ethnicity, full-time/part-time status, and Pell-recipient status.

- Disaggregated data suggested that **female students were more successful** in developmental courses than male students, **full-time students had higher success rates** than part-time students, **and students who did not receive a Pell Grant had higher developmental course success rates** than Pell recipients. (See Appendix B).

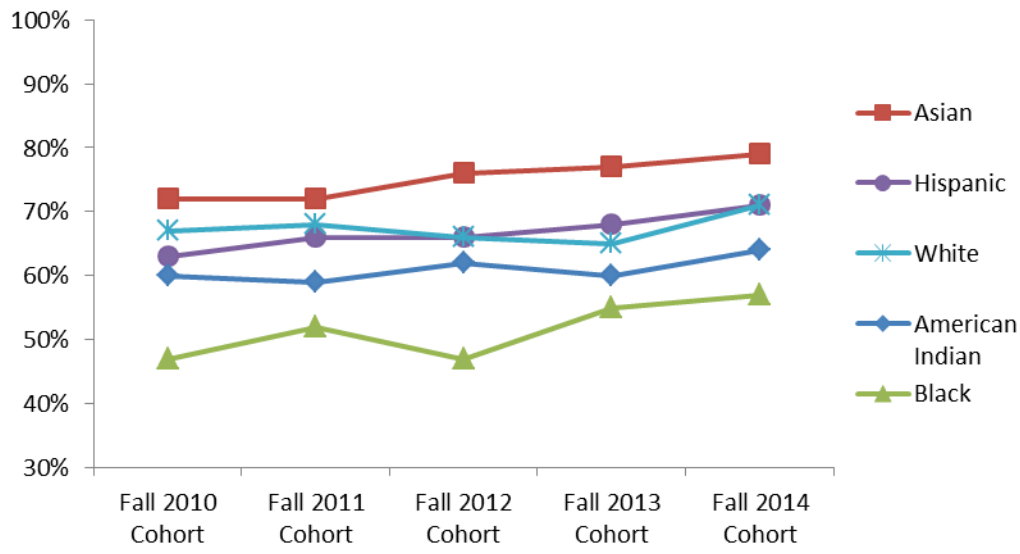
As the following chart illustrates, developmental course success rates have generally improved for all ethnic groups in the five fall cohorts. Asian students have had the highest developmental course success rates for the last five cohorts, followed by Hispanic and White students. Success rates for American Indian students have lagged Asian, Hispanic, and White students in all five cohorts, and Black students have had the lowest success rates in developmental courses in all five cohorts.



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Developmental Course Success Rates by Ethnicity *



* Note: The scale of the vertical axis is abbreviated to focus on the area of interest.

Gatekeeper Courses

Courses which large numbers of students fail to complete successfully are commonly referred to as “gatekeeper” courses. This gatekeeper course analysis determined which courses in Fall 2014 had the largest absolute number of new students who failed to complete the course successfully. For this section, the new student cohort is defined as students who are new to higher education, but are not necessarily degree- or transfer-seeking. For ease of reference this population of students will be referred to as the new student cohort.

This analysis found that **developmental courses are often “gatekeeper” courses**. Of all Maricopa courses that new students did not successfully complete in Fall 2014, **6 of the 15 top gatekeeper courses were developmental courses**.

The developmental courses with the largest number of unsuccessful completions among new students were:

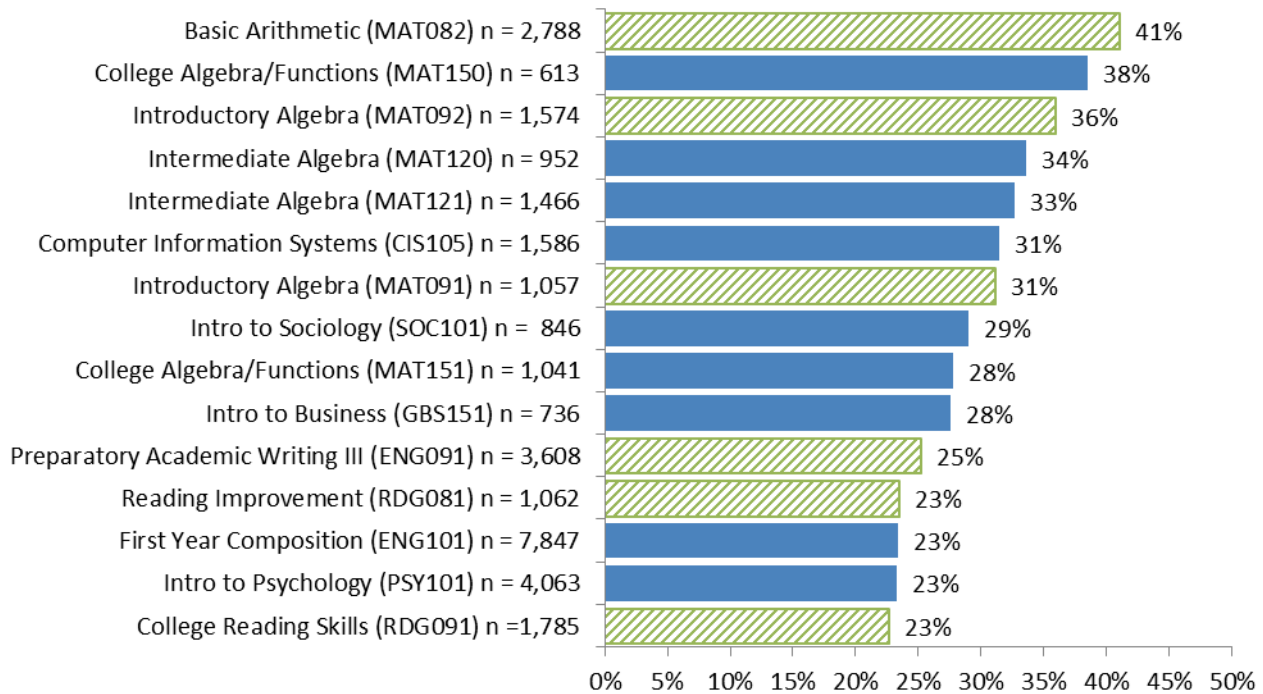
- Basic Arithmetic (MAT082) – 1,143 of 2,788 (41%)
- Preparatory Academic Writing III (ENG091) – 911 of 3,608 (25%)
- Introductory Algebra (MAT092) – 566 of 1,574 (36%)
- College Reading Skills (RDG091) – 405 of 1,785 (23%)



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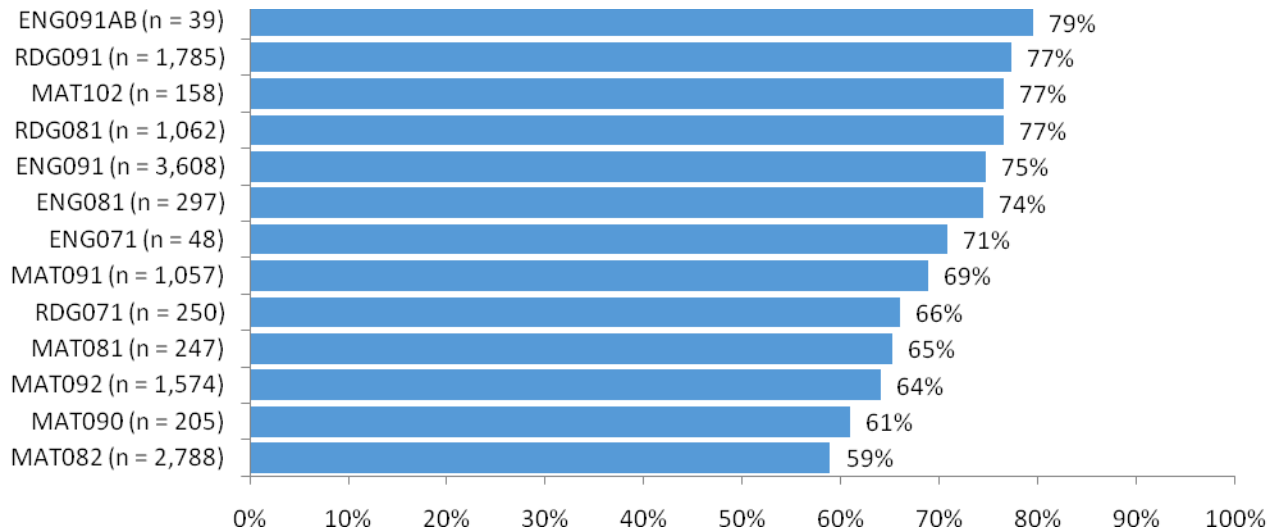
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Unsuccessful Completions by New Students in Gatekeeper Courses – Fall 2014



The following chart illustrates the successful completion rates for the new student cohort in all developmental courses in math, English, and reading in Fall 2014. As the chart illustrates, new students in developmental education courses tended to be more successful in English and reading than in math.

New Student Successful Completion Rates in Developmental Courses - Fall 2014



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Chandler-Gilbert | Estrella Mountain | GateWay | Glendale | Mesa | Paradise Valley | Phoenix |

Section 4 – Student Performance Subsequent to Developmental Education

The success rate in a college-level course, subsequent to developmental education in the subject area was determined for Fall 2013 cohort students. To calculate subsequent success rates, students were tracked for one year after successfully completing the highest-level developmental education course in the subject (math or English) in their first fall term.

MATH

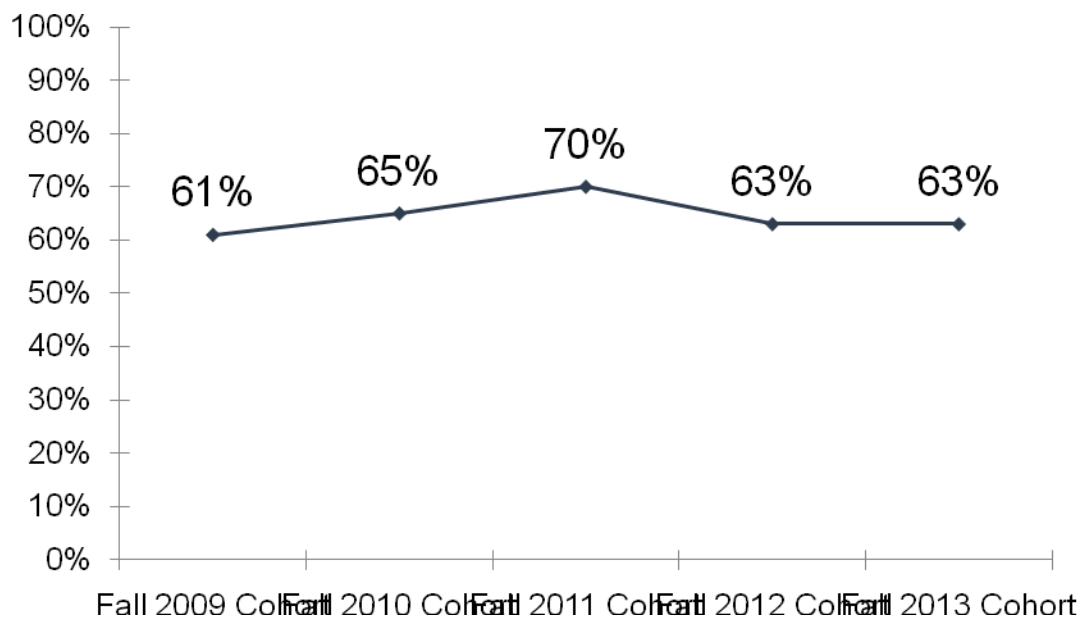
- **The success rate in a college-level math** course following the completion of a developmental math course **remained at 63%** for the Fall 2013 cohort compared to the Fall 2012 cohort (the most current data available).
- **The success rate in a subsequent college-level math course increased from 61% for the Fall 2009 cohort to 63% for the Fall 2013 cohort.** However, the success rate had peaked during the intervening years at 70% for the Fall 2011 cohort. The volatility in this trend may be related to changes in the placement process as placement exams were changed and cut scores were adjusted. These placement modifications resulted in changes in the numbers of students who were assigned to developmental math courses and at what level. (See pages 5 – 6 for more detail). It is important to note that there would be a one-year lag for any effects of changes to placement instruments and cut scores to manifest themselves in the successful completion rates of college-level courses subsequent to developmental course work.
- **Success rates in subsequent college-level courses in math were higher for female students, and students who did not receive a Pell Grant** (in all but one of the recent fall cohorts).



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Success Rate in Subsequent College-level Math after Completion of Developmental Math



Demographics

For students in a subsequent math course, the following trends were observed:

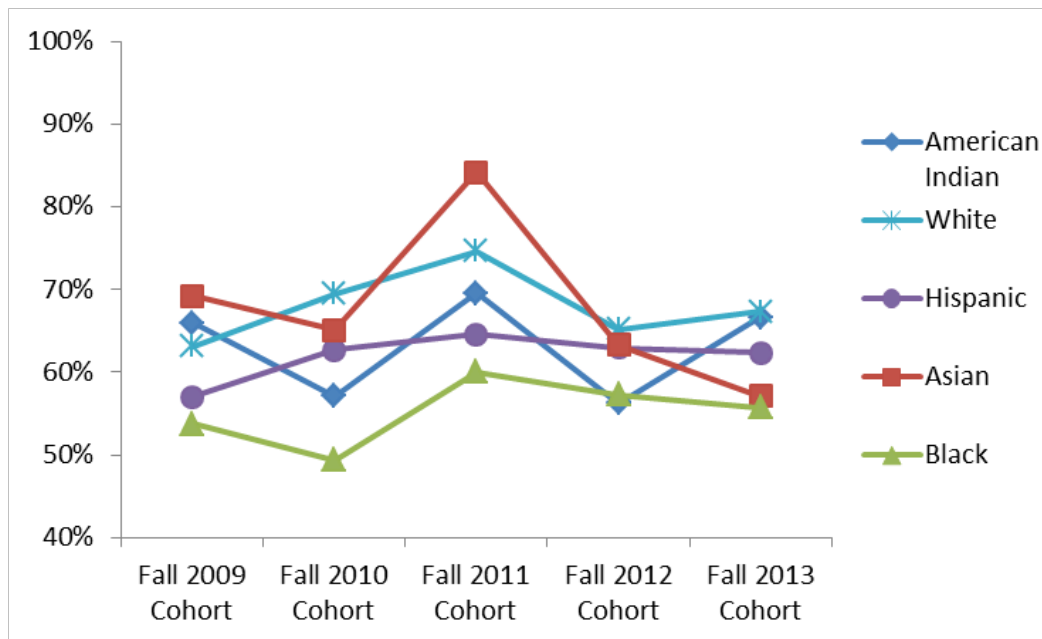
- Female students had higher success rates than male students for each of the last five fall cohorts.
- Success rates varied from cohort to cohort based on race/ethnicity
 - Black students had the lowest success rates in all but one of the last five fall cohorts (2009 – 2013).
 - Success rates in subsequent math varied widely for American Indian students who had the lowest success rate for the Fall 2012 cohort, but the highest success rate for the Fall 2013 cohort.
 - Performance for Asian students varied from the highest level for the Fall 2009 and Fall 2011 cohorts to a relatively low level for the Fall 2013 cohort.
 - Hispanic student success rates varied from cohort to cohort but tended to be in the middle relative to other ethnic groups.
 - Performance of White students varied, but tended to be high relative to other ethnic groups for most of the last five fall cohorts.



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Successful Completion Rate in Subsequent College-level Math after Successful Completion of Developmental Math by Ethnicity *



* Note: The scale of the vertical axis is abbreviated to focus on the area of interest.

- When comparing full-time students to part-time students, no patterns were revealed as the relative success rates varied within and across these two groups for the last five fall cohorts.
- Students who were not Pell Grant recipients had higher success rates than students who were Pell recipients in all but one of the last five Fall cohorts.

ENGLISH

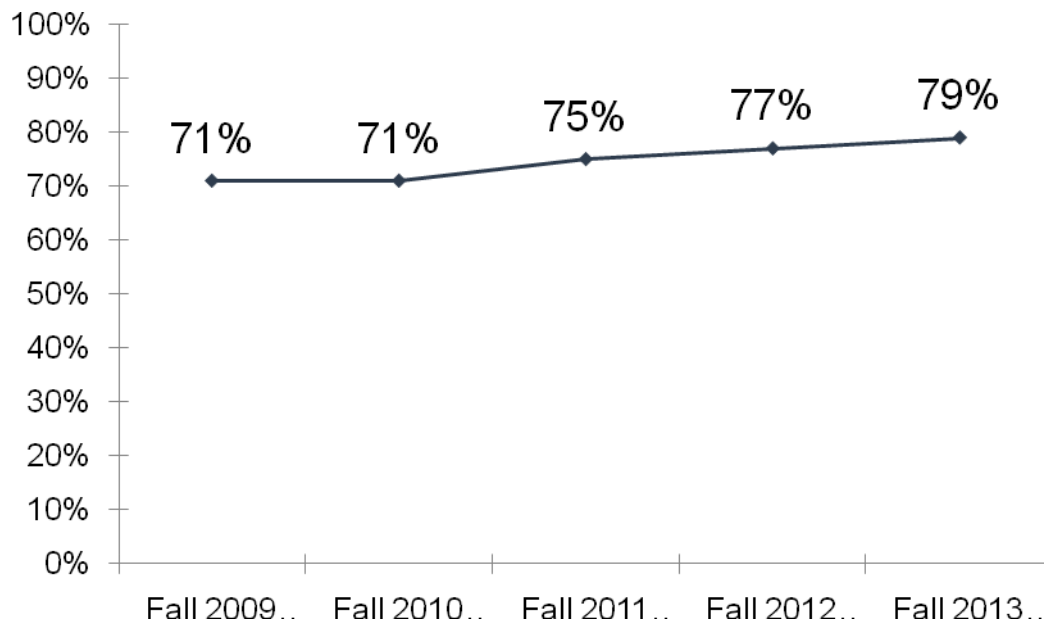
- **The success rate in a college-level English** course following the completion of a developmental English course **increased to 79%** from 77%.
- Success rates in subsequent college-level English courses were **higher for female students, full-time students, Asian, and White students**, as well those who did **not receive a Pell Grant**.
- The success rate in a subsequent college-level English course increased from 71% for the Fall 2009 cohort to 79% for the Fall 2013 cohort. This trend has exhibited an upward trend since Fall 2010.



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Success Rate in Subsequent College-level English after Completion of Developmental English



Demographics

The success rates in subsequent college-level math and English courses were disaggregated by certain demographic characteristics. (See Appendix C for the data tables).

For students in a subsequent English course, the following trends were observed:

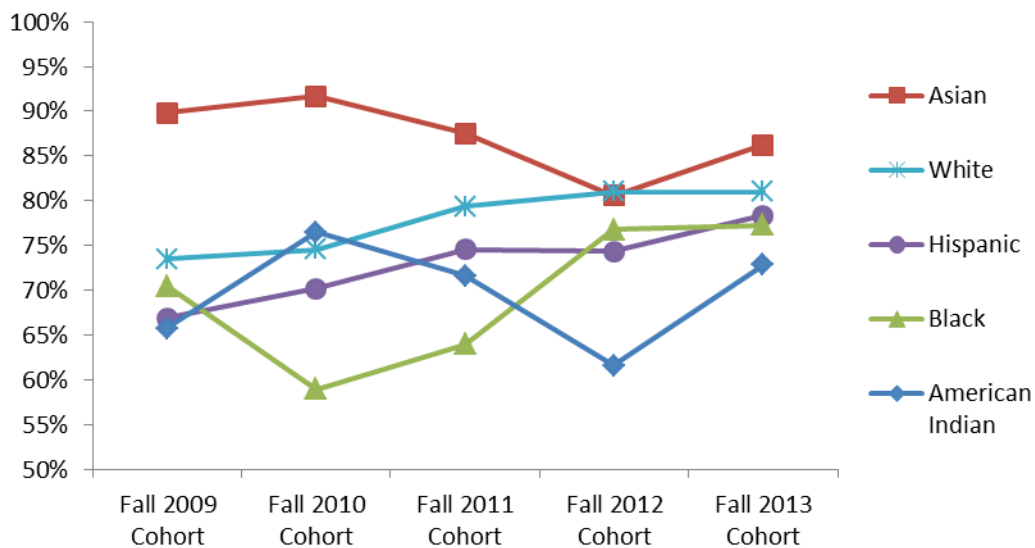
- Female students had higher success rates than male students for each of the last five fall cohorts.
- Subsequent success rates varied from cohort to cohort based on race/ethnicity. However, racial/ethnic groups that are considered “Under-represented Minorities,” specifically American Indian, Black, and Hispanic students, generally were not as successful in subsequent English classes as Asian and White students.



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Successful Completion Rate in Subsequent College-level English after Successful Completion of Developmental English by Ethnicity *



* Note: The scale of the vertical axis is abbreviated to focus on the area of interest.

- Full-time students had higher success rates in subsequent English courses than did part-time students.
- Students who did not receive a Pell Grant had consistently higher success rates in subsequent English than did students who received a Pell Grant.



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Appendix A – Methodology for Developmental Education Governing Board Metrics

Definitions

The “**new-student cohort**” is based on that created for the Arizona Community Colleges: Long-Term Strategic Vision ([V2020](#)) document: learners who entered any Maricopa college during the fall term for the first time since leaving high school, and who were enrolled in one or more credit courses in that term. A student can only belong to one V2020 cohort term and is associated with only one college for that cohort.

“**Successfully completed**” means that the student received a grade of A, B, C, or P (Pass) for the course.

Success Rate in Developmental Education Courses. Percentage of math, English, and reading developmental credit hours successfully completed by students in the new-student cohort in their first fall and spring semesters.

Success Rate in College-Level Math after Completion of Developmental Math. Percentage of students in a cohort who successfully completed a college-level math course within one year. The cohort was defined as new students who successfully completed the highest level developmental math course (MAT09x) in their first term and then enrolled in a college-level math course (MAT120 or higher) within one year.

Success Rate in College-Level English after Completion of Developmental English. Percentage of students in a cohort who successfully completed a college-level English course within one year. The cohort was defined as new students who successfully completed the highest level developmental English course (ENG091) in their first term and then enrolled in a college-level English course (ENG101 or ENG107) within one year.



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Appendix B – Developmental Course Success Rates

	Fall 2010 Cohort	Fall 2011 Cohort	Fall 2012 Cohort	Fall 2013 Cohort	Fall 2014 Cohort
System Total	62%	64%	64%	65%	70%
Gender					
Female	66%	68%	69%	70%	74%
Male	58%	60%	58%	61%	65%
Other/unknown	68%	64%	67%	58%	73%
Ethnicity					
American Indian	60%	59%	62%	60%	64%
Asian	72%	72%	76%	77%	79%
Black	47%	52%	47%	55%	57%
Hispanic	63%	66%	66%	68%	71%
White	67%	68%	66%	65%	71%
Other/unknown	64%	63%	65%	66%	70%
Full-Time/Part-Time					
Full-Time	64%	66%	66%	67%	72%
Part-Time	60%	61%	60%	63%	66%
Pell Status					
Pell Recipient	61%	64%	63%	64%	69%
Non-Pell Recipient	65%	66%	65%	67%	70%



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Appendix C – Success Rates in a Subsequent College-level Course after a Developmental Course

Math

	Fall 2009 Cohort	Fall 2010 Cohort	Fall 2011 Cohort	Fall 2012 Cohort	Fall 2013 Cohort
System Total	61%	65%	70%	63%	63%
Gender					
Female	62%	68%	71%	64%	65%
Male	60%	62%	68%	62%	61%
Other/unknown	50%	65%	80%	67%	75%
Ethnicity					
American Indian	66%	57%	70%	56%	67%
Asian	69%	65%	84%	63%	57%
Black	54%	49%	60%	57%	56%
Hispanic	57%	63%	65%	63%	62%
White	63%	69%	75%	65%	67%
Other/unknown	60%	65%	62%	63%	58%
Full-Time/Part-Time					
Full-Time	60%	65%	70%	63%	64%
Part-Time	63%	65%	67%	64%	62%
Pell Status					
Pell Recipient	63%	61%	67%	63%	61%
Non-Pell Recipient	59%	70%	72%	64%	66%



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English

	Fall 2009 Cohort	Fall 2010 Cohort	Fall 2011 Cohort	Fall 2012 Cohort	Fall 2013 Cohort
System Total	71%	71%	75%	77%	79%
Gender					
Female	74%	73%	77%	80%	80%
Male	69%	71%	73%	74%	78%
Other/unknown	63%	58%	71%	67%	71%
Ethnicity					
American Indian	66%	76%	72%	62%	73%
Asian	90%	92%	88%	81%	86%
Black	70%	59%	64%	77%	77%
Hispanic	67%	70%	75%	74%	78%
White	73%	75%	79%	81%	81%
Other/unknown	76%	68%	71%	82%	80%
Full-Time/Part-Time					
Full-Time	72%	72%	76%	80%	80%
Part-Time	71%	70%	73%	71%	77%
Pell Status					
Pell Recipient	70%	69%	72%	76%	78%
Non-Pell Recipient	73%	75%	81%	79%	81%



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