

# RESEARCH BRIEF

No. 14-17

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## Achievement Gap Analysis Series – Success in College Level Courses: Fall 2011 through Fall 2013

NOVA's commitment to student success is demonstrated by the College's participation in the Achieving the Dream (ATD) National Reform Network. ATD is a comprehensive nationwide reform movement for student success in which NOVA has been a member since 2007 and a Leader College since 2010. NOVA's participation in ATD encourages continuous monitoring of student outcomes in order to identify areas for improvement. Such attempts are based on research that leads to student success and closing the achievement gaps.

This Research Brief is part of a series examining recent trends in achievement gaps among first-time in college (FTIC) students in the following indicators of student success: course completion, retention, graduation rates, success in gatekeeper courses, success in developmental courses, and developmental student success in college-level courses.

This Research Brief examines achievement gaps in the success rates in college-level math and English courses of three cohorts of FTIC students who had previously enrolled in developmental coursework.<sup>1</sup> Successful completion of a college-level course is defined as a student earning an A, B, or C. Data is analyzed by enrollment status (full-time or part-time), gender, age, race/ethnicity, and program placement.

### Key Findings

- Overall, the success rates declined in ENG 111, MTH 151, and MTH 163 courses for students previously enrolled in developmental courses from Fall 2011 to Fall 2013 cohorts.
- For ENG 111, the achievement gaps in course completion rates were found when data was disaggregated by student **enrollment status, gender, age, and race/ethnicity**.
- For MTH 151 and MTH 163, consistent achievement gaps existed by **gender, and age**, and less consistent, but nonetheless evident gaps existed by **race/ethnicity**.

<sup>1</sup> OIR originally published the details of this study in "Achievement Gap Analysis Report 7 Success in College-Level Courses after Developmental Education by Demographics (Fall 2011 through Fall 2013 Cohorts)," available at: <http://www.nvcc.edu/oir/files/SuccessinCollege-LevelCoursesafterDevelopmentalEducation.pdf>.

**Section 1. Achievement Gaps in Successful College-Level Course Completion**

Table 1 shows the overall rates of successful course completion in ENG 111, MTH 151, and MTH 163 of FTIC students who had previously enrolled in corresponding developmental courses.

- Developmental English students' success rates in ENG 111 decreased from 82 percent in the Fall 2011 cohort to 74 percent in the Fall 2013 cohort.
- Developmental math students' success rates in MTH 151 decreased from 78 percent in the Fall 2011 cohort to 72 percent in the Fall 2013 cohort.
- Developmental math students' success rates in MTH 163 decreased from 77 percent in the Fall 2011 cohort to 71 percent in the Fall 2013 cohort.

**Table 1. Successful Completion in ENG 111, MTH 151 and MTH 163 Courses:  
Fall 2011 through Fall 2013 Cohorts**

Courses	Fall 2011 Cohort			Fall 2012 Cohort			Fall 2013 Cohort		
	N	Successful		N	Successful		N	Successful	
		#	%		#	%		#	%
ENG 111	2,079	1,699	81.7%	2,195	1,738	79.2%	1,447	1,076	74.4%
MTH 151	393	306	77.9%	307	224	73.0%	306	219	71.6%
MTH 163	239	183	76.6%	142	86	60.6%	133	95	71.4%
<b>Total</b>	<b>2,711</b>	<b>2,188</b>	<b>80.7%</b>	<b>2,644</b>	<b>2,048</b>	<b>77.5%</b>	<b>1,886</b>	<b>1,390</b>	<b>73.7%</b>

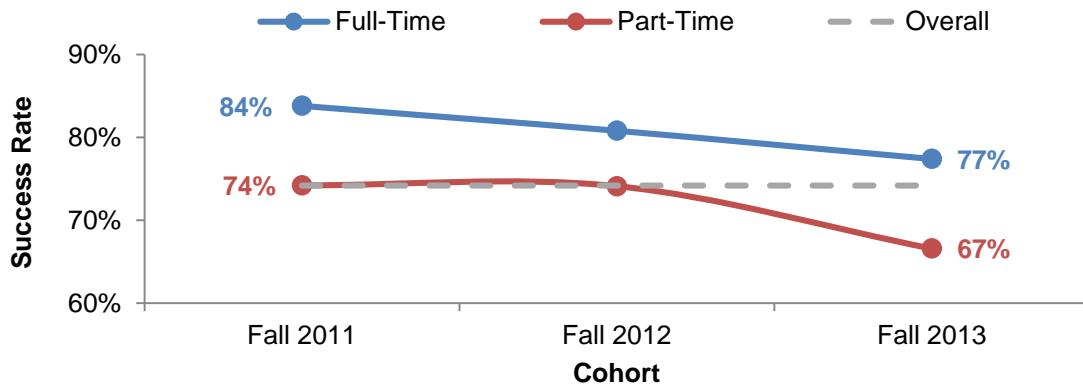
**A. Developmental English Student Success in English 111**

**Enrollment Status**

Success in ENG 111 shows achievement gaps by enrollment status.

- Students who were full-time had better success rates than part-time students (an average of 81 percent for full-time versus about 72 percent for part-time students).
- Success rates for developmental English students in ENG 111 declined for both groups, by almost 7 percentage points for full-time students and more than 7 percentage points for part-time students.

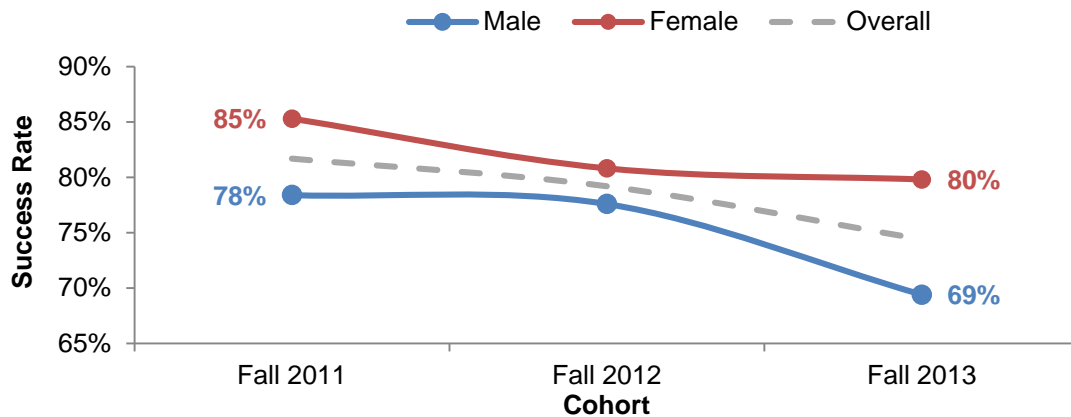
**Figure 1. Developmental English Student Success in ENG 111 by Enrollment Status:  
Fall 2011 through Fall 2013 Cohorts**



## Gender

- The data shows an achievement gap in ENG 111 success rates of developmental students by gender. Female students were more successful in ENG 111 than male students.
- The gap between female students' and male students' success rates in ENG 111 was up to 10 percentage points in favor of female students.

**Figure 2. Developmental English Student Success in ENG 111 by Gender:  
Fall 2011 through Fall 2013 Cohorts**

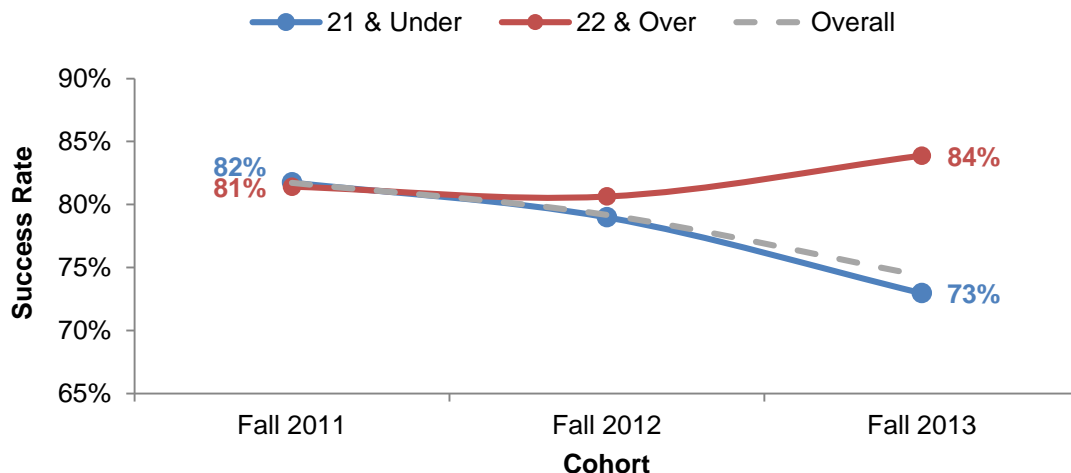


## Age

The data shows an achievement gap in ENG 111 success rates of developmental students by age.

- In Fall 2011, there was no gap between developmental students age 21 and under and 22 and over in terms of success in ENG 111. However, by the Fall 2013 cohort, a gap appeared.
- In the Fall 2013 cohort, there was an 11 percentage point gap in favor of students age 22 and over.

**Figure 3. Developmental English Student Success in ENG 111 by Gender:  
Fall 2011 through Fall 2013 Cohorts**

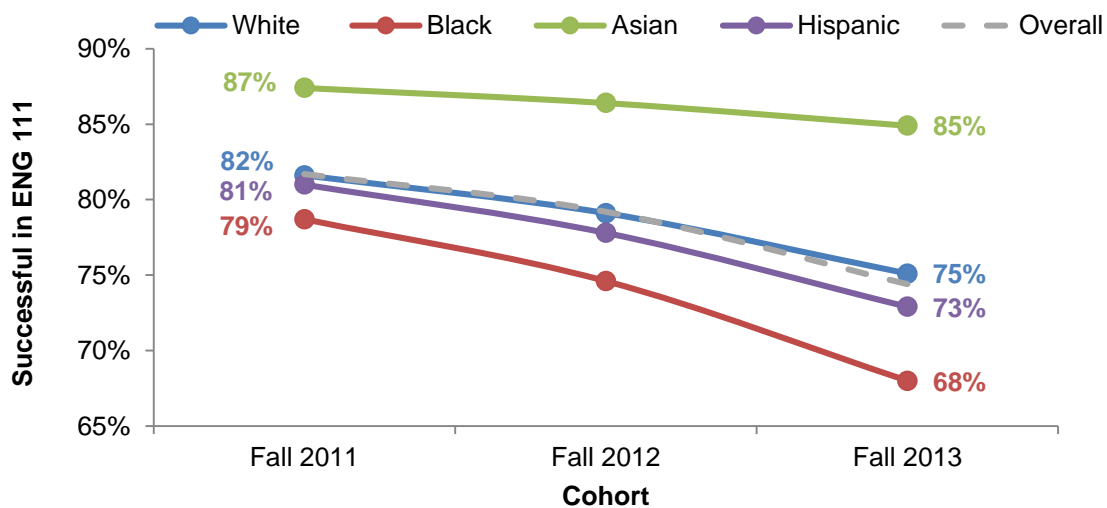


## Race/Ethnicity

The data shows an achievement gap in ENG 111 success rates of developmental students by race/ethnicity.

- In general, Asian students have the highest success rates in ENG 111 and Black students show the lowest success rates.
- Success rates declined for the four largest racial/ethnic groups in each cohort from Fall 2011 to Fall 2013. The greatest decrease was among Black students, from 79 percent in the Fall 2011 cohort to 68 percent in the Fall 2013 cohort.

**Figure 4. Developmental English Student Success in ENG 111 by Race/Ethnicity: Fall 2011 through Fall 2013 Cohorts**



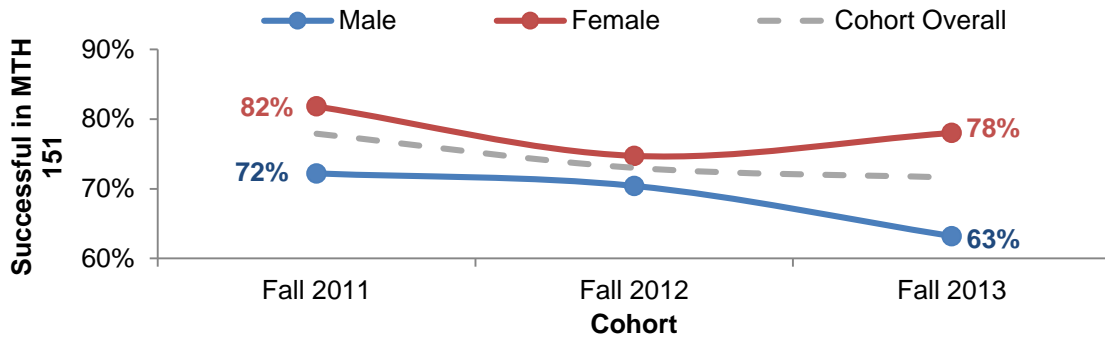
## B. Developmental Math Student Success in Math 151 and Math 163

### Gender

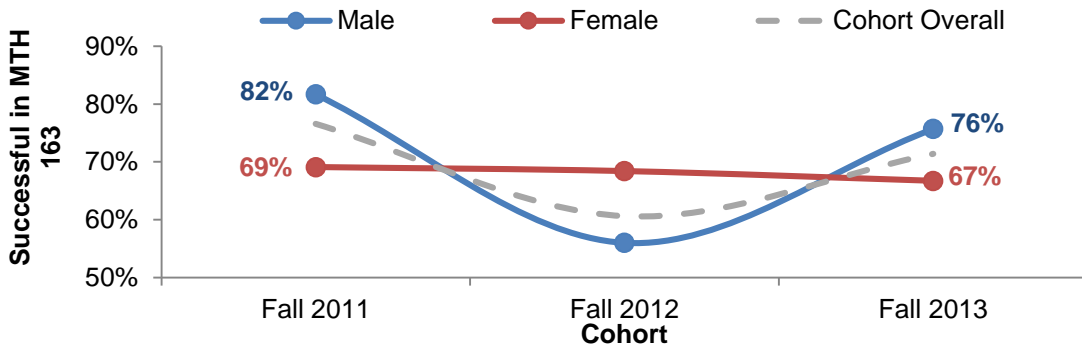
The data shows an achievement gap in MTH 151 success rates of developmental students by gender. For MTH 163, the differences by gender were not consistent across all three cohorts.

- Female students performed better in MTH 151 than male students.
- For MTH 163, female students have fairly stable rates; however, male students, generally, performed higher than female students (in two out of the three cohorts).
- There is 15 percentage points difference by gender in student success for MTH 151 (78 percentage of females versus 63 percentage of males).
- Female developmental students' success rates in MTH 163 decreased by 2 percentage points (from 69 percent of the Fall 2011 cohort to 67 percent of the Fall 2013 cohort), while those of male students decreased by 6 percentage points over the same time period (from 82 percent to 76 percent).

**Figure 5. Developmental Math Student Success in MTH 151 by Gender:  
Fall 2011 through Fall 2013 Cohorts**



**Figure 6. Developmental Math Student Success in MTH 163 by Gender:  
Fall 2011 through Fall 2013 Cohorts**

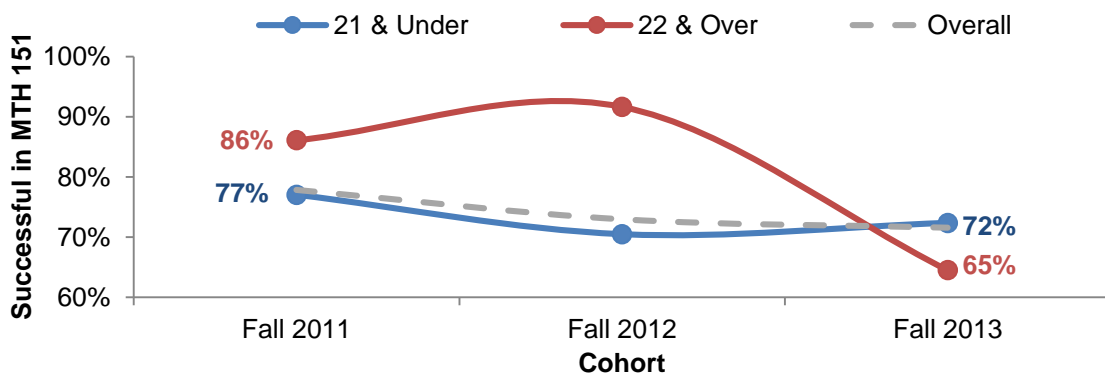


**Age**

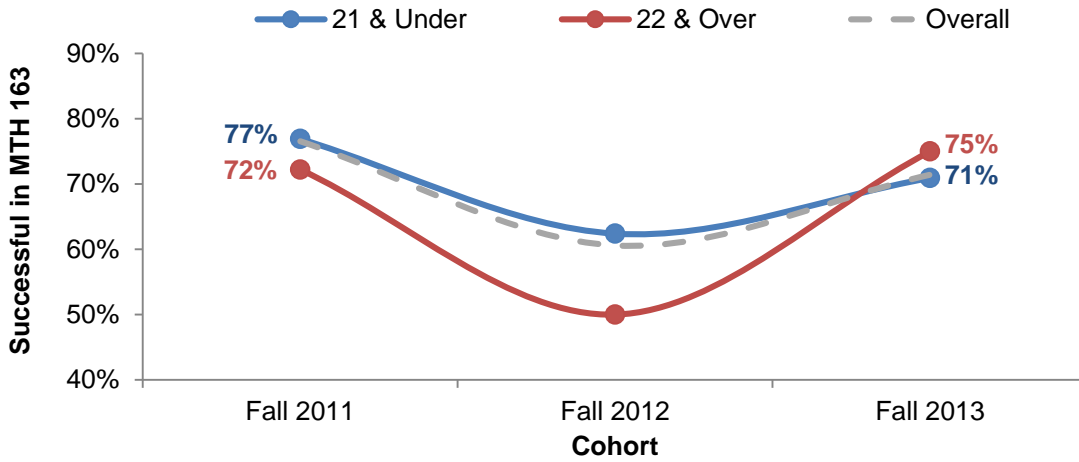
For MTH 151 and MTH 163, the differences by age were consistent in the Fall 2011 and Fall 2012 cohorts, but not in the Fall 2013 cohort.

- In both courses, the success rates of students age 21 and under decreased 5 or 6 percentage points from the Fall 2011 cohort to the Fall 2013 cohort.
- Roughly 90 percent of each cohort of developmental math students enrolled in MTH 151 and MTH 163 were age 21 and under. The 22 and over age groups were small in sample size, which may account for some of the variance in success rates.

**Figure 7. Developmental Math Student Success in MTH 151 by Age:  
Fall 2011 through Fall 2013 Cohorts**



**Figure 8. Developmental Math Student Success in MTH 163 by Age: Fall 2011 through Fall 2013 Cohorts**

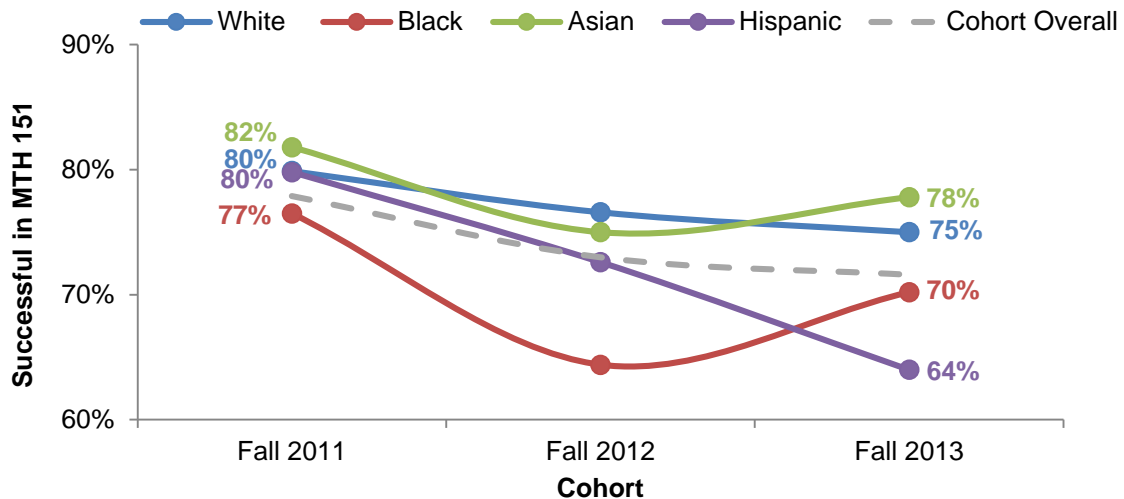


**Race/Ethnicity**

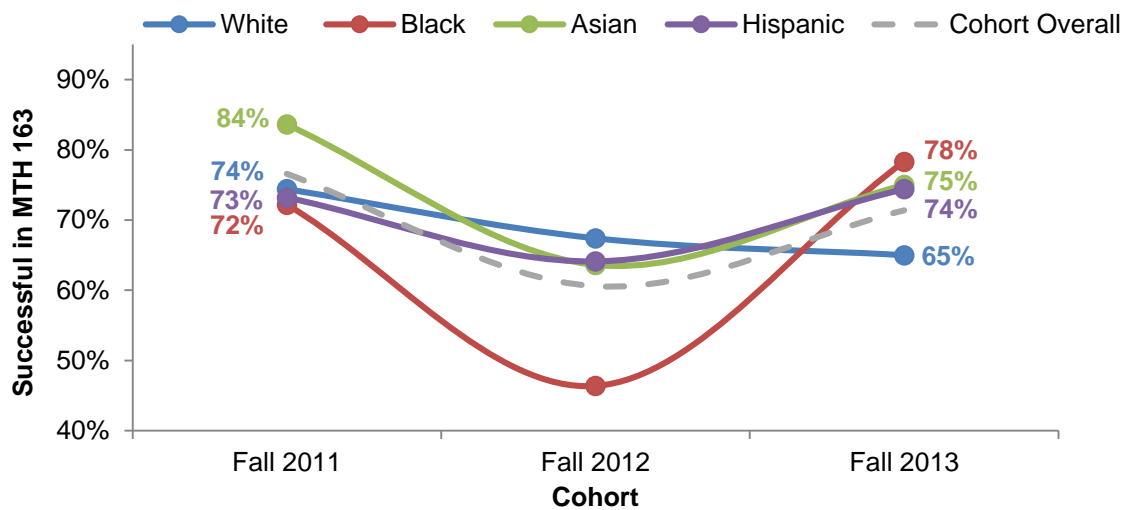
The differences by race/ethnicity in success rates in MTH 151 were more consistent than in MTH 163. The differences in success rates in MTH 163 did not follow a clear pattern.

- Asian students and White students had higher success rates in MTH 151 than Black students and Hispanic students.
- In MTH 163, the success rates of Black students jumped from the lowest success rate in Fall 2011 cohort to the highest in Fall 2013 cohort.
- Success rates for developmental math students in MTH 151 declined for all races/ethnicities from the Fall 2011 cohort to the Fall 2013 cohort. The largest decrease (16 percentage points) occurred among Hispanic developmental math students, from 80 percent to 64 percent.

**Figure 9. Developmental Math Student Success in MTH 151 by Race/Ethnicity: Fall 2011 through Fall 2013 Cohorts**



**Figure 10. Developmental Math Student Success in MTH 163 by Race/Ethnicity: Fall 2011 through Fall 2013 Cohorts**



## Section 2. Other Findings

The following demographic breakdowns did not reveal consistent patterns or gaps in achievement.

### English 111 Success Rates by Program Placement

- Among developmental English students enrolled in A.S. degree programs, who comprised the majority of students in each, success rates decreased from 83 percent in the Fall 2011 cohort to 75 percent in the Fall 2013 cohort, an 8 percentage point decrease, one percentage point above the overall rate for Fall 2013.

### Math 151 and Math 163 Success Rates by Enrollment Status

- In MTH 151, the success rate of part-time students decreased by 16 percentage points (from 79 percent of the Fall 2011 cohort to 63 percent of the Fall 2013 cohort).
- In contrast, the success rates of full-time students decreased by about 3 percentage points over this same time period.
- Over 80 percent of developmental math students who enrolled in MTH 163 were full-time students. The success rates of these students decreased by about 10 percentage points from the Fall 2011 to Fall 2013 cohorts.

### Math 151 and Math 163 Success Rates by Program Placement

- The majority (around 59 percent) of developmental math students who progressed to MTH 151 were enrolled in A.S. degree programs. These students had success rates lower than the overall rate in two of the three cohorts, and success rates declined by 7 percentage points, from 75 percent of the Fall 2011 cohort to 68 percent of the Fall 2013 cohort.

- Roughly 81 percent of MTH 163 students were enrolled in A.S. degree programs. Success rates for these students decreased from 79 percent in the Fall 2011 cohort to 73 percent in the Fall 2013 cohort.

### **Section 3. Discussion of Findings**

The success rates in college-level English and math courses show a decline over three years period. Based on the results from this study, success in college-level English and math courses after taking developmental courses, is an equity issue. According to reports 5 and 6 of the achievement gap series, of the minority students, Hispanic students are more likely to be placed in developmental English or math courses. However, the Asian students show the highest success rates in completion of developmental English, math or gatekeeper ENG 111 and MTH 151 and MTH 163 courses with the exception of Fall 2013 in which Black students surpassed Asian students by 3 percentage points in MTH 163 completion rate.

#### **Closing Achievement Gaps at NOVA**

NOVA's Start Strong policy changes, launched in Fall 2014, were based on recommendations from the ATD Core Team. Such policy changes are expected to help in closing achievement gaps. For example, NOVA's orientation, advising, and Student Development course policies provide targeted interventions for FTIC students ages 17 to 24 through the GPS for Success program. The goal of GPS for Success is to help students succeed in college by fostering connections with professional advisors and faculty who will help students plan for and attain their academic goals. One of ATD's six capacity areas for student success which is equity was used as a framework for a faculty-led pilot on teaching and learning that promotes equitable outcomes for all students.

The Survey of Entering Student Engagement (SENSE) provides additional insight into how NOVA might approach closing achievement gaps. SENSE provides benchmark data in several areas that can help NOVA understand students' critical early experiences and improve policies and practices that affect student success in the first year. Results of the 2015 SENSE indicated that, relative to other community colleges nationwide, NOVA is underperforming in the "High Expectations and Aspirations", "Engaged Learning," and "Academic and Social Support Network" benchmarks. NOVA must continue to explore the implications of these benchmark scores and identify intervention strategies to help boost student success.

In addition, NOVA faculty on ATD teams are currently examining strategies to improve equity in the classroom through teaching and learning. Future research on achievement gaps at NOVA should take a comprehensive approach to data analysis by triangulating NOVA student data along with surveys, focus groups, and outside research on community college best practices for FTIC students.