



MATH Accelerated Courses Report

December 2016

Introduction

Primary Research Questions

1. What is the profile of students who take math accelerated courses compared to students in non-accelerated basic skills math courses?
2. Are learning outcomes different for students in math accelerated courses compared to students in non-accelerated basic skills math courses?

Cohort Groups

- Comparison Groups:
 1. Accelerated Math
 - MATH 092, MATH 047A
 2. Non-Accelerated Basic Skills Math Courses
 - MATH 046, MATH 096
- *Note 1. Summer terms omitted due to no math accelerated course offerings during these terms.*
- *Note 2. Course level is defined as the course in which accelerated and non-accelerated students would be eligible to enroll, based on their initial M30, M40 placement. Course level corresponds to Math Courses 046 and 096, respectively, allowing for cross-comparison of the accelerated and non-accelerated cohorts.*

Accelerated and Non-Accelerated Cohorts

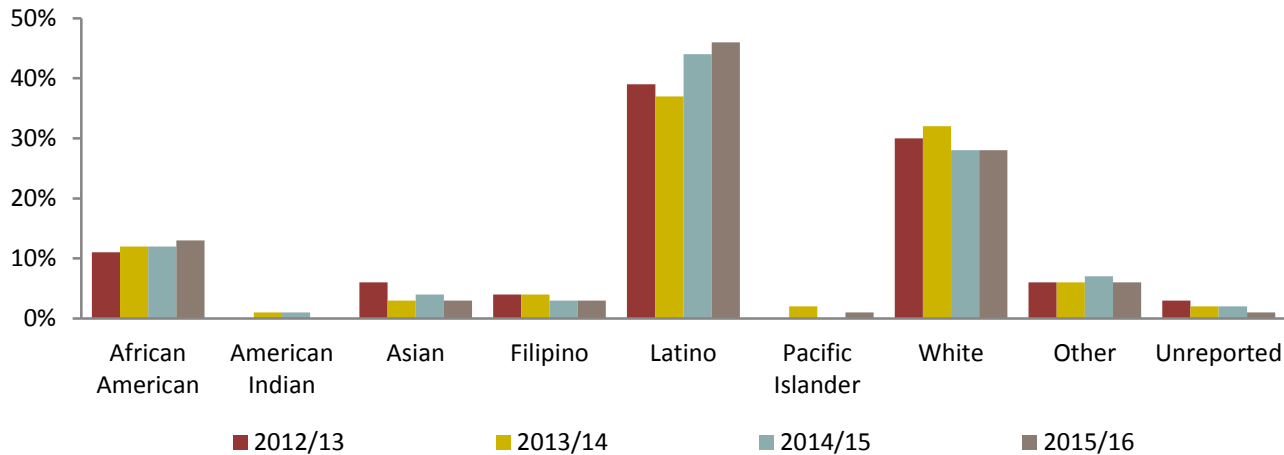
Math Course Level	Accelerated	Non-Accelerated
Math Course Level 046	Placed at math level 30 (M30) (Basic Skills Level)	Enrolled in Math 046
Math Course Level 096	Placed at math level 40 (M40) (Associate Level)	Enrolled in Math 096
Other Course Level	Placed at levels other than 30 & 40	Placed at level other than 30 & 40
Overall	All accelerated students	All non-accelerated students

Note. Math 092 has a prerequisite assessment skill level of M30 Basic Skill and it covers material from both basic math skills MATH 046 and Associate level Math 096

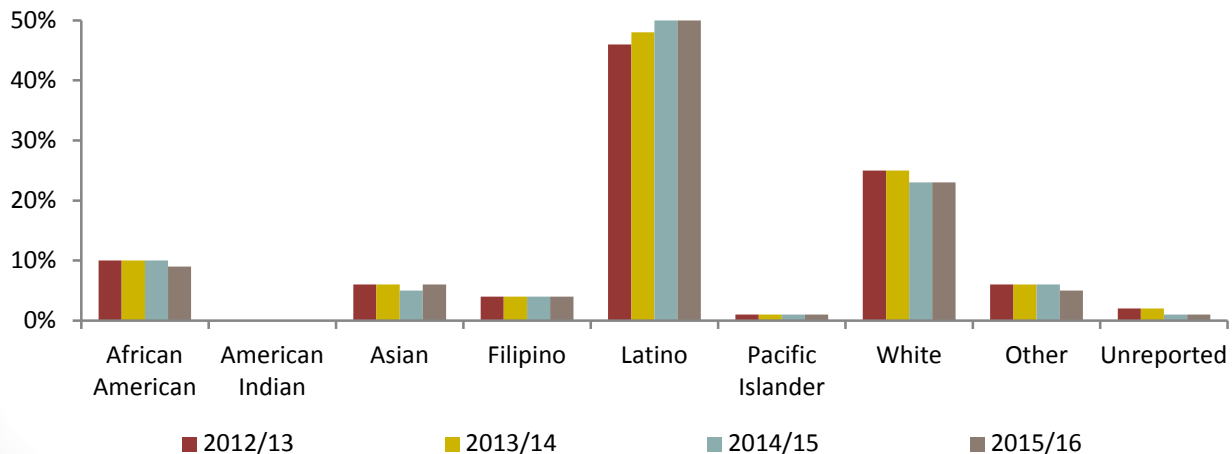
Student Profile

Ethnicity

Accelerated



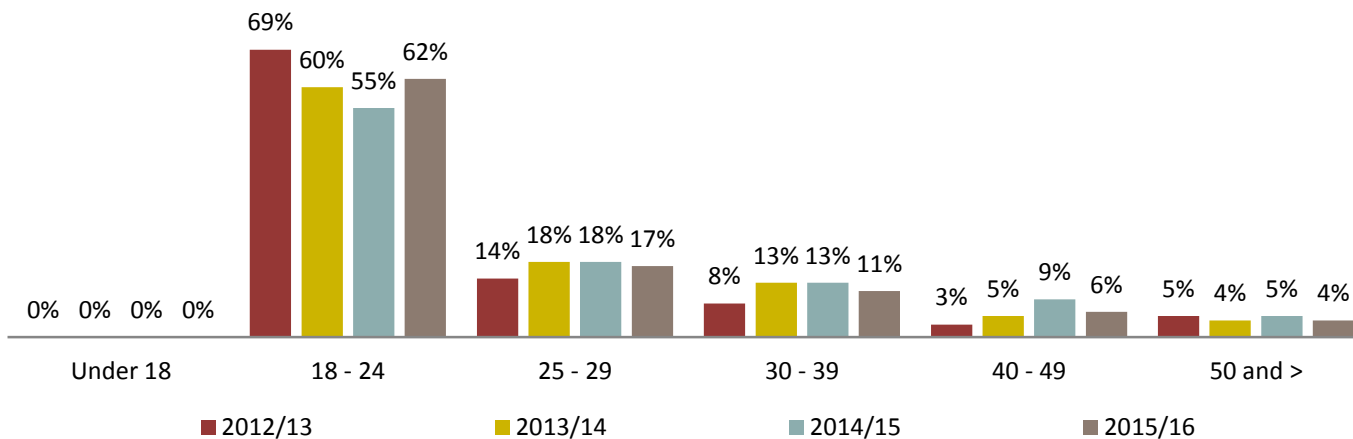
Non-Accelerated



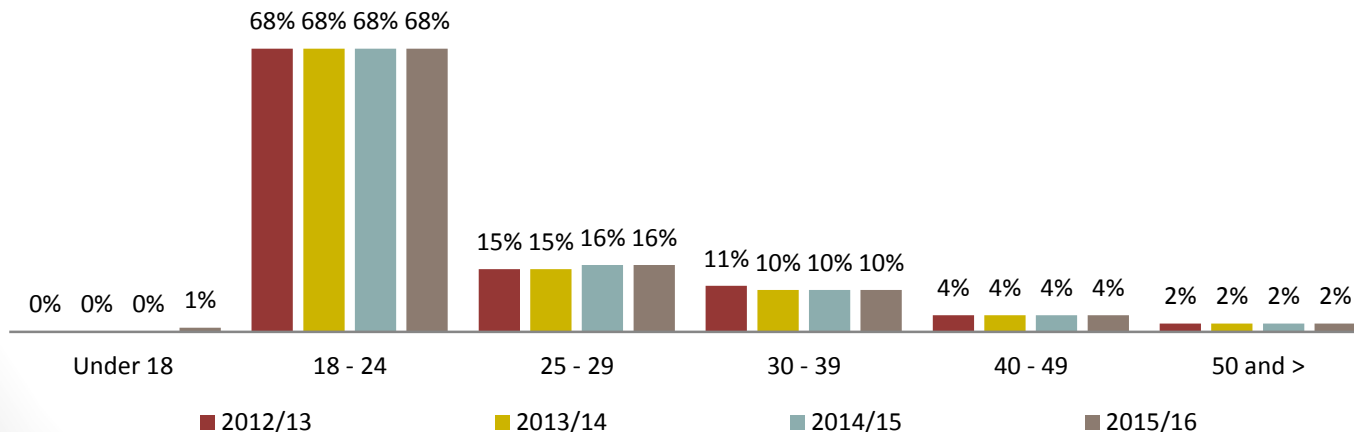
- Between 2012/13 and 2015/16 the ethnic groups that comprised the most students, on average, in both accelerated and non-accelerated math courses were Latino students (42% & 48%, respectively), White students (29% & 24%, respectively), and African American students (12% & 10%, respectively).
- Whereas the number of non-accelerated math students decreased 11% overall from 2012/13 to 2015/16, the overall number of accelerated math students increased by 420 during the same time period.
- The largest increases during this time were Latino students (211), White students (110), and African American students (61) in accelerated math courses.

Age

Accelerated



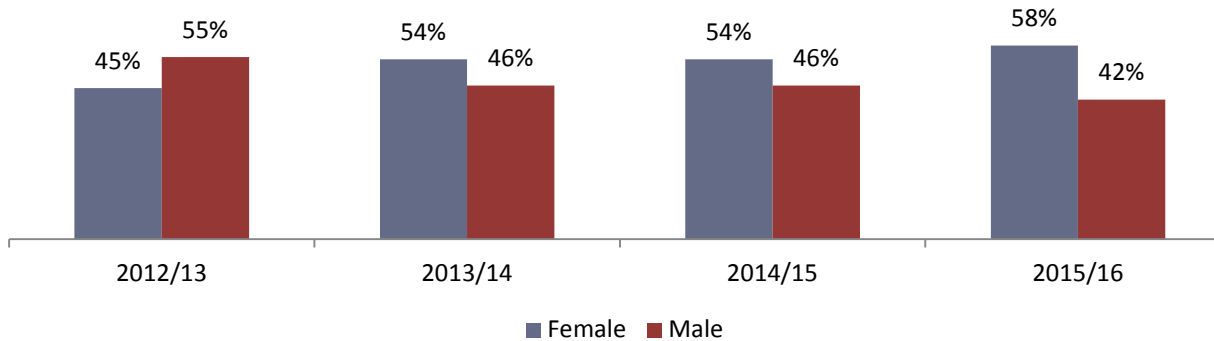
Non-Accelerated



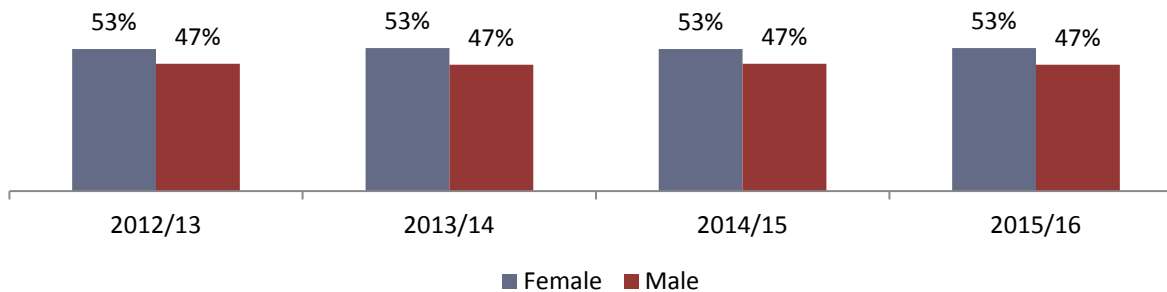
- On average, between 2012/13 and 2015/16 in both accelerated and non-accelerated math courses, students who were between ages 18-24 constituted the majority of students (61% & 68%, respectively), followed by students 25-29 (17% & 16%, respectively).
- In accelerated math courses between 2012/13 and 2015/16, all age groups showed an increase in headcount, with the largest increases in students aged 18-24 (898) and students between ages 25-29 (83).

Gender

Accelerated



Non-Accelerated

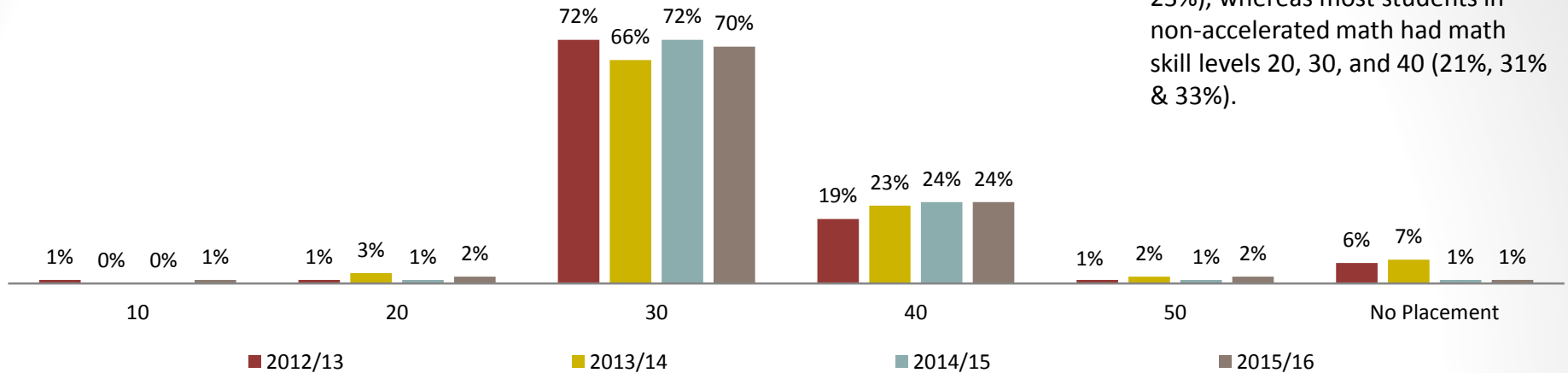


- On average, from 2012/13 to 2015/16, the female student headcount in accelerated math courses was slightly higher (54%) than their male student counterpart (46%).
- Between 2012/13 and 2015/16 both female and male students in accelerated math courses increased (281 & 139, respectively), while female and male students in non-accelerated math decreased (600 & 607, respectively).

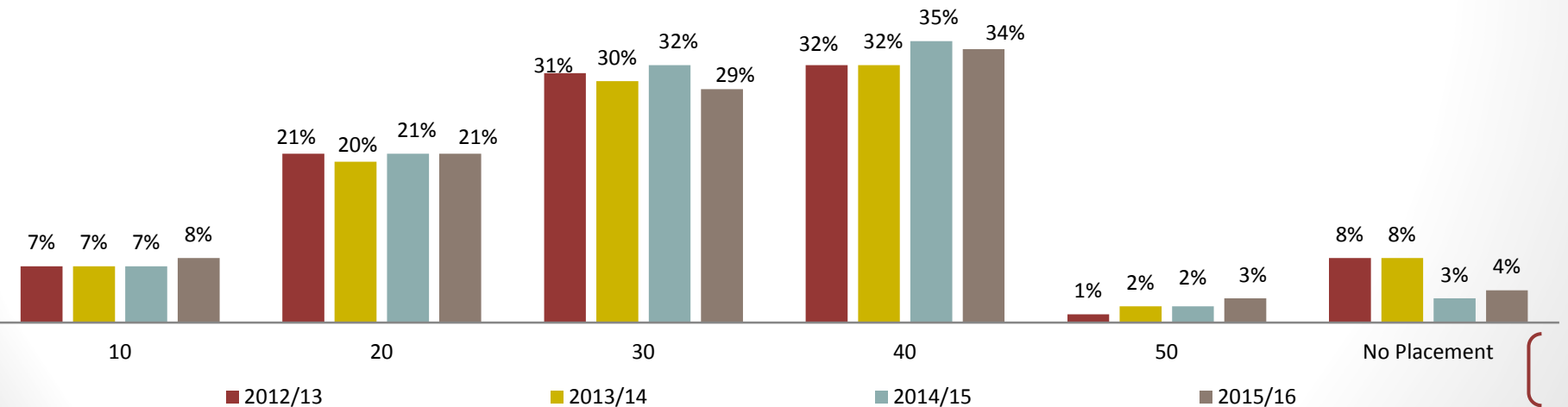
Math Skill Levels

- Between 2012/13 and 2015/16, on average, the majority of students enrolled in accelerated math had math skill levels 30 and 40 (70% & 23%), whereas most students in non-accelerated math had math skill levels 20, 30, and 40 (21%, 31% & 33%).

Accelerated



Non-Accelerated



Sections and Enrollments

Accelerated Section Offerings

	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Total	Fall 2013 to Fall 2015 Difference
City College/ECC	2	3	3	2	10	0
Mesa College	3	5	6	11	25	8
Miramar College	1	1	0	0	2	-1
All Colleges	6	9	9	13	37	7

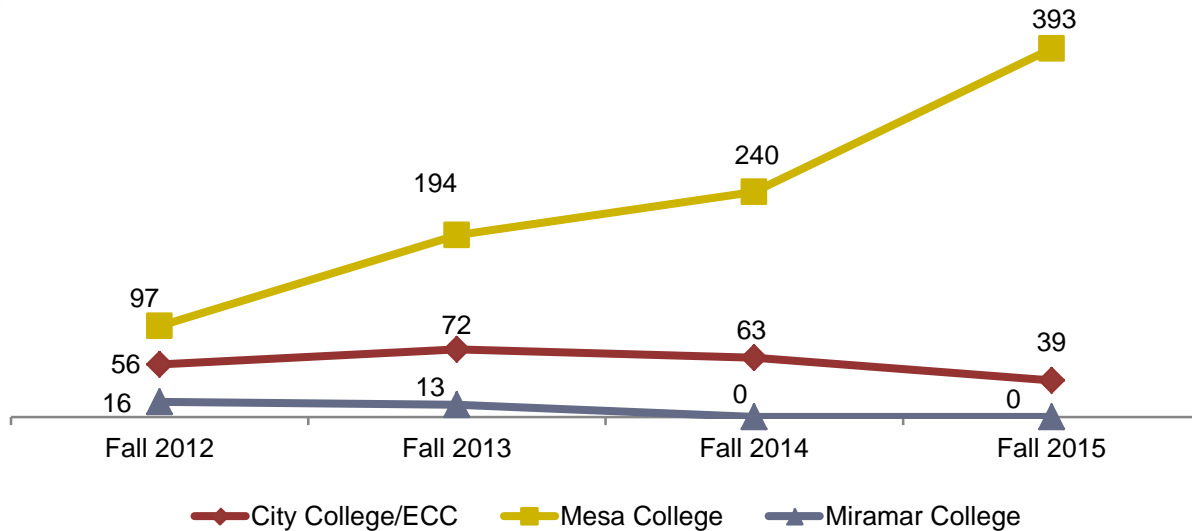
- Overall, accelerated math Fall sections increased from 6 to 13 course offerings between Fall 2012 and Fall 2015.
- At City College/ECC accelerated math sections remained about the same between Fall 2012 and Fall 2015.
- At Mesa College accelerated math sections also increased from Fall 2012 to Fall 2015 (3 & 11, respectively).
- Only one accelerated math section was offered at Miramar College in Fall 2012 and Fall 2013 each.

Accelerated Section Offerings

	Spring 2013	Spring 2014	Spring 2015	Spring 2016	Total	Spring 2013 to Spring 2016 Difference
City College/ECC	2	2	2	1	7	-1
Mesa College	4	5	9	10	28	6
Miramar College	1	0	0	0	1	-1
All Colleges	7	7	11	11	36	4

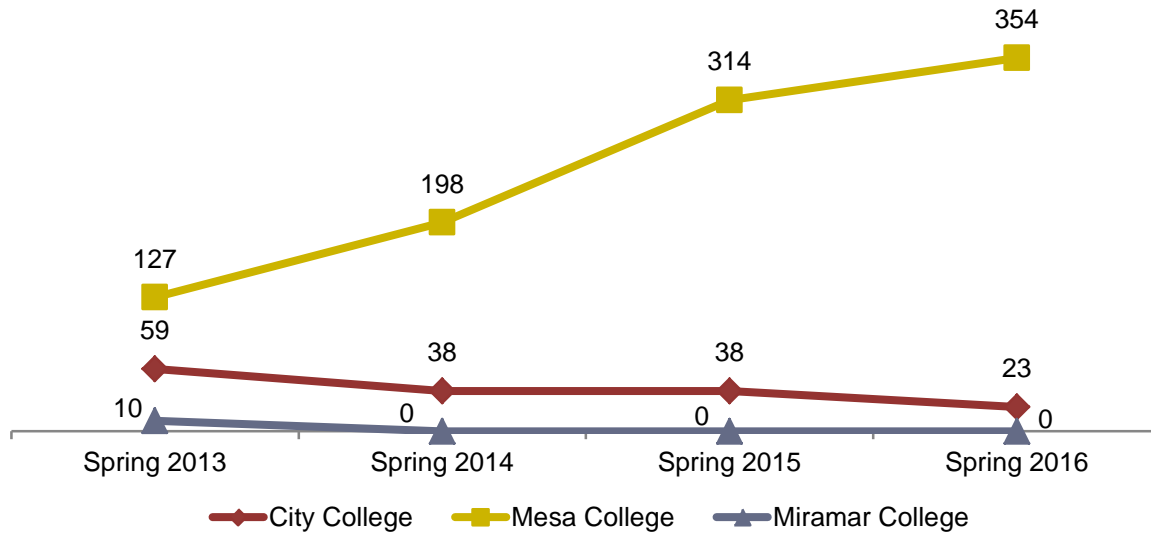
- Overall, accelerated math Spring course section offerings increased from 7 to 11 between Spring 2013 and Spring 2016.
- Between Spring 2013 and Spring 2016, accelerated math sections at City College/ECC remained about the same.
- At Mesa College, Spring accelerated course offerings increased between 2013 and 2016 (4 & 10, respectively).
- Only one accelerated math section was offered at Miramar College in Spring 2013.

Accelerated Course Enrollments



- Overall, accelerated math Fall enrollments increased from 169 to 432 between Fall 2012 and Fall 2015.
- At City College/ECC, accelerated math course enrollments decreased from 56 in Fall 2012 to 39 in Fall 2015.
- The number of accelerated math enrollments at Mesa College increased from Fall 2012 to Fall 2015 (97 & 393, respectively).
- At Miramar College, accelerated math enrollments in Fall 2012 and Fall 2013 remained about the same (16 & 13, respectively). There were no accelerated math sections offered at Miramar College in Fall 2014 and 2015.

Accelerated Course Enrollments

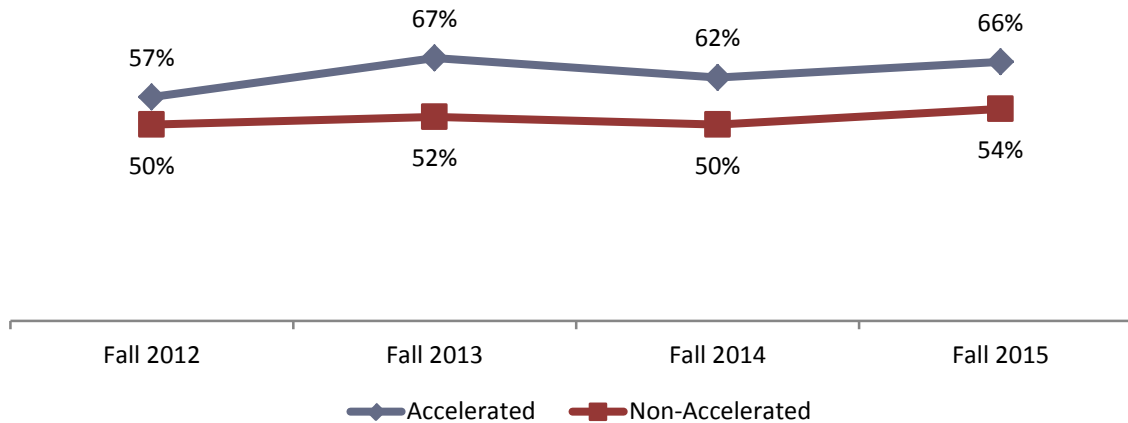


- Overall, accelerated math Spring enrollments increased from 196 to 377 between Spring 2013 and Spring 2016.
- Between Spring 2013 and Spring 2016, accelerated math enrollments decreased at City College/ECC (59 & 23, respectively).
- At Mesa College, accelerated math enrollments increased from Spring 2013 to Spring 2016 (127 & 354, respectively).
- Only one accelerated math section was offered at Miramar College, which had an enrollment count of 10 students. There were no accelerated math enrollments from Spring 2014 to Spring 2016 at Miramar College.

Student Outcomes

Fall Success Rates

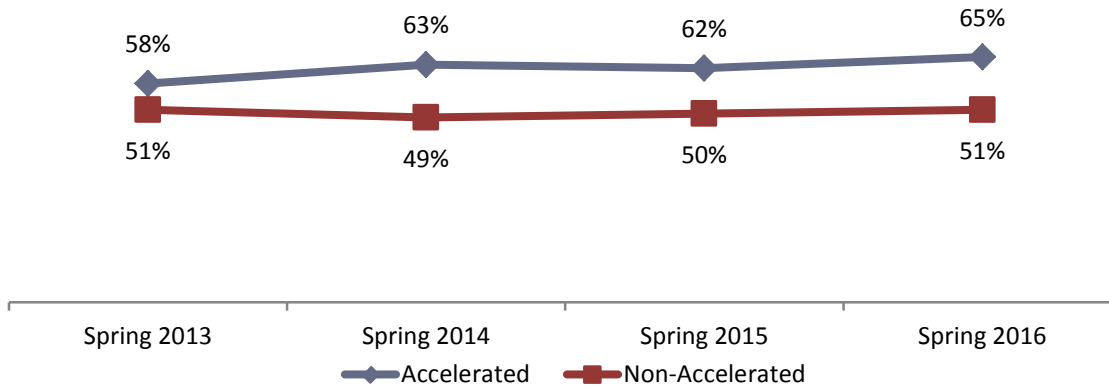
Overall Success Rates



- The four term average success rates of the Fall accelerated math cohorts were higher (64%) than non-accelerated math students (51%).
- On average, success rates of the Fall cohorts at the basic skills course level were higher for accelerated math students (61%) compared to non-accelerated math students (52%).
- The average success rates of students at the associate level were also higher for accelerated math students (72%) compared to non-accelerated math students (47%).

Spring Success Rates

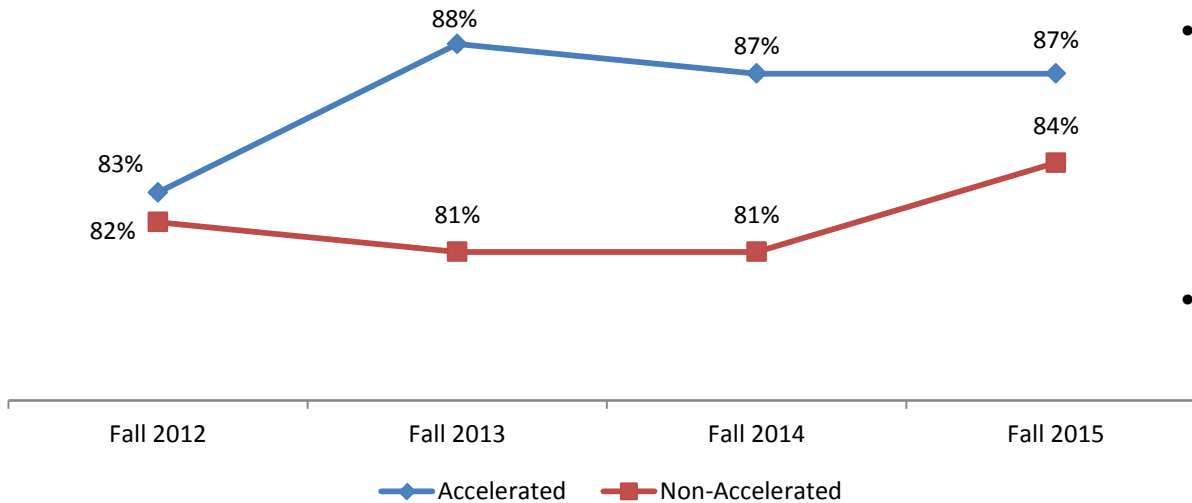
Overall Success Rates



- The four term average success rates of Spring cohort accelerated students were higher (63%) than non-accelerated math students (50%).
- The average success rates of Spring cohort students at the basic skill course level were higher for accelerated math students compared to non-accelerated math students (60% & 51%, respectively).
- On average, success rates of students at the associate math course level enrolled in accelerated math were also higher (71%) than non-accelerated math students (47%).

Fall Retention Rates

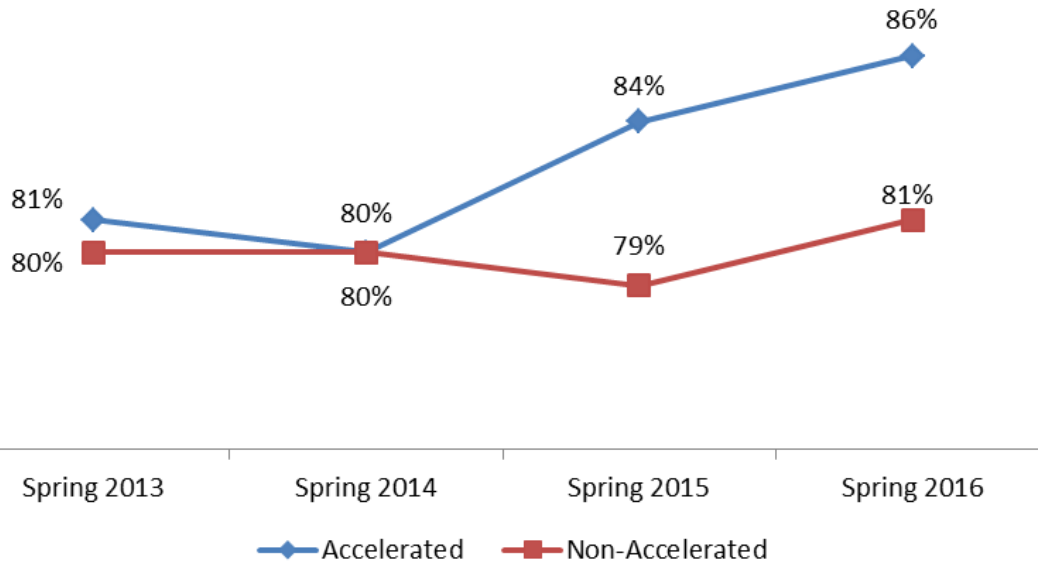
Overall Retention Rates



- The overall retention rates of the Fall accelerated math cohorts were higher (87%) when compared to retention rates of non-accelerated math cohorts (82%).
- The average retention rates of Fall cohort students at the basic skills course level were higher for accelerated math students (85%) compared to non-accelerated math students (82%).
- On average, retention rates of students at the associate course level were higher for accelerated math students (91%) compared to non-accelerated math students (79%).

Spring Retention Rates

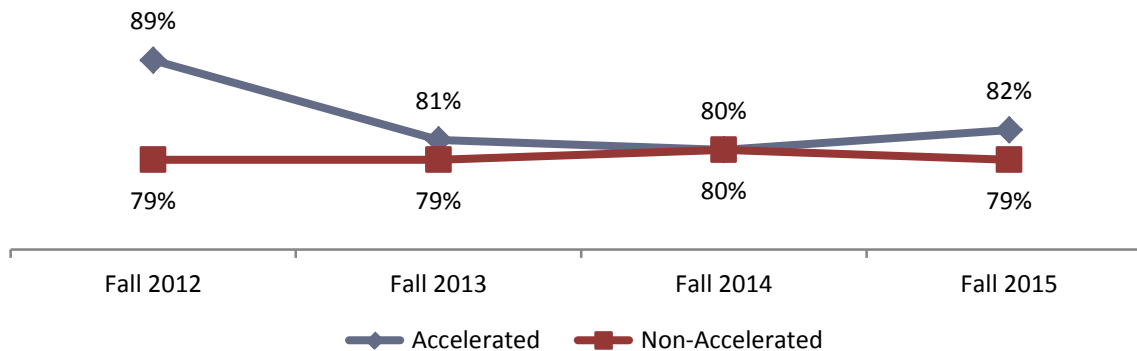
Overall Retention Rates



- The overall retention rates of Spring cohort accelerated students were higher (84%) than non-accelerated math students (80%).
- The average retention rates of Spring cohort students at the basic skills course level were comparable for accelerated and non-accelerated math students (82% & 81%, respectively).
- The average retention rates of students at the associate course level were higher for accelerated math students (88%) compared to non-accelerated math students (77%).

Fall Overall Term Persistence

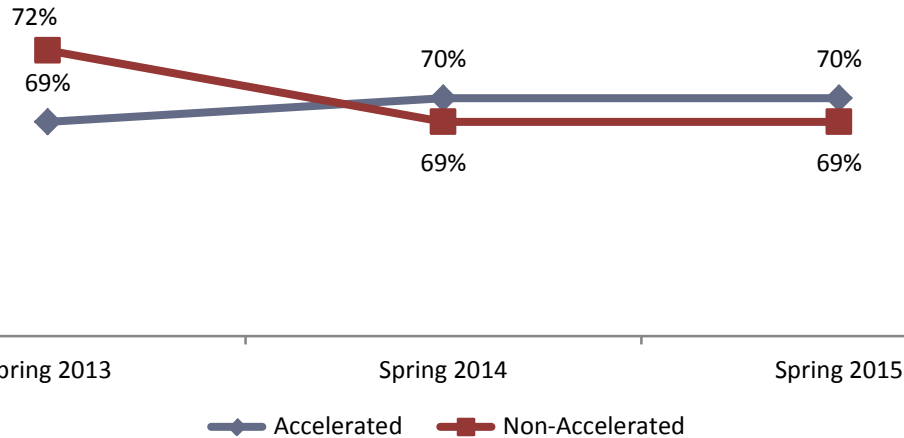
Overall Term Persistence



- The overall term persistence rates of Fall accelerated math students were higher (82%) than non-accelerated math students (79%).
- The average term persistence rates of Fall cohort students at the basic skills course level were higher for accelerated math students compared to non-accelerated math students (84% & 78%, respectively).
- Average term persistence rates of Fall cohort students at the associate math course level were lower for accelerated math students (77%) than non-accelerated math students (81%).

Spring Overall Term Persistence

Overall Term Persistence



- The overall term persistence rates of Spring accelerated and non-accelerated math cohorts were the same (70% each).
- The average term persistence rates of Spring cohort students at the basic skills course level were higher for accelerated math students compared to non-accelerated math students (74% & 71%, respectively).
- Average term persistence rates of Spring cohort students at the associate math course level were lower for accelerated math students (65%) compared to non-accelerated math students (74%).

Subsequent Enrollment By Course Level: Fall 2013 – 2016

		MATH 046 (M30)			MATH 096 (M40)			Other Course Level			Overall Percent Enrolled Transfer Math
		Starting Cohort	Enrolled Transfer Math	Percent Enrolled Transfer Math	Starting Cohort	Enrolled Transfer Math	Percent Enrolled Transfer Math	Starting Cohort	Enrolled Transfer Math	Percent Enrolled Transfer Math	
Accelerated	Total/Avg	315	185	59%	104	59	57%	43	30	70%	59%
Non-Accelerated	Total/Avg	3,549	847	24%	3,219	1,894	59%	4,257	411	10%	29%

- Overall, a higher percentage of Fall accelerated math students subsequently enrolled in transfer level math than non-accelerated math students. Specifically, the overall subsequent enrollment rate of Fall cohort students in transfer level math was higher for accelerated students (59%), compared to non-accelerated students (29%).
- On average, subsequent enrollment rates in transfer level math for Fall cohort students who placed at the basic skills course level were higher for accelerated math students (59%) compared to non-accelerated math students (24%). However, the opposite trend was demonstrated for students at the associate math course level. Subsequent enrollment rates in transfer level math for students who placed at the associate math course level were slightly lower for accelerated math students (57%) than non-accelerated math students (59%).

Note. Subsequent enrollment is defined as the number of students who successfully complete MATH 046, 047A, 092 or 096 and then enroll in a transfer level MATH course within three terms. Cancelled classes are excluded.

Subsequent Enrollment By Course Level: Spring 2013 - 2016

		MATH 046 (M30)			MATH 096 (M40)			Other Course Level			Overall Percent Enrolled Transfer Math
		Starting Cohort	Enrolled Transfer Math	Percent Enrolled Transfer Math	Starting Cohort	Enrolled Transfer Math	Percent Enrolled Transfer Math	Starting Cohort	Enrolled Transfer Math	Percent Enrolled Transfer Math	
Accelerated	Total/Avg	260	125	48%	116	50	43%	29	12	41%	46%
Non-Accelerated	Total/Avg	2,933	718	24%	3,188	1,811	57%	3,611	390	11%	30%

- Overall, a higher percentage of Spring accelerated math students subsequently enrolled in transfer level math than non-accelerated math students. Specifically, the overall subsequent enrollment rate of Spring cohort students in transfer level math was higher for accelerated math students (46%), compared to non-accelerated math students (30%).
- Spring cohort subsequent enrollment rates in transfer level math, on average, for students at the basic skill course level were higher for accelerated math students (48%) compared to non-accelerated math students (24%). However, the opposite trend was demonstrated for students at the associate math course level. On average, accelerated math students at the associate math course level enrolled in transfer level math at a lower rate (43%) than non-accelerated math students (57%).

Note. Subsequent enrollment is defined as the number of students who successfully complete MATH 046, 047A, 092 or 096 and then enroll in a transfer level MATH course within three terms. Cancelled classes are excluded.

Subsequent Success by Course Level: Fall 2013 – 2016

		MATH 046 (M30)				MATH 096 (M40)				Other Course Level				Overall Success Rate
		Starting Cohort	Enrolled Transfer Math	Success Counts	Success Rate	Starting Cohort	Enrolled Transfer Math	Success Counts	Success Rate	Starting Cohort	Enrolled Transfer Math	Success Counts	Success Rate	
Accelerated	Total/Avg	315	185	125	68%	104	59	39	66%	43	30	18	60%	66%
Non-Accelerated	Total/Avg	3,549	847	555	66%	3,219	1,894	1,074	57%	4,257	411	247	60%	60%

- Overall, a higher percentage of Fall accelerated math students successfully completed a transfer level math course compared to non-accelerated math students. Specifically, the overall subsequent success rate of Fall cohort students was higher for accelerated math students (66%) compared to non-accelerated students (60%).
- On average, the transfer level math subsequent success rates of Fall cohort students at the basic skills math course level were slightly higher for accelerated math students (68%) compared to non-accelerated math students (66%). The average transfer level math subsequent success rates of students at associate math course level were higher for accelerated math students (66%) compared to non-accelerated math students (57%).

Note. Subsequent success is defined as the number of students who successfully complete MATH 046, 047A, 092 or 096 with a grade of A, B, C or P, subsequently enroll in transfer level MATH within three terms, and complete a transfer level math course successfully with a grade of A, B, C or P.

Subsequent Success by Course Level: Spring 2013 - 2016

		MATH 046 (M30)				MATH 096 (M40)				Other Course Level				Overall Success Rate
		Starting Cohort	Enrolled Transfer Math	Success Counts	Success Rate	Starting Cohort	Enrolled Transfer Math	Success Counts	Success Rate	Starting Cohort	Enrolled Transfer Math	Success Counts	Success Rate	
Accelerated	Total/Avg	260	125	72	58%	116	50	25	50%	29	12	6	50%	55%
Non-Accelerated	Total/Avg	2,933	718	434	60%	3,188	1,811	1,073	59%	3,611	390	230	59%	60%

- Overall, a lower percentage of Spring accelerated math students successfully completed a transfer level math course compared to non-accelerated math students. The overall subsequent success rate of Spring cohort students was lower for accelerated math students (55%) compared to non-accelerated students (60%).
- On average, the transfer level math subsequent success rates of Spring cohort students at the basic skills math course level were slightly lower for accelerated math students (58%) compared to non-accelerated math students (60%). The average transfer level math subsequent success rates of students at associate math course level were lower for accelerated math students (50%) compared to non-accelerated math students (59%).

Note. Subsequent success is defined as the number of students who successfully complete MATH 046, 047A, 092 or 096 with a grade of A, B, C or P, subsequently enroll in transfer level MATH within three terms, and complete a transfer level math course successfully with a grade of A, B, C or P.

(25)

Summary

- Overall, from 2012/13 to 2015/16, SDCCD has shown an increase in accelerated math sections offered. The increase is mostly due to the accelerated math section offering increase at Mesa College, whereas City College/ECC sections offerings have remained stagnant and Miramar did not offer any accelerated math sections from Fall 2014 to Spring 2016.
- Overall, from 2012/13 to 2015/16 SDCCD has also shown an increase in accelerated course enrollments, largely due to the enrollments at Mesa College. City College/ECC accelerated course enrollments have steadily decreased for Fall and Spring terms during this period. Miramar did not have accelerated math course enrollments from Fall 2014 to Spring 2016
- Within the 2012/13 to 2015/16 academic years, SDCCD observed enrollment increases in math accelerated courses during the Fall and Spring terms (263 & 181, respectively) compared to non-accelerated math enrollments (-799 & -734, respectively). These enrollment increases are directly related to the Mesa College accelerated math enrollment increase for Fall and Spring (296 & 227, respectively). The accelerated math enrollment growth at Mesa College is likely due to the increase in course section offerings.
- The overall Fall and Spring subsequent enrollment rates in transfer level math for accelerated math students (59% & 46%, respectively) was higher than non-accelerated students (29% & 30%, respectively). However, it should be noted that for students at the associate math course level (096) the Fall and Spring averages for non-accelerated students were higher (59% & 57%, respectively) than non-accelerated students (57% & 43%, respectively).
- For overall subsequent success in transfer math, the accelerated cohort rates were higher in Fall (66%) when compared to the non-accelerated cohort (60%). However, in the Spring, overall subsequent success rate for non-accelerated cohort was higher (60%) when compared to the accelerated cohort (55%).