

De Anza College Office of Institutional Research and Planning

To: Jerry Rosenberg, Dean of Physical Sciences, Math and Engineering

From: Mallory Newell, De Anza Researcher

Date: 1/10/2013

Subject: Math Performance Success – Three-Year Tracking

Background

The Math Performance Success Program (MPS) is modeled as a supportive learning environment with a team of faculty, counselors, and tutors that work with students to help them succeed in Math 10, 114, 210 and 212.

Methodology:

For this analysis, MPS sections of Math 10, 114, 210, and 212 were tracked from 2009-10 to 2011-12. Unduplicated student counts by ethnicity, gender, residency status, major, educational goal, and cumulative GPA were included. As well as overall success rates and success rates by ethnicity and gender over the three-year period. Success is calculated on A, B, C and P grades while non success is D, F, and NP grades and Withdraw is W grades.

Student Enrollments

Table 1. Three-Year Enrollment by Course for all MPS Sections

	2009-10		2010-11		2011-12		Total	
	Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
MATHD010.	180	34%	72	29%	103	18%	355	27%
MATHD114.	175	34%	34	14%	215	38%	424	32%
MATHD210.	36	7%	62	25%	67	12%	165	12%
MATHD212.	132	25%	77	31%	174	32%	383	29%
Total	523	100%	245	100%	559	100%	1,327	100%

Note: Totals include students taking multiple courses or taking the same course more than once.

- In 2009-10, 523 students went through the MPS program, in 2010-11, 245 students went through the program and in 2011-12, and 559 students were in the program, for a total of 1,327 student enrollments for three-years.
- Over the three-year period, Math 114 had the highest enrollment making up 32% of total enrollment followed by Math 212 at 29% of total enrollment, and Math 10 at 27% of total enrollment.

Annual Success Rates

Table 2. Annual Success Rates for MPS and Comparable Non MPS Courses

			Pass		Did Not Pass		Withdrew		Total	
			Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
2009-10	MPS	FACE_TO_FACE	423	80%	58	11%	46	9%	527	100%
	OTHER	FACE_TO_FACE	6,064	58%	2,478	24%	1,904	18%	10,446	100%
	OTHER	DISTANCE	318	43%	226	30%	199	27%	743	100%
2010-11	MPS	FACE_TO_FACE	171	70%	44	18%	30	12%	245	100%
	OTHER	FACE_TO_FACE	6,378	59%	2,555	24%	1,858	17%	10,791	100%
	OTHER	DISTANCE	315	52%	133	22%	163	27%	611	100%
2011-12	MPS	FACE_TO_FACE	445	79%	93	16%	28	5%	566	100%
	OTHER	FACE_TO_FACE	6,449	60%	2,580	24%	1,752	16%	10,781	100%
	OTHER	DISTANCE	272	47%	169	29%	141	24%	582	100%

Note: MPS and Other include all sections of Math 10, 114, 212 and 210 offered in each year in the MPS or traditional face-to-face or online formats.

- MPS sections exhibited higher success rates than comparable non MPS sections over the three-year period.
- Success rates were 80% in 2009-10 and 2011-12 and 70% in 2010-11, well above the success rates of non MPS sections.

Table 3. Annual Success Rates for MPS and Comparable Non MPS Courses by Gender

			Pass		Did Not Pass		Withdrew		Total	
			Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
Female	MPS	FACE_TO_FACE	597	79%	108	14%	53	7%	758	100%
	OTHER	FACE_TO_FACE	9,557	62%	3,361	22%	2,506	16%	15,424	100%
	OTHER	DISTANCE	532	48%	288	26%	281	26%	1,101	100%
Male	MPS	FACE_TO_FACE	442	76%	87	15%	51	9%	580	100%
	OTHER	FACE_TO_FACE	9,334	56%	4,252	26%	3,008	18%	16,594	100%
	OTHER	DISTANCE	373	45%	240	29%	222	27%	835	100%

Note: MPS and Other include all sections of Math 10, 114, 212 and 210 offered between 2009-10 and 2011-12 in the MPS or traditional face-to-face or online formats.

- In MPS sections over the three-year period, females have a slightly higher success rate than males, 79% for females compared to 76% for males.
- For all ‘Other’ Math sections taught in the face-to-face format, females exhibit a higher success rate than males by 6 percentage points, 62% for females compared to 56% for males.
- For all ‘Other’ Math sections taught in the distance format, females have slightly higher success rates than males, but both are much lower than the face-to-face traditional format and the MPS format, 48% for females and 45% for males. The withdraw rates is highest for distance sections, though similar for females and males, 26% for females and 27% for males.

Table 4. Annual Success Rates for MPS and Comparable Non MPS Courses by Ethnicity

			Pass		Did Not Pass		Withdrew		Total	
			Grades	Percent	Grades	Percent	Grades	Percent	Grades	Percent
African American	MPS	FACE_TO_FACE	116	68%	39	23%	16	9%	171	100%
	OTHER	FACE_TO_FACE	717	46%	530	34%	326	21%	1,573	100%
	OTHER	DISTANCE	16	19%	36	43%	32	38%	84	100%
Asian	MPS	FACE_TO_FACE	111	83%	13	10%	10	7%	134	100%
	OTHER	FACE_TO_FACE	6,566	68%	1,702	18%	1,350	14%	9,618	100%
	OTHER	DISTANCE	397	58%	150	22%	133	20%	680	100%
Filipino	MPS	FACE_TO_FACE	76	85%	8	9%	5	6%	89	100%
	OTHER	FACE_TO_FACE	1,467	57%	650	25%	452	18%	2,569	100%
	OTHER	DISTANCE	72	44%	45	28%	46	28%	163	100%
Latino/a	MPS	FACE_TO_FACE	382	76%	78	16%	41	8%	501	100%
	OTHER	FACE_TO_FACE	3,941	50%	2,347	30%	1,656	21%	7,944	100%
	OTHER	DISTANCE	65	23%	109	39%	106	38%	280	100%
Native American	MPS	FACE_TO_FACE	12	92%			1	8%	13	100%
	OTHER	FACE_TO_FACE	233	60%	92	24%	63	16%	388	100%
	OTHER	DISTANCE	13	52%	4	16%	8	32%	25	100%
Pacific Islander	MPS	FACE_TO_FACE	24	77%	6	19%	1	3%	31	100%
	OTHER	FACE_TO_FACE	140	50%	75	27%	65	23%	280	100%
	OTHER	DISTANCE	5	29%	3	18%	9	53%	17	100%
White	MPS	FACE_TO_FACE	203	81%	31	12%	16	6%	250	100%
	OTHER	FACE_TO_FACE	4,030	60%	1,502	23%	1,130	17%	6,662	100%
	OTHER	DISTANCE	227	49%	123	26%	116	25%	466	100%
Unknown/Unreported	MPS	FACE_TO_FACE	115	77%	20	13%	14	9%	149	100%
	OTHER	FACE_TO_FACE	1,797	60%	715	24%	472	16%	2,984	100%
	OTHER	DISTANCE	110	50%	58	26%	53	24%	221	100%

Note: MPS and Other include all sections of Math 10, 114, 212 and 210 offered between 2009-10 and 2011-12 in the MPS or traditional face-to-face or online formats.

- African American students in MPS courses have the lowest success rates (68%) of all ethnic groups in MPS courses. However, African American students in MPS courses have much higher success rates than African American students in non MPS sections (46%).
- All other ethnic groups have success rates above 76% in MPS courses.
- The gap in success rates between MPS and non MPS face-to-face sections is over 25% for Filipino, Latino and Pacific Islander students.

Student Demographics

Table 5. Gender Distribution of MPS Students – 2009-10 to 2011-12

	Students	Percent
Female	473	57%
Male	365	43%
Total	838	100%

Note: Unduplicated student count.

- Females enroll in MPS courses at a higher rate (57%) than males (43%).

Table 6. Ethnic Distribution of MPS Students - 2009-10 to 2011-12

	Students	Percent
African American	107	13%
Asian	93	10%
Filipino	58	7%
Latino/a	306	37%
Native American	11	1%
Pacific Islander	14	2%
Unreported/Unknown	93	11%
White	156	19%
Total	838	100%

Note: Unduplicated student count.

- Students that identify as Latino make up 37% of MPS enrollment over the three-year period followed by White students at 19%, African Americans at 13%, Unknown at 11% and Asian at 10%.

Table 7. Residency Status of MPS Students - 2009-10 to 2011-12

	Students	Percent
Resident	790	94%
US resident, non-CA resident	5	1%
Non-Resident, International	6	1%
AB540-Non-Resid Tuit Exmpt	34	4%
Non-Resident	4	0%
Total	839	100%

Note: Unduplicated student counts. Residency status may change resulting in duplicate counts for the same student.

- Students who are California resident make up 94% of total MPS enrollment while AB 540 students make up 4% of total enrollment. Non California residents and International students make up 1% of the enrollment each.

Table 8. Top 10 Majors of MPS Students - 2009-10 to 2011-12

	Students	Percent
Undecided	180	20%
Registered Nurse	82	10%
Business Administration	70	8%
Lib Arts-Soc & Behavioral Sci	64	7%
Liberal Arts - Arts & Letters	56	6%
Law Enforcement	26	3%
Biological Sciences	30	3%
Child Development	32	3%
Medical Assisting	22	3%
Lib Arts-Sci,Math&Engineering	22	2%

- Students enrolled in the MPS program are largely Undecided in their educational major (20%), followed by Nursing (10%), Business Administration (8%), and Liberal Arts (7%).

Table 9. Cumulative GPA - 2009-10 to 2011-12

	Students	Percent
0.0-1.5	56	5%
1.51-2.0	88	10%
2.01-2.5	198	24%
2.51-3.0	284	34%
3.01-3.5	160	20%
3.51-4.0	52	6%
Total	838	100%

Note: Includes unduplicated students' cumulative GPA over their career.

- 54% of students enrolled in the MPS program had a GPA between 2.0 and 3.0 while 26% had a GPA between 3.0 and 4.0.