Jumpstart Into STEM: Where Are Our Underrepresented STEM Students?

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What is your academic journey?
1. What helped you succeed in college?
2. What was a barrier you encountered in college?
MPS provides the following services:

- Extended instruction time
- Embedded counseling services
- Embedded tutoring services
- MPS Tutoring Center
- Book and calculator loan
- Mindfulness training inside the classroom
- Program activities (i.e., workshops and field trips)

- Total sections offered: 10-14 each quarter
- Number of students served between 350-490 per quarter
- This past year, with funds from the Innovation Grant, MPS has expanded to Foothill College!
Activity: High Touch Frequency
Touch points

Touch Point #1: MPS Counselor
Touch Point #2: MPS Instructor
Touch Point #3: MPS In-class Tutor
Touch Point #4: MPS Tutoring Center
Touch Point #5: MPS Counselor
Touch Point #6: Psychological Services
Touch Point #7: Pantry Services
Touch Point #8: MPS Instructor
Reflection Question

What are your thoughts on the support system the student receives as part of the MPS Program?
MPS Pre-AB 705 Math Course Sequence

Non-transferable Courses
- Pre-Algebra Math 210
- Elem. Algebra Math 212
- Int. Algebra Math 114
  - Three Levels Below
  - Two Levels Below
  - One Level Below

Transfer Level
- Statistics Math 10
- Finite Math Math 11
- Lib. Arts Math Math 44
- Elem. Education Math Math 46
- Precalculus 1 Math 41
- Precalculus 2 Math 42
- Precalculus 3 Math 43

Note: All math classes are 5 units
MPS Success Rates

Targeted = African American, Latinx, Filipinx, Native American and Pacific Islander; Not Targeted includes all else.

Figure 1. Comparison of course success rates between MPS vs. Non-MPS students (Averaged from 2013-2019)

Figure 2. Success rates in transfer-level statistics (Comparing non-MPS non-target students versus non-MPS target students, and MPS non-target students versus MPS target students). The equity gap in non-MPS is 20%, while in MPS the equity gap is 5% (Averaged from 2013-2019)
Activity: What trend do you see?

Percent of Underrepresented Students Enrolled in Designated Math Courses
Data from 2017-2018 Academic Year

Targeted = African American, Latinx, Filipinx, Native American And Pacific Islander; Not Targeted includes all else.
MPS Post-AB 705 Math Course Sequence

Non-transferable Course

Int. Algebra
Math 114
One Level Below

New Program
MPS STEM Jumpstart

Transfer Level

Traditional MPS Program

Statistics
Math 10

Finite Math
Math 11

Lib. Arts Math
Math 44

Elem. Education
Math Math 46

Precalculus 1
Math 41

Precalculus 2
Math 42

Precalculus 3
Math 43

Note: All math classes are 5 units
New Program: MPS STEM JUMPSTART

Percent of Underrepresented Students Enrolled in Designated Math Courses
Data from 2018-2019 Academic Year

Targeted = African American, Latinx, Filipinx, Native American and Pacific Islander; Not Targeted includes all else.
New Program: MPS STEM JUMPSTART

Piloted 2018-19 data already shows:

- Higher success rates in MPS courses vs. traditional math courses

<table>
<thead>
<tr>
<th>Precalculus Success Rates Among Groups</th>
<th>Success Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PreCal 1</td>
</tr>
<tr>
<td>Non-MPS</td>
<td></td>
</tr>
<tr>
<td>Targeted</td>
<td>53%</td>
</tr>
<tr>
<td>Non-Targeted</td>
<td>73%</td>
</tr>
<tr>
<td>Total</td>
<td>66%</td>
</tr>
<tr>
<td>MPS</td>
<td></td>
</tr>
<tr>
<td>Targeted</td>
<td>60%</td>
</tr>
<tr>
<td>Non-Targeted</td>
<td>82%</td>
</tr>
<tr>
<td>Total</td>
<td>71%</td>
</tr>
</tbody>
</table>

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Piloted Spring 2019, Precalculus 3 data (2 cohorts) already shows:
• Higher success rates in MPS by 29 percentage points
• 4% equity gap!

New Program:
MPS STEM JUMPSTART

<table>
<thead>
<tr>
<th>Precalculus 3 Success Rates</th>
<th>Success</th>
<th>% Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Among Targeted and Non-Targeted Groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-MPS</td>
<td>Targeted</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>Non-Targeted</td>
<td>561</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>670</td>
</tr>
<tr>
<td>MPS</td>
<td>Targeted</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Non-Targeted</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>73</td>
</tr>
</tbody>
</table>

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What changes can you make to increase the amount of underrepresented students in STEM?
Questions?

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MPS Program Supported by De Anza College and CCCCO Innovation to Higher Education