Multiple Measures Assessment Project
Post-AB 705: Supporting Colleges Into and Through the Transition

Craig Hayward, RP Group/Bakersfield College
Terrence Willett, RP Group/Cabrillo College
Mallory Newell, RP Group/De Anza College
John Hetts, Educational Results Partnership

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The RP Conference
Long Beach, CA

Agenda

• Requirements of AB 705
• Review of MMAP and results to date
• Implementation survey results
• Adapting MMAP to AB 705
• Placement and support recommendations for English, Statistics and Gateway STEM Math
• Update on special populations research
• Discussion
AB 705 (Irwin) requirements

• Use of high school performance data
• Use of “highly unlikely” standard
• Maximize student’s probability of completing transfer-level English and math in their first year
• Optimize student’s probability of completing ESL sequence in three years
Brief Overview of the Multiple Measures Assessment Project (MMAP)
Success Rates in Transfer-level English

- Sierra, 2014F: 73% MMAP, 79% Other
- Shasta, 2015S: 68% MMAP, 67% Other
- San Diego CCD, 2015F: 68% MMAP, 79% Other
- Norco, 2016F: 69% MMAP, 69% Other
- MiraCosta, 2016S: 65% MMAP, 67% Other
- MiraCosta, 2016F: 68% MMAP, 80% Other
- Merritt, 2015M-2016S: 50% MMAP, 36% Other
- Las Positas, 2016F: 75% MMAP, 77% Other
- Laney, 2015M-2016S: 76% MMAP, 71% Other
- Irvine Valley, 2016F: 77% MMAP, 85% Other
- College of Alameda, 2015M-2016S: 78% MMAP, 78% Other
- Canada, 2014F/2015F: 76% MMAP, 72% Other
- Berkeley, 2015M-2016S: 62% MMAP, 73% Other

bit.ly/MMAPSummary2017
Success Rates in Transfer-level Math

- San Diego CCD, 2015F: Other 60%, MMAP 58%
- Merritt, 2015M-2016S: Other 75%, MMAP 71%
- Norco, 2016F: Other 59%, MMAP 69%
- Laney, 2015M-2016S: Other 75%, MMAP 77%
- College of Alameda, 2015M-2016S: Other 85%, MMAP 79%
- Canada, 2014F/2015F: Other 76%, MMAP 70%
- Berkeley, 2015M-2016S: Other 51%, MMAP 46%

bit.ly/MMAPSummary2017
## Summary of Differences Between MMAP and Traditionally Placed Students - English

<table>
<thead>
<tr>
<th>Comparison Group</th>
<th>Metric</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students in transfer-level courses in same term</td>
<td>Success rates</td>
<td>MMAP success rates 2 percentage points (pp) higher</td>
</tr>
<tr>
<td>Students placed 1 level below in previous year</td>
<td>Completion of transfer-level English in 2 years</td>
<td>MMAP throughput 26 pp higher</td>
</tr>
<tr>
<td>Students placed 2 levels below in previous year</td>
<td>Completion of transfer-level English in 2 years</td>
<td>MMAP throughput 40 pp higher</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>Metric</td>
<td>Difference</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>---------------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Students in transfer-level courses in same term</td>
<td>Success rates</td>
<td>MMAP success rates equal</td>
</tr>
<tr>
<td>Students placed 1 level below in previous year</td>
<td>Completion of transfer-level Math in 2 years</td>
<td>MMAP throughput 41 pp higher</td>
</tr>
<tr>
<td>Students placed 2 levels below in previous year</td>
<td>Completion of transfer-level Math in 2 years</td>
<td>MMAP throughput 53 pp higher</td>
</tr>
</tbody>
</table>
Summary of MMAP Classic

- Success rates of students placed by MMAP are ≥ students placed directly into transfer-level using the institutions traditional placement method
  - even though MMAP placement 2-5X increase into transfer level courses
- Successful completion of transfer level course (throughput) is 20 (English) to 40 (Math) percentage points higher than for students placed even just one level below.
- Implementation of MMAP rules can be nuanced
  - Don’t use statistics rules to place into trigonometry or precalculus
  - Placement messaging should be done once with single recommendation and specifically state recommended course(s)
- Collaboration between high schools and colleges has increased
Implementation Survey Results
MMAP Survey Results

• Survey sent in March to 97 colleges, 79 responded for a response rate of 81%
  • 22% have implemented multiple measures already and are in the process of analyzing the results
  • 18% have implemented and analyzed the results to determine success rates
  • 13% have a process in place to start placing students
  • 11% have developed a research plan to validate their approach
  • 7% have made changes based on their findings
MMAP Survey Results

• Between spring 2015 and winter 2018
  • up to 187,500 students were given a placement using high school transcript data (for colleges that responded to the survey)
  • Of those, up to 111,700 students enrolled in the course which placed via multiple measures
• About a third of colleges who are using high school transcript data are using the statewide rule sets without any modifications in both English and Math
• ~68% of colleges have begun to adapt their assessment and placement systems to meet AB 705 requirements.
MMAP Survey Results

• What assistance or resources would help you adapt to AB 705?
  – Clarification from CCCCCO (including definition of one-year, ESL guidelines, special populations, students out of high school more than 10 years, international students) (19 colleges)
  – Professional development (webinars, workshops, training) and networking opportunities with other colleges (16 colleges)
  – Assistance with automation and data acquisition (7 colleges)
  – Data sharing agreement with K-12 districts (6 colleges)
  – Template or checklist to help with meeting requirements (4 colleges)
Adapting MMAP to AB 705

It’s all about throughput. MaximizeThroughput
Adapting MMAP to AB 705

• MMAP decision trees were based on identifying students who were highly likely to be successful
  — At least 70% probability of success in transfer-level

• Now, students can only be assigned to remediation if:
  — They are *highly unlikely* to succeed at the transfer-level class
  — AND
  — Remediation maximizes their probability of throughput
What is Highly Unlikely?

• What is your definition of the probability of some instance occurring if it is determined to be “highly unlikely” to occur?

Add Poll Anywhere Here
Perceptions of Probability

Almost Certainly
Highly Likely
Very Good Chance
Probable
Likely
We Believe
Probably
Better Than Even
About Even
We Doubt
Improbable
Unlikely
Probably Not
Little Chance
Almost No Chance
Highly Unlikely
Chances Are Slight

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
Assigned Probability

created by /u/zonination

What is a “Throughput Rate”?  

• The probability of getting to and through a gateway course within a specified period of time.

• Throughput rate (AB 705): The proportion of a cohort of students who complete the transferable or gateway math or English course within two primary semesters or three primary quarters of entering their first course in the sequence.
# Transfer-Level English Throughput Rates

<table>
<thead>
<tr>
<th>GPA Category</th>
<th>Pass Rates</th>
<th>Students</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>11th grade GPA &lt; 1.9</td>
<td>43% pass rate</td>
<td>~10%</td>
<td>~5% of students</td>
</tr>
<tr>
<td>11th grade &gt;=1.9 and D or worse in 11th grade English</td>
<td>49% pass rate</td>
<td>~5%</td>
<td>~23% of students</td>
</tr>
<tr>
<td>11th grade &gt;=1.9 and C- or better in 11th grade English</td>
<td>62% pass rate</td>
<td>~23%</td>
<td>~62% of students</td>
</tr>
<tr>
<td>11th grade GPA &gt;=2.6</td>
<td>80% pass rate</td>
<td>~62%</td>
<td></td>
</tr>
</tbody>
</table>

Maximizing Throughput: English

One-year English throughput rate by placement level for students with less than a 1.9 high school GPA

- 43% pass rate
- ~10% of students

11th grade GPA < 1.9
Identifying the Intent Cohort

Ed. Goals of Students Starting at One-level below in Math

- Terminal AA/AS, Certificate, etc. (11.6%)
Decision Tree

Root Node

- **HS_11_GPA_CUM >= 3**
  - **no**
  - **HS_11_GPA_CUM >= 2.3**
    - **Node 7**
      - **PRE_CALC_UP11_C >= 0.5**
        - **Node 8**
          - **ALG_II_UP11_C >= 0.5**
            - **Node 10**
              - **0.49**
                - **10%**
                - **Node 12**
            - **Node 9**
              - **0.7**
                - **4%**
                - **Node 11**
      - **Node 8**
        - **PRE_CALC_UP11_C < 0.5**
          - **Node 10**
            - **ALG_II_UP11_C >= 0.5**
              - **Node 12**
                - **0.49**
                  - **10%**
            - **Node 11**
              - **0.58**
                - **19%**
          - **Node 9**
            - **PRE_CALC_UP11_C < 0.5**
              - **Node 10**
                - **ALG_II_UP11_C < 0.5**
                  - **Node 12**
                    - **0.49**
                      - **10%**
                - **Node 11**
                  - **0.58**
                    - **19%**
          - **Node 9**
            - **PRE_CALC_UP11_C >= 0.5**
              - **Node 10**
                - **ALG_II_UP11_C >= 0.5**
                  - **Node 12**
                    - **0.49**
                      - **10%**
                - **Node 11**
                  - **0.58**
                    - **19%**
          - **Node 9**
            - **PRE_CALC_UP11_C < 0.5**
              - **Node 10**
                - **ALG_II_UP11_C < 0.5**
                  - **Node 12**
                    - **0.49**
                      - **10%**
            - **Node 11**
              - **0.58**
                - **19%**

- **yes**
  - **HS_11_GPA_CUM >= 3.3**
    - **Node 2**
      - **PRE_CALC_UP11 >= 0.5**
        - **Node 4**
          - **0.7**
            - **16%**
            - **Node 6**
          - **0.81**
            - **8%**
            - **Node 5**
              - **0.88**
                - **30%**

Probability of success
Percent of students in leaf
# Statistics Throughput Rates

AB 705 Analysis of Pass Rates of Groups of Students in Transfer-level Statistics

<table>
<thead>
<tr>
<th>11th grade GPA &lt; 2.3</th>
<th>11th grade GPA &gt;= 2.3 and C or worse in Algebra II</th>
<th>11th grade GPA &gt;= 2.3 and C or better in Algebra II</th>
<th>11th grade GPA &gt;= 2.3 and C or better in Pre-Calculus</th>
<th>11th grade GPA &gt;= 3.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 40% pass rate</td>
<td>• 49% pass rate</td>
<td>• 58% pass rate</td>
<td>• 70% pass rate</td>
<td>• 80% pass rate</td>
</tr>
<tr>
<td>• ~12% of students</td>
<td>• ~10% of students</td>
<td>• 12% of students</td>
<td>• ~4% of students</td>
<td>• ~62% of students</td>
</tr>
</tbody>
</table>

Maximizing Throughput: Statistics

One-year Math throughput rate by placement level for students with less than a 2.3 high school GPA

- 11th grade GPA < 2.3
  - 40% pass rate
  - ~12% of students

Bar chart showing:
- Transfer-level: 40%
- One-level below: 7%
- Two-levels below: 2%
- Three-levels below: 2%
- Four-levels below: 1%
Variability by College for Statistics

- Variability in success and throughput rates exists among colleges
- Interest in determining if there are colleges where below transfer level remediation results in throughput rates that exceed direct placement
- We examined college variability for statistics comparing direct placement into statistics vs. throughput from one level below for students with HS GPA < 2.3
- Throughput rates adjusted *upward* to factor out those not seeking transfer and not on a statistics/liberal arts math (SLAM) path
- Matched these throughput rates with success rates of similar students placed directly into transfer-level statistics to create a direct placement delta statistic
  - I.e., the success rate when placed directly in stats minus the throughput rate from one level below.
  - Values > 0 mean students are more likely to complete statistics when placed directly
  - Colleges with fewer than 20 cases excluded
Direct Placement Delta by College for Statistics

- In no college was the throughput rate greater than the success rate when placed directly into transfer level.
The BSTEM ‘Intent Cohort’

• Which students intend to pursue a calculus-oriented Business-STEM math pathway from one-level below?

• Some students have a goal of a terminal associate’s degree and one-level below satisfies their requirement

• Some students intend to pursue a Statistics or Liberal Arts Math pathway

• How to distinguish intent?
The BSTEM ‘Intent Cohort’

• Remove those with a non-transfer educational goal (11.6%)
• Remove those on the SLAM path
  – Of those who progress to transfer-level math, 75% take SLAM vs. Precalculus, Calculus, Trig., or Business Calculus
  – Reduce remaining one-level below starting cohort by 75%
• Product of this process is the BSTEM intent cohort
  – This will be the denominator for BSTEM throughput rates
  – The denominator is reduced to 3,200 from 14,478
Figure 5. Pre-Calculus – LO Y Pre-Calculus DM

- **HS_11_GPA_CUM ≥ 3.1** (yes)
- **HS_11_GPA_CUM ≥ 2.6**
  - **PRE_CALC_UP11 ≥ 0.5**
    - 0.38 (16%)
  - **CALC_UP11 ≥ 0.5**
    - 0.49 (5%)
- **HS_11_GPA_CUM ≥ 3.4**
  - 0.67 (21%)
    - 0.72 (2%)
  - **CALC_UP11_BMINUS ≥ 0.5**
    - 0.76 (20%)
    - 0.94 (3%)
## Pre-Calculus Throughput Rates

### AB 705 Analysis of Groups of Students in Precalculus

<table>
<thead>
<tr>
<th>GPA Range</th>
<th>Pass Rate</th>
<th>Students Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>11th grade GPA &lt; 2.6 and no Precalc. in HS</td>
<td>38%</td>
<td>~16%</td>
</tr>
<tr>
<td>11th grade GPA &lt; 2.6 with Precalculus in HS</td>
<td>49%</td>
<td>~5%</td>
</tr>
<tr>
<td>11th grade GPA &gt;=2.6 and &lt; 3.1</td>
<td>56%</td>
<td>~36%</td>
</tr>
<tr>
<td>11th grade GPA &gt;=3.1 and &lt; 3.4</td>
<td>67%</td>
<td>~21%</td>
</tr>
<tr>
<td>11th grade GPA &gt;=3.4</td>
<td>78%</td>
<td>~23%</td>
</tr>
</tbody>
</table>
Pre-Calculus Lowest Node

- 3,200 students with < 2.6 HSGPA and no precalculus in high school by grade 11 began at one-level below transfer math with intent to pursue a BSTEM path
  - 1,035 attempt a BSTEM class within one year (32.3%)*
  - 453 are successful in any BSTEM class, including College Algebra (14.2%)
- Throughput from one-level below into BSTEM is 14.2%
- If placed directly into Precalculus, throughput is 38%
Maximizing Throughput: Pre-Calculus

One-year BSTEM throughput rate by placement level for students with less than a 2.6 high school GPA and no HS precalculus

- 38% pass rate
- ~16% of students

11th grade GPA < 2.6 and no Precalc. in HS
Exploring the “Double Placement” Bias

- Differences in HS GPA, test scores, and other factors exist among students at different placement levels.
- If a low HS GPA student who would have previously been placed into below transfer level is allowed direct access to transfer level course, what are the expected success rates compared to throughput rates from remedial sequences?
- Using success rate predictions from the MMAP decision-tree analyses may not fully account for letting “weaker” students into transfer level.
- We examined & adjusted for this issue for college composition, statistics, and precalculus focusing on the lowest node of each decision tree.
Regression Adjusted Success Rates
(error bars represent ±1 se)

- Lowest Node Success in Target Course
- Regression Adjusted Success in Target Course
- Throughput from 1 level below

<table>
<thead>
<tr>
<th>Course</th>
<th>Lowest Node</th>
<th>Regression Adjusted</th>
<th>Throughput from 1 level below</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Composition (HS GPA &lt; 1.9)</td>
<td>43%</td>
<td>39%</td>
<td>12%</td>
</tr>
<tr>
<td>Statistics (HS GPA &lt; 2.3)</td>
<td>40%</td>
<td>29%</td>
<td>10%</td>
</tr>
<tr>
<td>Precalculus (HS GPA &lt; 2.6)</td>
<td>38%</td>
<td>27%</td>
<td>13%</td>
</tr>
</tbody>
</table>
Special Populations - DSPS

- Students with identified disabilities (DSPS) have slightly lower HS GPA
- HS GPA correlation with success lower for DSPS students
- DSPS students have:
  - lower odds of success in transfer-level English
  - equal odds of success in transfer-level precalculus
  - lower odds of success in statistics; however, when accounting for other student background characteristics (i.e., gender and ethnicity) the DSPS indicator is no longer a significant predictor
- No appreciable difference in throughput for English or math (overall) for lowest node students (HS GPA < 1.9 for English & HS GPA < 2.3 for math)
- Given small sample sizes to examine precalculus and statistics, HS GPA criterion was removed and found no difference for DSPS students
Special Populations - EOPS

• Students enrolled in the Extended Opportunities Program and Services (EOPS) program have lower cumulative HS GPA
• EOPS students have:
  – higher odds of success in transfer-level English
  – equal odds of success in transfer-level precalculus and statistics
  – EOPS students have higher English completion rates for lowest node students (HS GPA < 1.9 for English & HS GPA < 2.3 for math) and exhibit no difference in statistics or precalculus
Special Population Next Steps

• Special populations may benefit from tailored supports to enhance success and in many cases those supports or accommodations are already provided or required
• Analyze by type of disability in new data file
• New file will also contain other more recently collected special populations such as foster youth and CalWorks
Putting it all together: Multiple Measures and Corequisite Support

### Mathematics at Cuyamaca College

- Disjunctive placement (higher of test-based or MM-based placement – adapted f/Phase 1 MMAP
  - *Algebra I* with C or better plus HSGPA $\geq$ 2.8: **Statistics with corequisite support**
  - *Algebra II* with C or better and HSGPA $\geq$ 2.8: **College algebra or higher w/corequisite support**
  - Other MMAP placement recommendations for higher placement without support

### English at Skyline College

- Phased transition over three years
  - Accelerated developmental education at one level below
  - Then, MMAP implementation of English placement recommendations and corequisite developmental education courses


Gateway momentum in Math at Cuyamaca

Completion of transfer-level math before and after change by assessment level

Fall 2013 Cohort (Transfer Math in 2 years)
Fall 2016 Cohort (Transfer math completion 1 semester w/support)
Gateway momentum in English at Skyline

English placement by level and cohort

- Transfer-Level: 80% (Fall 2016), 47% (Fall 2013)
- One Level Below: 40% (Fall 2016), 17% (Fall 2013)
- Two Levels Below: 3% (Fall 2016), 14% (Fall 2013)

Successful rate by cohort and course type

- Fall 2013: 67%
- F2015-S2017 (traditional): 65%
- F2015-2017 (w/support): 69%
Percent of Remedial Students Who Complete an Associated Gateway Course

(In two years for prerequisite models, in first year for corequisites)

Successful completion within 1 year vs. corequisite results by testing level - TN

Results of TBR Full Implementation Co-requisite Writing in Community Colleges

<table>
<thead>
<tr>
<th>Level</th>
<th>Pre-requisite Model AY 2012-13</th>
<th>Co-requisite Full Implementation AY 2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;=13</td>
<td>25.3%</td>
<td>53.9%</td>
</tr>
<tr>
<td>14</td>
<td>27.8%</td>
<td>63.8%</td>
</tr>
<tr>
<td>15</td>
<td>33.2%</td>
<td>65.3%</td>
</tr>
<tr>
<td>16</td>
<td>36.9%</td>
<td>67.1%</td>
</tr>
<tr>
<td>17</td>
<td>37.8%</td>
<td>69.6%</td>
</tr>
<tr>
<td>No ACT</td>
<td>25.1%</td>
<td>58.4%</td>
</tr>
<tr>
<td>Overall</td>
<td>30.9%</td>
<td>61.8%</td>
</tr>
</tbody>
</table>

Results of TBR Full Implementation Co-requisite Mathematics in Community Colleges

<table>
<thead>
<tr>
<th>Level</th>
<th>Pre-requisite Model AY 2012-13</th>
<th>Co-requisite Full Implementation AY 2015-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;=13</td>
<td>2.7%</td>
<td>32.9%</td>
</tr>
<tr>
<td>14</td>
<td>3.8%</td>
<td>45.5%</td>
</tr>
<tr>
<td>15</td>
<td>6.8%</td>
<td>55.3%</td>
</tr>
<tr>
<td>16</td>
<td>11.5%</td>
<td>63.4%</td>
</tr>
<tr>
<td>17</td>
<td>19.7%</td>
<td>70.1%</td>
</tr>
<tr>
<td>18</td>
<td>25.6%</td>
<td>79.5%</td>
</tr>
<tr>
<td>No ACT</td>
<td>13.1%</td>
<td>48.7%</td>
</tr>
<tr>
<td>Overall</td>
<td>13.5%</td>
<td>54.8%</td>
</tr>
</tbody>
</table>

What should the standard of comparison be?

**Mathematics**

- Throughput (f/1 level below): 10%
- Direct Placement (adjusted): 29%
- Cuyamaca Coreq >3 levels below: 56%
- Tennessee Coreq <13 ACT: 33%

**English**

- Throughput (f/1 level below): 12%
- Direct Placement (adjusted): 39%
- Cuyamaca Coreq >3 levels below: 69%
- Tennessee Coreq <13 ACT: 54%
Summary for AB 705

• Moderate to high performing high school students must be placed directly into transfer-level courses by law.

• Evidence to date suggests that even lowest performing HS students are more likely to complete transfer-level English & math (Statistics for SLAM, PreCalculus for STEM students with HS intermediate algebra) if placed there directly
  – compared to if placed in a developmental education sequence
  – especially if provided concurrent support

• To use alternative, colleges must show that students will be more likely to complete transfer-level courses within one year
# Placement/Support Recommendations for English

<table>
<thead>
<tr>
<th>High School Performance</th>
<th>AB 705-Compliant Placement</th>
</tr>
</thead>
</table>
| **HSGPA ≥ 2.6**         | Transfer-Level English Composition  
|                         | No additional academic or corequisite support required |
| **HSGPA 1.9 - 2.6**     | Transfer-Level English Composition  
|                         | Additional academic and corequisite support recommended |
| **HSGPA < 1.9**         | Transfer-Level English Composition  
|                         | Additional academic and corequisite support strongly recommended |

For students with high school transcripts within 10 years of enrollment at CC, excluding students who are locally advised to take the ESL test.
# Placement/Support Recommendations for Statistics

<table>
<thead>
<tr>
<th>High School Performance</th>
<th>AB 705-Compliant Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSGPA ≥ 3.0 Or HSGPA ≥ 2.3 &amp; C or Better in Precalculus</td>
<td>Transfer-Level Statistics No additional academic or corequisite support required</td>
</tr>
<tr>
<td>HSGPA 2.3–3.0</td>
<td>Transfer-Level Statistics Additional academic and corequisite support recommended</td>
</tr>
<tr>
<td>HSGPA &lt; 2.3</td>
<td>Transfer-Level Statistics Additional academic and corequisite support strongly recommended</td>
</tr>
</tbody>
</table>

For students with high school transcripts within 10 years of enrollment at CC.
### Placement/Support Recommendations for Gateway STEM Math

<table>
<thead>
<tr>
<th>High School Performance</th>
<th>AB 705-Compliant Placement</th>
</tr>
</thead>
</table>
| HSGPA ≥ 3.4 OR HSGPA ≥ 2.6 AND enrolled in a HS Calculus course | Transfer-Level Gateway STEM Math  
No additional academic or corequisite support required |
| HSGPA ≥2.6 or Enrolled in HS Precalculus | Transfer-Level Gateway STEM Math  
Additional academic and corequisite support recommended |
| HSGPA ≤ 2.6 and no Precalculus | Transfer-Level Gateway STEM Math  
Additional academic and corequisite support strongly recommended |

For students with high school transcripts within 10 years of enrollment at CC and at least enrolled in Algebra 2/Intermediate Algebra.
Discussion
What does assessment and throughput look like on your campus?

Using your homework assignment, in groups, discuss the following:

1. What trends do you see in the data for at your college?
2. Did you already know this information or was it new to you?
   a. Did your campus have this information already available?
3. What were your initial thoughts the first time you saw the results?
4. What factors should be considered when addressing these rates at your campus?
Learning from other colleges

- South Orange County Community College District
  - Gerlie Jeltema & Darren England
- Solano College
  - Corrine Kirkbride (now at Pasadena College)
- Diablo Valley College
  - Holly Kresh
Solano/Pasadena College

https://prezi.com/view/dLYcsGPO0mRhDiVQAixG/
SOUTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT (SOCCCD)

Multiple Measures & Supplemental Courses
MM - WHAT WE HAVE DONE

SELF-REPORTED DATA FROM CCCAPPLY

<table>
<thead>
<tr>
<th>Highest English Course:</th>
<th>Select Item:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Highest Math Course:</th>
<th>Select Item:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 - Pre-algebra or lower</td>
<td></td>
</tr>
<tr>
<td>02 - Algebra 1</td>
<td></td>
</tr>
<tr>
<td>03 - Integrated Math 1</td>
<td></td>
</tr>
<tr>
<td>04 - Integrated Math 2</td>
<td></td>
</tr>
<tr>
<td>05 - Geometry</td>
<td></td>
</tr>
<tr>
<td>06 - Algebra 2</td>
<td></td>
</tr>
<tr>
<td>07 - Integrated Math 3</td>
<td></td>
</tr>
<tr>
<td>08 - Statistics</td>
<td></td>
</tr>
<tr>
<td>09 - Integrated Math 4</td>
<td></td>
</tr>
<tr>
<td>10 - Trigonometry</td>
<td></td>
</tr>
<tr>
<td>11 - Pre-calculus</td>
<td></td>
</tr>
<tr>
<td>12 - Calculus or higher</td>
<td></td>
</tr>
<tr>
<td>X - None of the Above / Do Not Know</td>
<td></td>
</tr>
</tbody>
</table>
### MM - WHAT WE HAVE DONE
**MULTIPLE MEASURES PLACEMENT**

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>882000</td>
<td>Mathematics</td>
<td>MM CalPASS Math Placement</td>
</tr>
<tr>
<td>882001</td>
<td>Mathematics</td>
<td>MM Self-Reported Math Placement</td>
</tr>
<tr>
<td>882002</td>
<td>Mathematics</td>
<td>CCCAssess Math Placement</td>
</tr>
<tr>
<td>882003</td>
<td>Mathematics</td>
<td>Math Placement</td>
</tr>
<tr>
<td>882004</td>
<td>English Composition</td>
<td>MM CalPASS English Placement</td>
</tr>
<tr>
<td>882005</td>
<td>English Composition</td>
<td>MM Self-Reported English Placement</td>
</tr>
<tr>
<td>882006</td>
<td>English Composition</td>
<td>CCCAssess English Placement</td>
</tr>
<tr>
<td>882007</td>
<td>English Composition</td>
<td>English Placement</td>
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</table>
MM - WHAT WE HAVE DONE
MULTIPLE MEASURES PLACEMENT

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Name</th>
<th>Test Placement Level</th>
<th>Description</th>
<th>Prereq Code</th>
<th>Subject Area Placement Level</th>
</tr>
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<tbody>
<tr>
<td>111111</td>
<td>Math – MDTP Level 1 + MM</td>
<td>1</td>
<td>Math 351</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>111111</td>
<td>Math – MDTP Level 1 + MM</td>
<td>3</td>
<td>SEE COUNSELOR</td>
<td>MT10</td>
<td>1</td>
</tr>
<tr>
<td>111111</td>
<td>Math – MDTP Level 1 + MM</td>
<td>2</td>
<td>Math 353</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>111111</td>
<td>Math – MDTP Level 1 + MM</td>
<td>4</td>
<td>Math 353</td>
<td>MT10</td>
<td>1</td>
</tr>
<tr>
<td>222222</td>
<td>Math – MDTP Level 2 + MM</td>
<td>1</td>
<td>No Math Placement. Take a different level math exam.</td>
<td>MT10</td>
<td>1</td>
</tr>
<tr>
<td>222222</td>
<td>Math – MDTP Level 2 + MM</td>
<td>5</td>
<td>Math 353</td>
<td>MT10</td>
<td>1</td>
</tr>
<tr>
<td>222222</td>
<td>Math – MDTP Level 2 + MM</td>
<td>4</td>
<td>Math 253 or 205</td>
<td>MT15</td>
<td>1.5</td>
</tr>
<tr>
<td>222222</td>
<td>Math – MDTP Level 2 + MM</td>
<td>3</td>
<td>Math 253 or 205</td>
<td>MT15</td>
<td>1.5</td>
</tr>
<tr>
<td>222222</td>
<td>Math – MDTP Level 2 + MM</td>
<td>2</td>
<td>Math 353</td>
<td>MT10</td>
<td>1</td>
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</tbody>
</table>
## Placement Matrix Systematized

<table>
<thead>
<tr>
<th>Action</th>
<th>Placement Level</th>
<th>Min Score</th>
<th>Effective Academic Year</th>
<th>Prereq Code</th>
<th>Description</th>
<th>Direct Matriculant Rule</th>
<th>Non Direct Matriculant Rule</th>
<th>Is Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit</td>
<td>1</td>
<td>0</td>
<td></td>
<td>MT10</td>
<td>Beginning Algebra</td>
<td>HS 11 GPA &gt;= 2.4</td>
<td>HS 12 GPA &gt;= 2.5 OR ({HS 12 GPA &gt;= 2.0 AND Alg I CST &gt;= 302} OR {HS 12 GPA &gt;= 2.3 AND Alg II C (or better)})</td>
<td>True</td>
</tr>
<tr>
<td>Edit</td>
<td>2</td>
<td>10</td>
<td></td>
<td>MT15</td>
<td>Math for the Associate Degree; Intermediate Algebra</td>
<td>Passed Algebra I (or better) AND HS 11 GPA &gt;= 2.8</td>
<td>Passed Algebra I (or better) AND [HS 12 GPA &gt;= 2.9 OR (HS 12 GPA &gt;= 2.5 AND Alg II CST &gt;= 302) OR {HS 12 GPA &gt;= 2.5 AND Pre-Calc C (or better)}]</td>
<td>True</td>
</tr>
<tr>
<td>Edit</td>
<td>3</td>
<td>20</td>
<td></td>
<td>MT17</td>
<td>Intro to Statistics</td>
<td>Passed Algebra I (or better) AND [HS 11 GPA &gt;= 3.0 OR (HS GPA &gt;= 2.3 AND Pre-Cal C (or better))]</td>
<td>Passed Algebra I (or better) AND [HS 12 GPA &gt;= 3.0 OR (HS 12 GPA &gt;= 2.6 AND Pre-Calc C (or better))]</td>
<td>True</td>
</tr>
</tbody>
</table>
## MM - WHAT WE HAVE DONE

**DISJUNCTIVE LOGIC IMPLEMENTED**

<table>
<thead>
<tr>
<th>Source Type</th>
<th>Test ID</th>
<th>Test Description</th>
<th>Test Date</th>
<th>Score</th>
<th>Placement Code</th>
<th>Placement Course</th>
<th>Placement Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS3</td>
<td>222222</td>
<td>Math - MDTP Level 2 + MM</td>
<td>3/1/2018</td>
<td>12.00</td>
<td></td>
<td>MATH 353, 200,205,250,252,253,255,ENV6,ECON4,6</td>
<td>3/1/2018</td>
<td></td>
</tr>
<tr>
<td>SYS5</td>
<td>882001</td>
<td>MM Self-Reported Math Placement</td>
<td>3/1/2018</td>
<td>0.00</td>
<td></td>
<td>Beginning Algebra</td>
<td>3/1/2018</td>
<td></td>
</tr>
<tr>
<td>SYS5</td>
<td>882003</td>
<td>Math Placement</td>
<td>3/1/2018</td>
<td>12.00</td>
<td></td>
<td></td>
<td>3/1/2018</td>
<td>Based on Disjunctive logic for TestID: 222222 on Test Date: Mar 1 2018 12:00AM and TestID: 882001 on Test Date: Mar 1 2018 12:00AM</td>
</tr>
</tbody>
</table>
MM - WHAT WE HAVE DONE
DISJUNCTIVE LOGIC IMPLEMENTED

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Test Date</th>
<th>Raw Score</th>
<th>%ile Rank</th>
<th>Total Possible</th>
<th>Course Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Placement</td>
<td>3/1/2018</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MM - WHAT'S IN PROGRESS
CALPASS INTEGRATION

```
1 {  
2   "englishY": false,  
3   "englishA": false,  
4   "englishB": false,  
5   "englishC": false,  
6   "preAlgebra": false,  
7   "algebra": false,  
8   "algebraII": false,  
9   "mother": false,  
10  "statistics": false,  
11  "collegeAlgebra": false,  
12  "trigonometry": false,  
13  "preCalculus": false,  
14  "calculus": false,  
15  "readingA_UBoundY": false,  
16  "readingA_UBoundA": false,  
17  "readingA_UBoundB": false,  
18  "readingA_UBoundC": false,  
19  "readingA_UBoundD": false,  
20  "readingA_UBoundE": false,  
21  "readingA_UBoundF": false,  
22  "readingB_UBoundY": false,  
23  "readingB_UBoundA": false,  
24  "readingB_UBoundB": false,  
25  "readingB_UBoundC": false,  
26  "readingB_UBoundD": false,  
27  "es1Y_UBoundY": false,  
28  "es1Y_UBoundA": false,  
29  "es1Y_UBoundB": false,  
30  "es1Y_UBoundC": false,  
31  "es1Y_UBoundD": false,  
32  "es1Y_UBoundE": true,  
33  "es1Y_UBoundF": false,  
34  "es1Y_UBoundG": false,  
35  "es1Y_UBoundH": false,  
36  "isTreatment": true  
37 }
```
MM - WHAT’S IN PROGRESS

- Parchment Integration
- Direct Integration with HS School Districts
## SUPPLEMENTAL COURSES

### Course List

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Catalog ID</th>
<th>Course Title</th>
<th>Max Units</th>
<th>College</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>WR 302</td>
<td>14683.00</td>
<td>College Writing Skills and Support</td>
<td>2.00</td>
<td></td>
<td>Lecture Instruction Only</td>
</tr>
</tbody>
</table>

### Section List

```
Catalog ID: 14683.00  Academic Year: 2019-2020
Course ID: WR 302  College: Irvine Valley College
Course Title: College Writing Skills and Support
Rollover Date: 03/23/2018
Updated By: regbutes12  Updated Date: 03/30/2018
Import Date: 03/30/2018  Publish Date: 03/30/2018
```

### Requisites

- **Supplemental Course:** ✓
- **Prereq Code(s) Required:** Use '@' to insert Prereq Codes
  
  **Prerequisite Earned:** EWS10 - WR 302 - Supplemental Course to WR 1
  **Prerequisite Information:** Placement via current assessment process
### SUPPLEMENTAL COURSES

**Catalog ID:** 6566.00  
**Academic Year:** 2019-2020  
**Course ID:** WR 1  
**College:** Irvine Valley College  
**Course Title:** College Writing 1  
**Draft Source:** Imported from Curriculum Course  
**Updated By:** regbosutest2  
**Updated Date:** 03/30/2018  
**Import Date:** 03/30/2018  
**Publish Date:**

#### Prerequisites

- **Supplemental Course:**  
- **Prereq Code(s) Required:** EW10 or EWS10  
  - **Prerequisite Earned:** EW20 - ENG 1B, 170, WR 1 or WR 1H  
  - **Prerequisite Information:** Placement via current assessment process; successful completion of WR 201, ESL 201, or WR 399; OR concurrent enrollment in WR 302 and WR 181
SUPPLEMENTAL COURSES

If a student who does not completed transfer-level course requirement enrolls in the transfer-level non-T2T course, he or she will be told the following:

Important Messages for
- WR 1 (Ticket #90130) has been successfully added to your pending classes.
- WR 1 requires enrollment in the following course in order to complete registration for this term: WR 302.
- You must complete registration to enroll in a class.
- WR 1 requires enrollment in the following course in order to complete registration for this term: WR 302.
SUPPLEMENTAL COURSES

Similarly, if a student enrolls in the supplemental non-T2T course, he or she will be told the following:

![Image of MySite Registration with Schedule Builder and Important Messages]

- WR 302 (Ticket #90135) has been successfully added to your pending classes.
- WR 302 requires enrollment in the following course in order to complete registration for this term: WR 1.
- You must complete registration to enroll in a class.
- WR 302 requires enrollment in the following course in order to complete registration for this term: WR 1.
SUPPLEMENTAL COURSES – T2T

If a student attempts to add a Transfer-level course with a T2T Supplemental course, the message displays the required Supplemental course’s Ticket ID:

- WR 1 (Ticket #61305) has been successfully added to your pending classes
- WR 1 requires enrollment in the following course in order to complete registration for this term: WR 302.
- WR 1 (Ticket #61305) requires the following corequisite(s) have the same start and end dates in order to complete registration for this term: 61370
- You must complete registration to enroll in a class
- WR 1 requires enrollment in the following course in order to complete registration for this term: WR 302.
SUPPLEMENTAL COURSES – T2T

Similarly, if a student attempts to add a Supplemental course with a T2T Transfer-level course, the message displays the required Transfer-level course’s Ticket ID:

- WR 302 (Ticket #90065) has been successfully added to your pending classes
- WR 302 requires enrollment in the following course in order to complete registration for this term: WR 1.
- WR 302 (Ticket #90065) requires the following corequisite(s) have the same start and end dates in order to complete registration for this term: 61305
- You must complete registration to enroll in a class
Multiple Measures

DIABLO VALLEY COLLEGE

Holly Kresch, Mathematics Professor
MMAP Implementation Team
Early Involvement in the CAI and MMAP

- Cal-PASS+ Meetings DeAnza College December 2014
- Pilot College for both CAI and Multiple Measures
- Recognizing problems in placement with our current testing system, both English and Math departments were willing to climb on board.
- Pilot College Convenings 2015-2017
- Participation in Statewide Workgroups for CAI 2015-2017
  - RFI and Vendor Selection - CAI
  - MMWG
  - Professional Development WG
  - Assessment WG
  - Platform WG
  - CAI Ambassadors
  - Competency Mappings in both English and Math
DVC’s Pilot - Spring 2016

Dean of Enrollment Services is also our 3SP Coordinator

Monthly 3SP Meetings for reporting and discussion: 3SP Coordinator, A&R staff, Assessment Center Staff, 2 Counselors, 2 English/ESL Faculty, 2 Math Faculty, guests

“Weekly” Implementation Meetings where we discuss and work on projects for CAI and MMAP

Summer 2015 meetings: 6 weekly meetings for discussion of implementation and development of a research plan.
Success rates for students in the Sp16 MMAP Pilot were at least as successful as those taking a placement exam.
Percentage Grade Distributions Transfer Level
English Fa16
Percentage Grade Distributions Calculus Fa16

<table>
<thead>
<tr>
<th>Grade</th>
<th>MM</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>48.1</td>
<td>39.7</td>
</tr>
<tr>
<td>B</td>
<td>3.7</td>
<td>14.3</td>
</tr>
<tr>
<td>C</td>
<td>18.5</td>
<td>12</td>
</tr>
<tr>
<td>D</td>
<td>7.4</td>
<td>4.2</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
<td>8.7</td>
</tr>
<tr>
<td>W</td>
<td>22.1</td>
<td>21.1</td>
</tr>
</tbody>
</table>
Percentage Grade Distributions Pre-Calc Fa16


MM (green) vs Test (orange)
It Takes A College Community

- CAI/MMAP Informative Presentations
- Faculty Meetings
- Deans and Department Chairs
- Academic Senate
- Joint Equity-DevEd-3SP Meetings
- VPI Called Meetings: VPI, VPSS, Dean of A&R/3SP Coordinator, 3SP Faculty, Deans of English and Math this group evolved into an AB705 Implementation Group
Multiple Measures Placement Tool for Direct Matriculants

- Began by DVCizing the Sierra College Placement Tool in 2015.
  - We continue to run it off the Sierra College servers
  - Unable to migrate it to our servers - written in php
- New Tool Development - January 2018
  - District committed the resources
  - Services of a Sr. Programmer - WebApps ~40 hours
    - 1100 lines on the back-end (programming)
    - 990 lines on the front-end (web controls and text)
  - 0.25 load (1-semester) for a faculty member
New Tool Benefits

- Convenience - students can take the placement tool from anywhere as long as they have the URL.
- Student placement results are stored in SIS for future research and student information
- Improved accuracy
- Prerequisites automatically cleared allowing students to register for Math/English courses
- Solves our MMAP resources problem in A&R.
- “Easily” modifiable since it is written in-house
- Secure behind our portal
- Programmed to include our local placement decisions
  - HS Coursework is honored
  - EAP/CAASPP Standard Exceeded guarantees transfer level placement in Math and English
  - Remains true to the Statewide Decision Rules
Building the Tool

- Began with the Visualization Matrix
  - [https://rpgroup.org/Portals/0/Documents/Projects/MultipleMeasures/GuidesforImplementingMultipleMeasures/MMAP_Matrix_Crosswalk.pdf](https://rpgroup.org/Portals/0/Documents/Projects/MultipleMeasures/GuidesforImplementingMultipleMeasures/MMAP_Matrix_Crosswalk.pdf)
  - Double checked it against the latest publication

- English placements are straightforward as per the matrix
- Math: Introduced horizontal levels for prior HS Coursework: ElemAlg1, ElemAlg2, etc.
- Determined placements for each cell: STEM, Business, Other Non-STEM Majors
<table>
<thead>
<tr>
<th>Highest Math Course Taken in HS (by increasing difficulty)</th>
<th>GPA&gt;=3.6</th>
<th>GPA&gt;=3.4</th>
<th>GPA&gt;=3.3</th>
<th>GPA&gt;=3.2</th>
<th>GPA&gt;=3.0</th>
<th>GPA&gt;=2.9</th>
<th>GPA&gt;=2.8</th>
<th>GPA&gt;=2.4</th>
<th>GPA&gt;=2.3</th>
<th>GPA&lt;2.3</th>
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</thead>
<tbody>
<tr>
<td>Calculus 1 - enrolled</td>
<td>Calculus</td>
<td>Calculus</td>
<td>Calculus</td>
<td>Calculus</td>
<td>PreCalc/2</td>
<td>PreCalc/2</td>
<td>PreCalc/2</td>
<td>PreCalc/2</td>
<td>Stats/3</td>
<td>Stats/3</td>
</tr>
<tr>
<td>PreCalculus - C or better</td>
<td>Calculus</td>
<td>Calculus</td>
<td>Calculus</td>
<td>Calculus</td>
<td>Trig2</td>
<td>ColAlg/2</td>
<td>Stats/3</td>
<td>Stats/3</td>
<td>Stats/3</td>
<td>Stats/3</td>
</tr>
<tr>
<td>Trigonometry - C or better</td>
<td>Calculus</td>
<td>PreCalc/2</td>
<td>Trig2</td>
<td>Trig2</td>
<td>Trig2</td>
<td>IntAlg/3</td>
<td>IntAlg/3</td>
<td>ElAlg/4</td>
<td>ElAlg/4</td>
<td>PreAlg/4</td>
</tr>
<tr>
<td>Algebra 2 (or other higher) - B or better</td>
<td>Trig/PreCalc</td>
<td>Trig/PreCalc</td>
<td>Trig1</td>
<td>Trig1</td>
<td>Trig1</td>
<td>IntAlg/3</td>
<td>IntAlg/3</td>
<td>ElAlg/3</td>
<td>ElAlg/3</td>
<td>PreAlg/3</td>
</tr>
<tr>
<td>Algebra 2 (or other higher) - C or better</td>
<td>Trig/PreCalc</td>
<td>Trig/PreCalc</td>
<td>ColAlg/1</td>
<td>ColAlg/1</td>
<td>ColAlg/1</td>
<td>Stats/3</td>
<td>IntAlg/3</td>
<td>ElAlg/3</td>
<td>ElAlg/3</td>
<td>PreAlg/3</td>
</tr>
<tr>
<td>Algebra 1 &lt; C or better</td>
<td>GE Math</td>
<td>GE Math</td>
<td>GE Math</td>
<td>Stats/1</td>
<td>Stats/1</td>
<td>IntAlg/1</td>
<td>IntAlg/1</td>
<td>ElAlg/2</td>
<td>ElAlg/2</td>
<td>PreAlg/2</td>
</tr>
<tr>
<td>All Other</td>
<td>ElAlg/1</td>
<td>ElAlg/1</td>
<td>ElAlg/1</td>
<td>ElAlg/1</td>
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<td>ElAlg/1</td>
<td>ElAlg/1</td>
<td>ElAlg/1</td>
<td>ElAlg/1</td>
<td>PreAlg/1</td>
</tr>
</tbody>
</table>
Generate Mathematics Placements For

- STEM Majors
- Business Majors
- Other (non-STEM) Majors
<table>
<thead>
<tr>
<th>Placement</th>
<th>STEM</th>
<th>Other Non-STEM</th>
<th>Business Majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics/1</td>
<td>119/120/120SP Intermediate Algebra</td>
<td>119/120/120SP/142/Bus240</td>
<td>119/120/120SP Must take Intermediate Algebra to continue to College Algebra</td>
</tr>
<tr>
<td>LMC=Algebra 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA=3.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics/2</td>
<td>121 - Trig</td>
<td>124/125/142/Bus240</td>
<td>135/135SP College Algebra</td>
</tr>
<tr>
<td>LMC=Algebra II</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA=3.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics/3</td>
<td>192 - Calculus</td>
<td>124/125/142/Bus240</td>
<td>182 Business Calculus</td>
</tr>
<tr>
<td>LMC=Pre-Calc</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>HSGPA=2.3</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Placement</td>
<td>STEM</td>
<td>Other Non-STEM</td>
<td>Business Majors</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>----------------</td>
<td>-----------------</td>
</tr>
</tbody>
</table>
| Statistics/1  
LMC=Algebra 1  
HSGPA=3.0 | 119/120/120SP  
Intermediate Algebra | 119/120/120SP/142/Bus240  
Includes the MM Bump to Stats | 119/120/120SP  
Must take Intermediate Algebra to continue to College Algebra |
| Statistics/2  
LMC=Algebra II  
HSGPA=3.0 | 121 - Trig | 124/125/142/Bus240  
GE Math and Statistics | 135/135SP  
College Algebra |
| Statistics/3  
LMC=Pre-Calc  
HSGPA=2.3 | 192 - Calculus | 124/125/142/Bus240  
GE Math and Statistics | 182  
Business Calculus |
Printable Output Page for Students

English Placement
Math Placements (STEM, Business, Other Non-STEM)
Required Next Steps
   Email HS Transcripts
   Register for Orientation
Recommended Next Steps (Links):
   View Course Sequences in Math and English
   Explore Your Interests
   Explore Careers
   Consider Joining a Learning Community
   Meet with an Academic Counselor
Menu (default.aspx)

MMAP Placement Tool for Direct Matriculants

Holly Kresch

Student ID: [redacted]

This tool will help you determine your placement in English and/or Math. If you feel your placement does not accurately reflect your abilities, you may choose to take the assessment test (English or Math). Please visit Assessment Center (http://www.dvc.edu/enrollment/assessment/index.html).

Pending Verification Of Your High School Transcripts

English

<table>
<thead>
<tr>
<th>EAP/CAASPP</th>
<th>Highest English Course</th>
<th>Grade</th>
<th>Unweighted High School GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditional or Conditionally Ready</td>
<td>11th Grade English</td>
<td>A-</td>
<td>3.0</td>
</tr>
</tbody>
</table>

You are eligible for Transfer-Level English 122

Math

<table>
<thead>
<tr>
<th>EAP/CAASPP</th>
<th>Math Course</th>
<th>Grade</th>
<th>Unweighted High School GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditional or Conditionally Ready</td>
<td>Algebra 1</td>
<td>C</td>
<td>3.0</td>
</tr>
</tbody>
</table>

You are eligible for the following math courses:

<table>
<thead>
<tr>
<th>STEM (Science, Technology, Engineering or Math)</th>
<th>Business</th>
<th>Other Majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>119 or 120 or 120SP</td>
<td>119 or 120 or 120SP</td>
<td>119 or 120 or 120SP or 142 or Bus240</td>
</tr>
</tbody>
</table>

The math requirements for transfer vary at four-year colleges and universities. Meet with an Academic Counselor to determine which math course to take.

Print This Page
Required Next Steps:

- Email high school transcripts to DVCMMAP@dvc.edu (mailto:DVCMMAP@dvc.edu).
- Register for Counseling 95 (http://www.dvc.edu/enrollment/counseling/095.html).

Recommended Next Steps:

- View the math course sequence (http://www.dvc.edu/academics/departments/math/flowchart.html).
- Explore your interests (http://www.dvc.edu/academics/explore.html).
- Explore careers (http://www.dvc.edu/enrollment/career-employment/students/explorecareers.html).
- Consider joining a learning community (http://www.dvc.edu/current/learning-community/index.html).
- Meet with an Academic Counselor (http://www.dvc.edu/enrollment/counseling/index.html).
Next Steps

- Clone the tool and make changes to produce the Non-Direct Matriculant Tool
- Create a landing page for the tools
- Add an ESL Tool: Top level of transfer level (new class Fa18)
- Pilot the ESL Tool in Fa18
- Place nearly all students with complete HS transcripts with the automated tool for the 2018-2019 academic year
- Create and execute a research plan for our multiple measures efforts
Questions?

- Holly Kresch  
  Mathematics Professor/MMAP Implementation  
  hkresch@dvc.edu  
  (925) 969-2662

- Sonja Nilsen  
  Assessment Center Coordinator  
  snilsen@dvc.edu  
  (925) 969-2134

- Kim Christiana - Sr. Academic/Student Services Manager  
  kchristiana@dvc.edu  
  (925) 969-2108

- Elizabeth Hauscarriague  
  Dean of Counseling and Enrollment Services/3SP Coordinator  
  ehauscarriague@dvc.edu  
  (925) 969-2085
Manual/Current Placement recommendations using CalPASS Plus

- College staff creates file of incoming student/applicants**
- Upload file to calpassplus.org
- Receive back a file or files with:
  - recommended placements (CB21 levels) based on students’ HS data
  - additional yes/no recommendations for eligibility for transfer-level courses in math
  - variables in dataset (parallel to retrospective data) to allow for local customization: [http://bit.ly/ProspectiveDED](http://bit.ly/ProspectiveDED)
- Translate CB21 recommendations to local courses/placements
  - Use care with transfer-level math, especially if you have transfer-level
- Import/integration with:
  - assessment database/SIS*
  - student support services protocols
Welcome to Cal-PASS Plus, California's actionable system of data linking student performance from pre-K through 12, to college and the workplace.
File Submission

This page is for submitting your data files. We have created a new, simple process so you can upload your files without using the old "validator" system.

This file submission takes place over SSL-encrypted protocol and files are never stored on our web servers (not even temporarily). They are immediately deposited into the secure storage, not accessible via internet. It is more secure than FTP (SFTP, or FTPS).

File Purpose

Select purpose

- Help Desk
- CALPADS
- CAHSEE
- STAR
- Legacy Cal-PASS K-12 Submission
- University Level Data Submission
- MMAP Student Cohort File

Choose files

Submit Files

Links to the data descriptions and definitions found under File Purpose:

- CALPADS: Submit all end of year files. Click link for more details. Note: For ODS Extracts made after July 2014, be sure to include the SELA file in your submission.

- Legacy K-12: (Pre-CALPADS) Submit Cal-PASS student, course and award extract files

- STAR: Submit all

- CAHSEE: Submit all

- University Level Data: All requested,
# MMAP Student Cohort Upload File

<table>
<thead>
<tr>
<th>Variable</th>
<th>Type</th>
<th>Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>district_college_identifier</td>
<td>X(03)</td>
<td>GI01</td>
<td>COMIS DED</td>
</tr>
<tr>
<td>student_identifier</td>
<td>X(09)</td>
<td>SB00</td>
<td>COMIS DED</td>
</tr>
<tr>
<td>student_identifier_status</td>
<td>X(01)</td>
<td>SB01</td>
<td>COMIS DED</td>
</tr>
<tr>
<td>student_birth_date</td>
<td>9(08)</td>
<td>SB03</td>
<td>COMIS DED</td>
</tr>
<tr>
<td>student_gender</td>
<td>X(01)</td>
<td>SB04</td>
<td>COMIS DED</td>
</tr>
<tr>
<td>student_high_school_last</td>
<td>X(06)</td>
<td>SB12</td>
<td>COMIS DED</td>
</tr>
<tr>
<td>student_first_name</td>
<td>X(30)</td>
<td>SB31</td>
<td>COMIS DED</td>
</tr>
<tr>
<td>student_last_name</td>
<td>X(40)</td>
<td>SB32</td>
<td>COMIS DED</td>
</tr>
</tbody>
</table>
Student course output file

<table>
<thead>
<tr>
<th>Variable</th>
<th>Data Type</th>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>college_id</td>
<td>char(3)</td>
<td>GI01</td>
<td></td>
</tr>
<tr>
<td>student_id</td>
<td>char(9)</td>
<td>SB00</td>
<td></td>
</tr>
<tr>
<td>id_status</td>
<td>char(1)</td>
<td>S;C;A</td>
<td>Amalgam of SB01 (S, C) and CCC_Apply (A)</td>
</tr>
<tr>
<td>name_first</td>
<td>varchar(30)</td>
<td>SB31</td>
<td></td>
</tr>
<tr>
<td>name_last</td>
<td>varchar(40)</td>
<td>SB32</td>
<td></td>
</tr>
<tr>
<td>birthdate</td>
<td>char(8)</td>
<td>SB03</td>
<td></td>
</tr>
<tr>
<td>gender</td>
<td>char(1)</td>
<td>SB04</td>
<td></td>
</tr>
<tr>
<td>match_type</td>
<td>varchar(255)</td>
<td>Y;NULL</td>
<td>(see file for more information)</td>
</tr>
<tr>
<td>engl_cb21</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Recommended For Y;A;B;C;D</td>
</tr>
<tr>
<td>read_cb21</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Recommended For Y;A;B;C;D</td>
</tr>
<tr>
<td>esl_cb21</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Recommended For Y;A;B;C;D</td>
</tr>
<tr>
<td>math_cb21</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Recommended For Y;A;B;C;D</td>
</tr>
<tr>
<td>math_geo</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>A=Recommended For Geometry; NULL=Not Recommended</td>
</tr>
<tr>
<td>math_alg</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>A=Recommended For Algebra; NULL=Not Recommended</td>
</tr>
<tr>
<td>math_ge</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Y=Recommended For Gen. Ed. Math; NULL=Not Recommended</td>
</tr>
<tr>
<td>math_stat</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Y=Recommended For Statistics; NULL=Not Recommended</td>
</tr>
<tr>
<td>math_pre_calc</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Y=Recommended For Precalculus; NULL=Not Recommended</td>
</tr>
<tr>
<td>math_trig</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Y=Recommended For Trigonometry; NULL=Not Recommended</td>
</tr>
<tr>
<td>math_col_alg</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Y=Recommended For College Algebra; NULL=Not Recommended</td>
</tr>
<tr>
<td>math_calc_i</td>
<td>char(1)</td>
<td>Y;NULL</td>
<td>Y=Recommended For Calculus I; NULL=Not Recommended</td>
</tr>
</tbody>
</table>
### Student course output file

<table>
<thead>
<tr>
<th>Variable</th>
<th>Data Type</th>
<th>Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>gpa_cum</td>
<td>decimal(4,3)</td>
<td></td>
<td>Cumulative High School GPA</td>
</tr>
<tr>
<td>english</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>english_ap</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>pre_alg</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>alg_i</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>alg_ii</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>geo</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>trig</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>pre_calc</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>calc</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>calc_ap</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>stat</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>stat_ap</td>
<td>decimal(2,1)</td>
<td></td>
<td>Grade Points</td>
</tr>
<tr>
<td>engl_eap_ind</td>
<td>int</td>
<td>1;0</td>
<td>Ready for CSU or participating CCC college-level English courses</td>
</tr>
<tr>
<td>engl_scaled_score</td>
<td>int</td>
<td></td>
<td></td>
</tr>
<tr>
<td>math_subject</td>
<td>int</td>
<td></td>
<td>See file for more info</td>
</tr>
<tr>
<td>math_eap_ind</td>
<td>int</td>
<td>1;0</td>
<td>Ready for CSU or participating CCC college-level mathematics course</td>
</tr>
<tr>
<td>math_scaled_score</td>
<td>int</td>
<td></td>
<td></td>
</tr>
<tr>
<td>esl_ind</td>
<td>int</td>
<td>1;0</td>
<td>Selected &quot;English learner (EL)&quot;</td>
</tr>
</tbody>
</table>
Current MMAP Phase 2 Placements API/Webservice

• Details available via Swagger (IT should know & can consult dlamoree@edresults.org)
  – https://mmap.calpassplus.org/docs/

• Current endpoint: provides yes/no variable for every level of English, Math, ESL, and Reading (for all possible top levels of ESL/Reading)

• Need to create crosswalk to your placements/SIS.
# Cal-PASS Plus MMAP API

Click [here](https://mmap.calpassplus.org/swagger/v1/swagger.json) for information regarding Authorization.

## Placement

**GET** /api/Placement/{interSegmentKey}

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
<th>Parameter Type</th>
<th>Data Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>interSegmentKey</strong></td>
<td><em>(required)</em></td>
<td>Student Key</td>
<td>path</td>
<td>string</td>
</tr>
</tbody>
</table>

## Response Messages

<table>
<thead>
<tr>
<th>HTTP Status Code</th>
<th>Reason</th>
<th>Response Model</th>
<th>Headers</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>Success</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Available authorizations

OAuth2.0

Token URL: https://oauth.calpassplus.org/connect/token

flow: password

Please input username and password for password flow authorization

Username: nova
Password: **********

Setup client authentication.

Type: Request body
ClientId: remote
Secret:

API requires the following scopes. Select which ones you want to grant to Swagger UI.

Scopes are used to grant an application different levels of access to data on behalf of the end user. Each API may declare one or more scopes. Learn how to use

- api

Authorize

Cancel
Response Messages
HTTP Status Code 200 Success

Curl
```
curl -X GET --header 'Accept: application/json' --header 'Authorization: Bearer eyJhbGciOiJSUzI1NiIsImtpZCI6Ijg0YzI3ZDAwYz2OGNkMz
```

Request URL
https://mmpc.calpassplus.org/api/Placement/000023BCACC740C4F1E615768A753DED282897C561092E2A99EF514C66AF98C1435E914DC994DA94DF90C7

Response Body
```json
{
    "englishY": false,
    "englishA": true,
    "englishB": true,
    "englishC": true,
    "preAlgebra": true,
    "algebraI": false,
    "algebraII": false,
    "mathGE": false,
    "statistics": false,
    "collegeAlgebra": false,
    "trigonometry": false,
    "preCalculus": false,
    "calculusI": false,
    "readingL_UboundY": false,
    "readingY_UboundY": false,
    "readingA_UboundY": true,
    "readingB_UboundY": true,
    "readingC_UboundY": true,
    "readingA_UboundA": false,
    "readingB_UboundA": false
}
```
Forthcoming changes

• Two additional endpoints (May 1)
  – AB705 Endpoint (includes for each Discipline)
    • Transfer-level
    • Transfer-level, recommended support
    • Transfer-level, strongly recommended support
    • (Math above entry-level transfer-level still available via original endpoint)
  – HS data endpoint for colleges that have developed evidence base for alternative placement rules

• Version update – replace current hash method to address increasing gender mismatch
Networking Lunch

1. What were/are your local roadblocks?
2. What surprising things have you discovered?
3. What solutions have you arrived at?
4. What questions do you still need resolved?
Breakout Sessions

- Where do we start? Steps for colleges new to MMAP and AB 705 (Mallory)
- How do we know it is working? Developing a research plan and sharing the results (John)
- Validating placement systems in an AB705 world (Craig)
- Multiple Measures for ESL students: What works and for whom? (Terrence)
Wrap Up

- What is one major take-away that you can bring back to your campus?

- What is one burning question that you still would like answered?
MMAP Research Team

Terrence Willett
The RP Group
twillett@rpgroup.org

Mallory Newell
The RP Group
newellmallory@deanza.edu

Craig Hayward
The RP Group
chayward@rpgroup.org

Kristen Fong
The RP Group
kfong@rpgroup.org

Rachel Baker
UC Irvine
rachelbb@uci.edu

Nathan Pellegrin
The RP Group
nathan.pellegrin@gmail.com

Peter Bahr
University of Michigan
prbahr@umich.edu

Loris Fagioli (Phase II researcher)
The RP Group
lfagioli@rpgroup.org

John Hetts
Educational Results Partnership
jhetts@edresults.org

Ken Sorey
Educational Results Partnership
ken@edresults.org

Daniel Lamoree
Educational Results Partnership
dlamoree@edresults.org