

ANALYSIS OF PLACEMENT, FALL 2013 VERSUS FALL 2014

Brad Bostian (brad.Bostian@cpcc.edu)



As we trade placement tests for high school GPA to place students, are we switching a precious idol for a bag of sand?

The Community College Research Center's study of 20,094 NC high school to community college students allowed us to make four major predictions, which we can now test at our colleges that have implemented the multiple measures policy. CPCC implemented it on October 1, 2013.

1. Using high school GPA will improve the accuracy of placement, increasing the correlation between placement data and college grades.

2. Using high school GPA to place students will shift the ratio of new student placement from majority developmental to majority college level.

3. Students placed by their unweighted HSGPA between 2.6 and 3.0 will need extra support in certain higher level math courses.

4. Using high school GPA to place students will increase the gatekeeper course completion rate, even for 2.6 to 3.0 students taking higher level math courses.

1. Using high school GPA will improve the accuracy of placement, increasing the correlation between placement data and college grades.

In some ways, college readiness is like combat readiness. We can measure it narrowly or broadly.

Claim: women Marines like Melissa Cooling are not combat ready, as they can't pass the Marine Infantry Officers 14 hour combat endurance test.



Presumably these women would also fail that narrow test of combat readiness.



Does that mean they aren't combat ready?

Were these Kurdish women commanders ready? They drove ISIS out of Kobani.



Mayssa Abdo
Meryem Kobane
Arin Mirkan



Similarly, we can measure college readiness narrowly or broadly. Placement tests measure:

Content Knowledge

Memory

Test Taking Skills

High school GPA measures:

Content Knowledge

Test Taking Skills

Academic Behaviors

Cognitive Strategies

High Expectations

Memory

Family Support

Financial Resources

Social Intelligence

Self-efficacy

Persistence

Neither one measures post admission factors:

Academic Engagement

External Events and Responsibilities

Health and Well Being

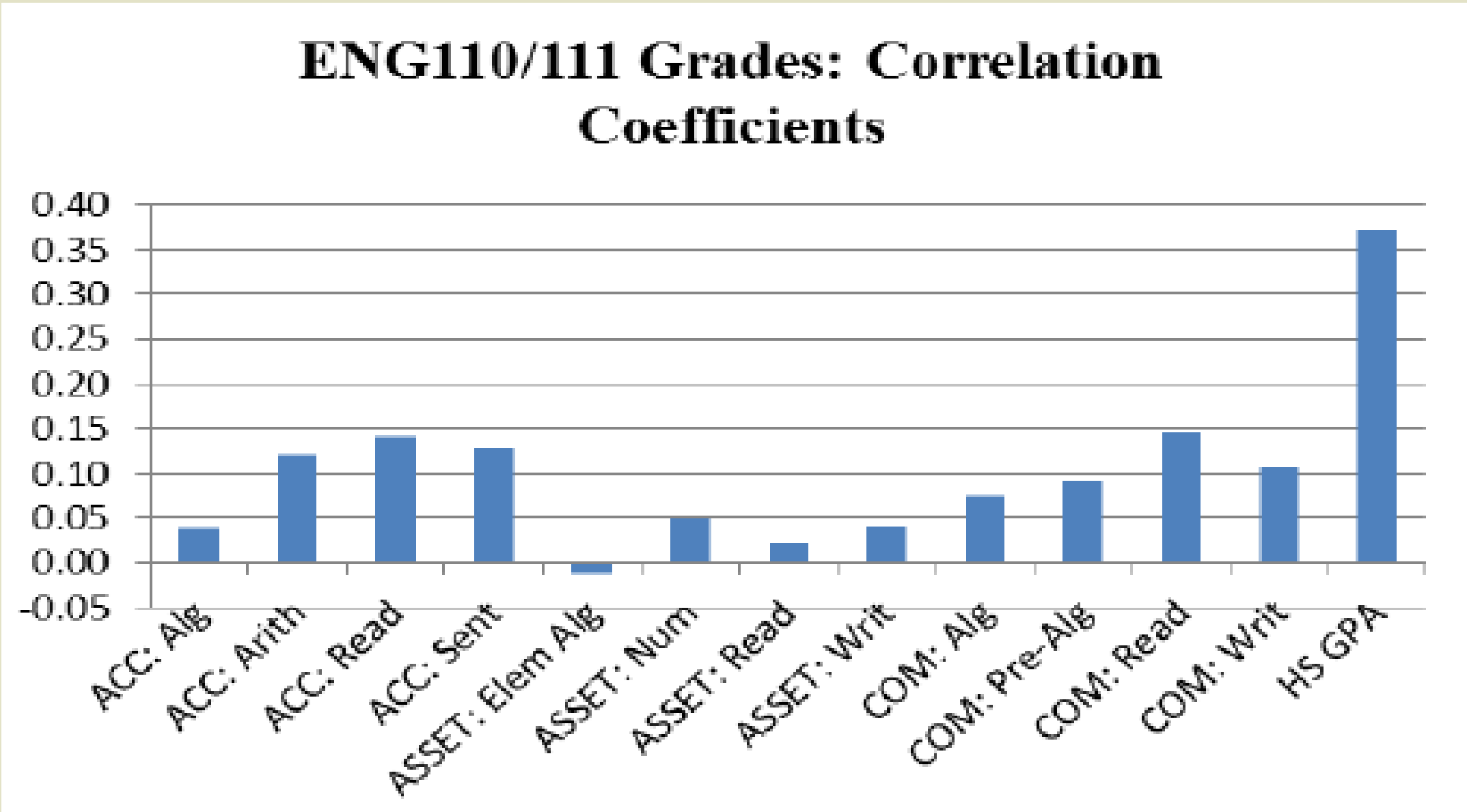
Instructors

Instructional Technology and Methods

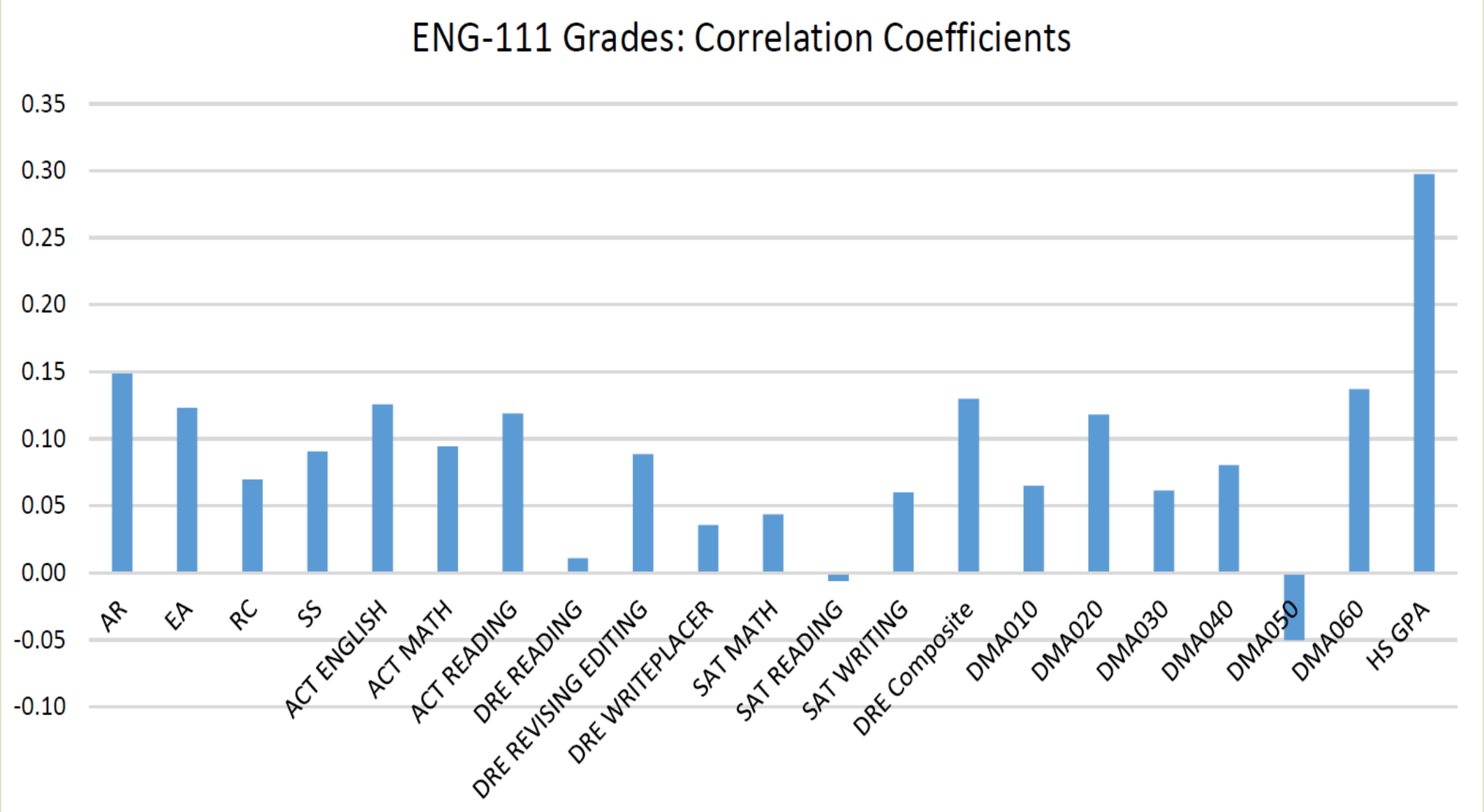
Social Engagement

Student Support Services

This chart from the CCRC study shows HSGPA is a much stronger predictor of ENG 111 grades than placement tests, for those students who placed directly into ENG 111.



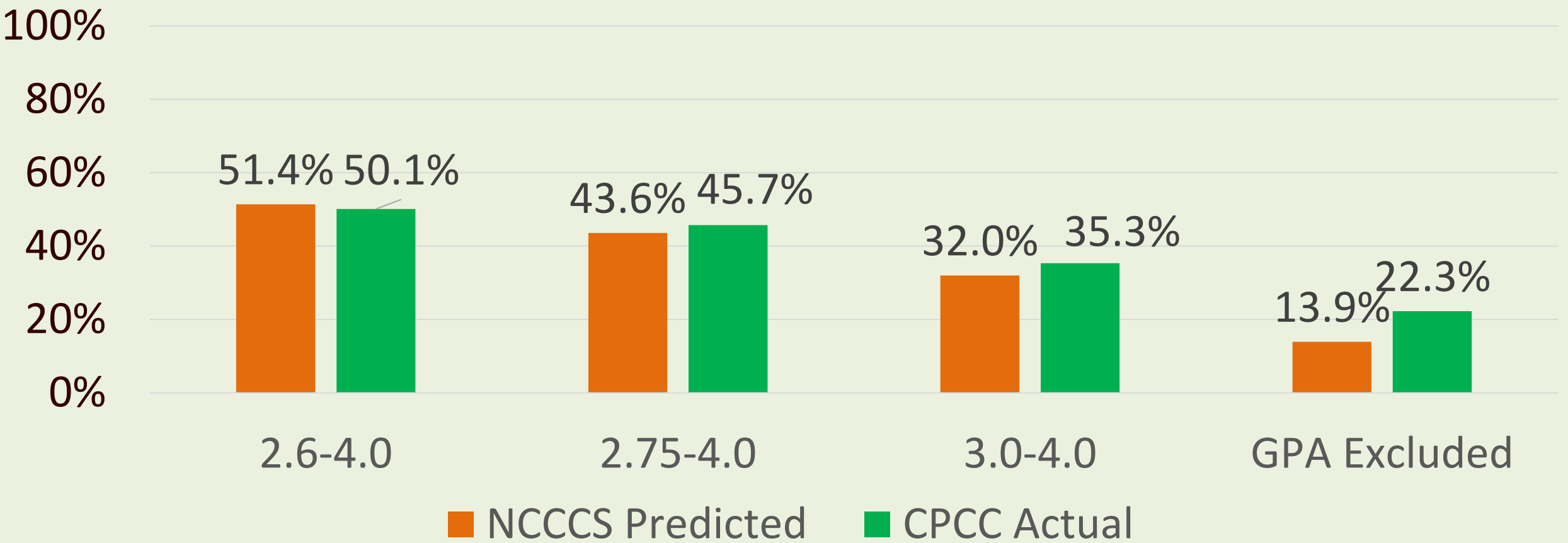
CPCC results also show HSGPA strongly predicted ENG 111 grades, even though this analysis is different, representing all students, not just those placed directly in.



2. Using high school GPA to place students will shift the ratio of new student placement from majority developmental to majority college level.

Actual CPCC results were quite close to predicted values for these First Time In College placement groups.

College Level by HSGPA, ACT/SAT, or Placement Test (First Time In College)



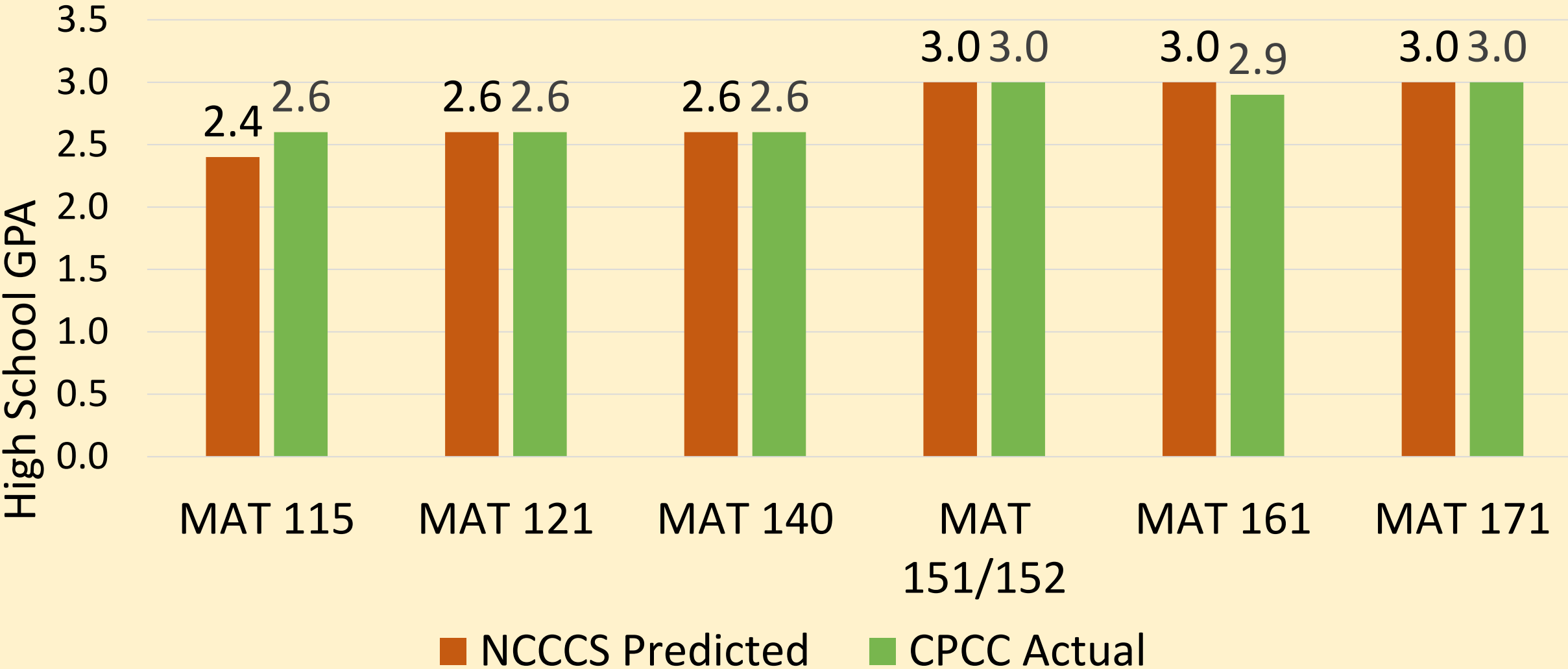
CPCC prediction: multiple measures will shift 12% of all new credit students to college level. Actual shift: 13%. These analyses include students with transfer credits.

| Prediction: New to CPCC Fall 2012 | | |
|-----------------------------------|---------------|------------|
| | Without HSGPA | With HSGPA |
| College Level | 44% | 56% |
| | | |
| Actual: New to CPCC Fall 2014 | | |
| | Without HSGPA | With HSGPA |
| College Level | 38% | 51% |

3. Students placed by their unweighted HSGPA between 2.6 and 3.0 will need extra support in certain higher level math courses.

CPCC results matched the predictions almost exactly.

HSGPA Needed to Average 2.0 in College Math



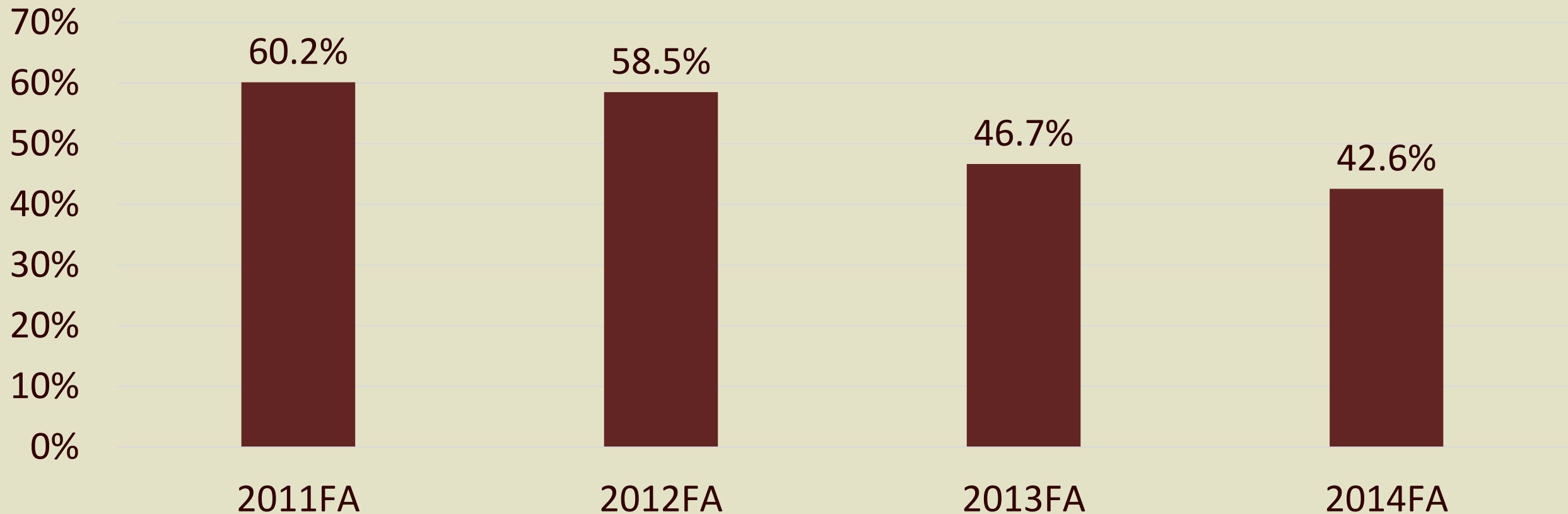
4. Using high school GPA to place students will increase the gatekeeper course completion rate, even for 2.6 to 3.0 students taking higher level math courses.

This is critical because:

Math avoidance rates are still very high, and completing gatekeeper math is associated with a doubling of credits, degrees, and transfers (Frye, 2014).

At CPCC, math avoidance has fallen due to the DMAs, but it still high. Ivy Tech, the community college in Indiana, has used co-enrollment strategies to boost the gatekeeper math completion rate from 9% to nearly 60%.

New to CPCC Students Avoiding Math During their First Term (ABL, DMA, or MAT)



And the alternative is the placement test:

For 2.6 to 3.0 HSGPA students, only 11.4% took and passed all six DMAs.

Just 35.1% passed the first five DMAs. Only 38% placed out of all DRE's.

7 multiple measures students tested into basic skills. They earned an A to C success rate of 75%. (Unsuccess = D, F, I, W).

| | | | | | | | | | | | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| ACA 111 | CIS 110 | COM 110 | COM 231 | ENG 111 | HIS 111 | HIS 112 | MAT 161 | MAT 171 | MUS 110 | PSY 150 | SOC 210 |
| C | C | B | F | B | B | C | C | F | A | C | D |
| | | C | | B | | | | | | | |
| | | D | | C | | | | | | | |

An 8th student transferred in 7 gen ed courses: ART 111, AST 111, CIS 110, ENG 111, MUS 112, SOC 210, and SPA 111.

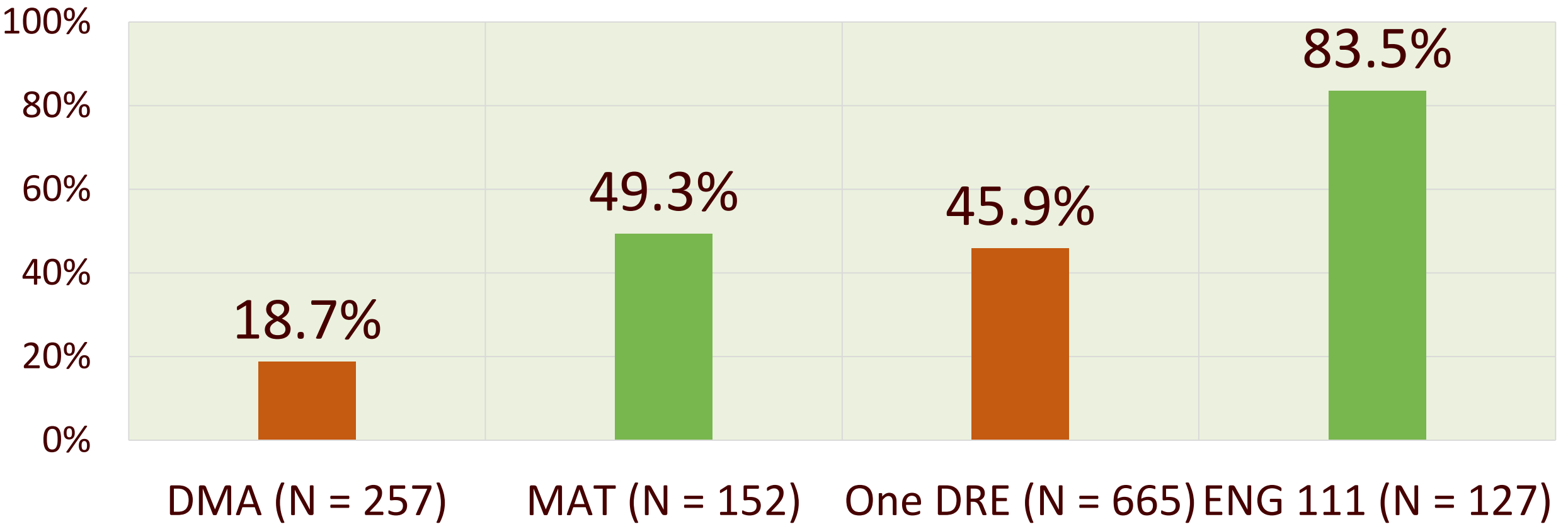
34 students tested into basic skills for math. Their gatekeeper math completion rate for that term was 47%. The four term rate for all students placed into basic skills for math is 3% (11 of 362).

Students Meeting HSGPA 2.6 Testing Into ABL-6014

| | A | B | C | D | F | W | Success % |
|---------|---|---|---|---|---|---|-----------|
| MAT 115 | | 2 | | | 1 | | 66.7% |
| MAT 121 | | 1 | | | | | 100.0% |
| MAT 140 | 1 | | | | 1 | | 50.0% |
| MAT 161 | 3 | 2 | 7 | 3 | 4 | 3 | 54.5% |
| MAT 171 | | | | 2 | 3 | 1 | 0.0% |
| All | 4 | 5 | 7 | 5 | 9 | 4 | 47.1% |

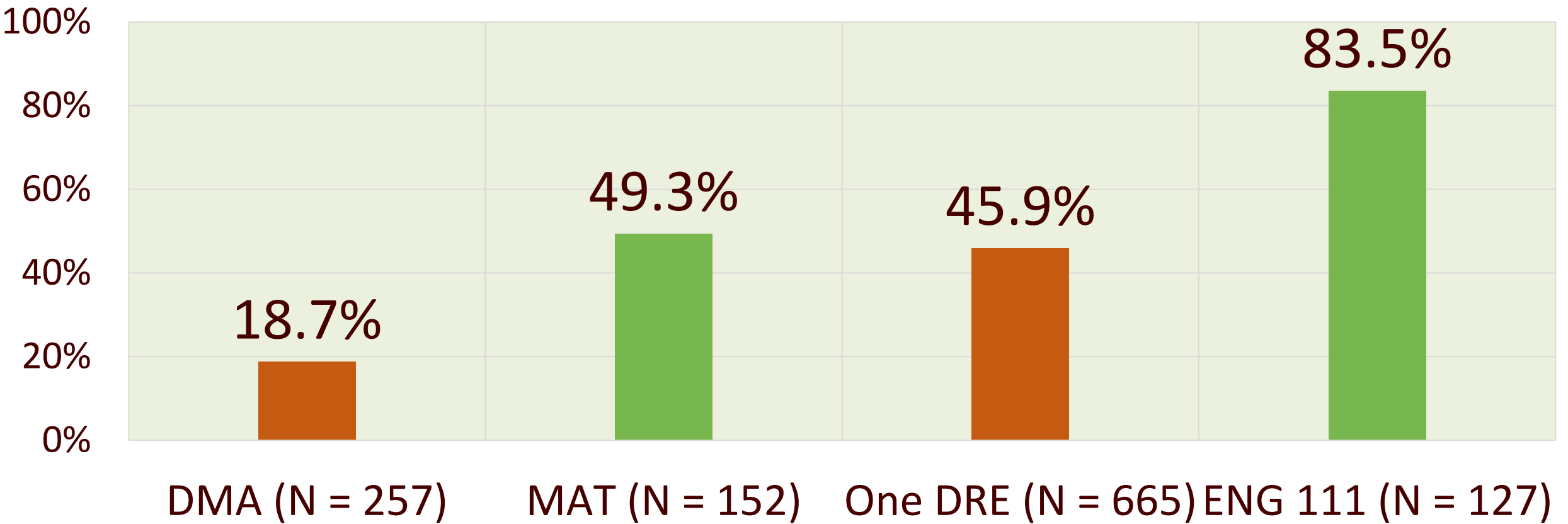
Placing 2.6 to 3.0 students directly into college level math and English raises their one year gatekeeper completion rates dramatically.

HSGPA 2.6-3.0 One-Year Gatekeeper Course Completions by Fall 2015



Should we raise the HSGPA level above 2.6? Sure, if we want to turn the tall green bars into the short orange ones.

HSGPA 2.6-3.0 One-Year Gatekeeper Course Completions by Fall 2015



Question: won't developmental success rates fall?

Everything else being equal, yes.

At CPCC, DRE success fell from 75% to 64%

DMA success fell from 72% to 65%

It begs the question, should everything else remain equal?

Developmental success rates were expected to fall, as the more skilled students were placed out by their HSGPA. The challenge is to ensure that more DMA and DRE students succeed as faculty continue to develop these new courses.

| | Fall 2013, DRE Pilot | | | Fall 2014, DRE/Multiple Measures | | |
|---------|----------------------|------------|--------------|----------------------------------|------------|--------------|
| | All | Successful | Successful % | All | Successful | Successful % |
| DRE 096 | 16 | 9 | 56.3% | 227 | 106 | 46.7% |
| DRE 097 | 57 | 33 | 57.9% | 830 | 526 | 63.4% |
| DRE 098 | 67 | 58 | 86.6% | 1676 | 1120 | 66.8% |
| All DRE | 140 | 100 | 71.4% | | | |
| ENG 080 | 624 | 445 | 71.3% | | | |
| ENG 085 | 167 | 132 | 79.0% | | | |
| ENG 090 | 1974 | 1487 | 75.3% | | | |
| ENG 095 | 264 | 162 | 61.4% | | | |
| All ENG | 3029 | 2226 | 73.5% | | | |
| All RED | 1388 | 1107 | 79.8% | | | |
| ALL | 4557 | 3433 | 75.3% | 2733 | 1752 | 64.1% |

DMA success rates have also fallen, as expected.

| | Fall 2013 | | | Fall 2014, Multiple Measures | | |
|----------|-----------|------------|-------------|------------------------------------|------------|--------------|
| | All | Successful | Successful% | All | Successful | Successful % |
| ABL 6014 | 494 | 326 | 66.0% | 216 | 121 | 56.0% |
| DMA 010 | 1346 | 1000 | 74.3% | 1720 | 1305 | 75.9% |
| DMA 020 | 827 | 551 | 66.6% | 1301 | 816 | 62.7% |
| DMA 030 | 563 | 464 | 82.4% | 913 | 642 | 70.3% |
| DMA 040 | 1104 | 741 | 67.1% | 1050 | 605 | 57.6% |
| DMA 050 | 758 | 621 | 81.9% | 764 | 560 | 73.3% |
| DMA 060 | 1250 | 888 | 71.0% | 793 | 444 | 56.0% |
| DMA 070 | 1056 | 682 | 64.6% | 633 | 289 | 45.7% |
| DMA 080 | 492 | 385 | 78.3% | 405 | 243 | 60.0% |
| All | 7890 | 5658 | 71.7% | 7795 | 5025 | 64.5% |

Placements have definitely changed after implementation of multiple measures. There is a lot to look at here. For example, the % given prerequisite overrides.

| New to CPCC Students: ENGLISH Placement | Fall 2013 | | Fall 2014 | | New to CPCC Students: MATH Placement | Fall 2013 | | Fall 2014 | |
|---|-----------|--------|-----------|--------|--------------------------------------|-----------|--------|-----------|--------|
| | ENG | % | ENG | % | | MAT | % | MAT | % |
| Transfer credits | 1565 | 26.8% | 1323 | 23.3% | Transfer credits | 1201 | 20.6% | 642 | 11.3% |
| High School GPA | 212 | 3.6% | 1115 | 19.6% | High School GPA | 210 | 3.6% | 1218 | 21.4% |
| HSGPA 3.0-4.0 | 92 | 1.6% | 525 | 9.2% | HSGPA 3.0-4.0 | 94 | 1.6% | 581 | 10.2% |
| HSGPA 2.6-3.0 | 120 | 2.1% | 590 | 10.4% | HSGPA 2.6-3.0 | 116 | 2.0% | 637 | 11.2% |
| ACT/SAT | 450 | 7.7% | 529 | 9.3% | ACT/SAT | 499 | 8.5% | 458 | 8.1% |
| Placement test ENG 111 | 1171 | 20.1% | 1098 | 19.3% | Placement test MAT 171 | 766 | 13.1% | 782 | 13.7% |
| Placement test DRE 098 | 1339 | 22.9% | 782 | 13.7% | Placement test MAT 152 | 846 | 14.5% | 373 | 6.6% |
| Placement test DRE 097 | 615 | 10.5% | 413 | 7.3% | Placement test MAT 140 | 166 | 2.8% | 174 | 3.1% |
| Placement test DRE 096 | 178 | 3.0% | 102 | 1.8% | Placement test MAT 101 | 220 | 3.8% | 147 | 2.6% |
| Placement test ABL-6015 | 55 | 0.9% | 21 | 0.4% | Placement test DMA | 1174 | 20.1% | 1504 | 26.4% |
| | | | | | Placement test ABL-6014 | 362 | 6.2% | 25 | 0.4% |
| No Placement | 255 | 4.4% | 305 | 5.4% | No Placement | 396 | 6.8% | 365 | 6.4% |
| Total | 5840 | 100.0% | 5688 | 100.0% | Total | 5840 | 100.0% | 5688 | 100.0% |
| | | | | | | | | | |
| Prerequisites Only | 365 | 6.3% | 370 | 6.5% | Prerequisites Only | 411 | 7.0% | 185 | 3.3% |
| Prerequisites | 800 | 13.7% | 1697 | 29.8% | Prerequisites | 467 | 8.0% | 997 | 17.5% |
| New to CPCC Students With ENG or MAT Prerequisites | | | | | | | | | |
| Fall 2013 | 1078 | | 18.5% | | Fall 2014 | 2309 | | 40.6% | |
| New to CPCC Students Placed ONLY by Math or ENG Prerequisites | | | | | | | | | |
| Fall 2013 | 646 | | 11.1% | | Fall 2014 | 474 | | 8.3% | |

Three notable conclusions:

Placement is not simple

In fall 2014, 3.8% had no English or math placement

Almost 41% of new students came in with English or math transfer credits

Placement categories are hierarchical, beginning with transfer credits and moving downward. Here is math.

- Transfer Credits
- HSGPA (divided into 3.0+ to 4.0 and 2.6 to 3.0)
- ACT/SAT
- NCDAP MAT 171 placement = DMA 010-060.
- NCDAP MAT 152 = DMA 010-050.
- NCDAP MAT 140 = DMA 010-040.
- NCDAP MAT 101 = DMA 010-030.
- NCDAP DMA = missing DMA 010, 020, or 030.
- NCDAP ABL = scoring 1 on DMA 010 and not placing out of any other math.
- No placement = no math placement data.

Placement categories are hierarchical, beginning with transfer credits and moving downward. Here is English.

- Transfer Credits
- HSGPA (divided into 3.0+ to 4.0 and 2.6 to 3.0)
- ACT/SAT
- NCDAP ENG 111 (includes ACCUPLACER, COMPASS, etc.)
- NCDAP DRE 098
- NCDAP DRE 097
- NCDAP DRE 096
- NCDAP ABL = scoring < 104 on NCDAP and not placing out of any other English or reading.
- No placement = no English placement data.

A to C success rates vary by placement. Red indicates populations under 30 or fall 2013 HSGPA students who were placed by other methods before the policy.

| First ENG 111 Success by English Placement | Fall 2013 Percentage | N | Fall 2014 Percentage | N |
|---|-------------------------|------|-------------------------|------|
| Transfer credits | 73.0% | 241 | 74.0% | 208 |
| HSGPA | 91.8% | 49 | 84.4% | 860 |
| HSGPA 3.01-4.00 | 95.2% | 21 | 88.8% | 403 |
| HSGPA 2.60-3.00 | 89.3% | 28 | 80.5% | 457 |
| ACT or SAT | 82.8% | 314 | 77.4% | 230 |
| NCDAP 111 Placement | 76.0% | 807 | 69.8% | 640 |
| NCDAP DRE 098 Placement | 71.4% | 7 | 83.5% | 194 |
| NCDAP DRE 097 Placement | NA | 0 | 0.0% | 1 |
| NCDAP DRE 0976 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 77.6% | 1418 | 78.2% | 2133 |
| All Others | 72.6% | 1433 | 72.9% | 1397 |
| All | 75.1% | 2851 | 76.1% | 3530 |

HSGPA students did very well, contrary to faculty perception. Success dropped for students placed directly in ENG 111 by placement test. New beat returning.

| First ENG 111 Success by English Placement | Fall 2013 Percentage | N | Fall 2014 Percentage | N |
|---|-------------------------|------|-------------------------|------|
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| NCDAP DRE 098 Placement | 71.4% | 7 | 83.5% | 194 |
| NCDAP DRE 097 Placement | NA | 0 | 0.0% | 1 |
| NCDAP DRE 0976 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 77.6% | 1418 | 78.2% | 2133 |
| All Others | 72.6% | 1433 | 72.9% | 1397 |
| All | 75.1% | 2851 | 76.1% | 2530 |

One explanation for the drop: students placed by the placement test did not receive a waiver for HSGPA, so have lesser student skills, though they have good content knowledge.

| | | Student Skills | |
|-------------------|------|---|--|
| | | Low | High |
| Content Knowledge | Low | Developmental, need content and student development | Developmental, may need content development |
| | High | College level, may need student development | College level, may not need content or student development |

The upper right gray box represent students this new policy will shift to college level. Those in the lower right are still placed at college level due to content knowledge, but lack broader student skills.

| | | Student Skills | |
|-------------------|------|---|--|
| | | Low | High |
| Content Knowledge | Low | Developmental, need content and student development | Developmental, may need content development |
| | High | College level, may need student development | College level, may not need content or student development |

MAT 115 fits the expected patterns in terms of success by placement category for a lower level college math course. The only surprise, albeit with only 13 students, is the placement into MAT 115, which is the MAT 152 category.

| First MAT 115 Course Success | Fall 2013 | | Fall 2014 | |
|------------------------------|------------|-----|------------|-----|
| by Math Placement | Percentage | N | Percentage | N |
| Transfer credits | 50.0% | 6 | NA | 0 |
| HSGPA | 66.7% | 3 | 85.7% | 42 |
| HSGPA 3.01-4.00 | NA | 0 | 90.9% | 22 |
| HSGPA 2.60-3.00 | 66.7% | 3 | 80.0% | 20 |
| ACT or SAT | 85.7% | 7 | 0.0% | 1 |
| NCDAP 171 Placement | 75.0% | 20 | 76.2% | 21 |
| NCDAP 152 Placement | 58.6% | 29 | 46.2% | 13 |
| NCDAP 140 Placement | 100.0% | 1 | NA | 0 |
| NCDAP 101 Placement | 100.0% | 1 | NA | 0 |
| NCDAP DMA Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 67.2% | 67 | 75.3% | 77 |
| All Others | 78.3% | 203 | 70.1% | 201 |
| All | 75.6% | 270 | 71.6% | 278 |

Populations for MAT 121 placement categories are too small to draw any conclusions.

| First MAT 121 Course Success | Fall 2013 | | Fall 2014 | |
|------------------------------|------------|-----|------------|----|
| by Math Placement | Percentage | N | Percentage | N |
| Transfer credits | 100.0% | 3 | NA | 0 |
| HSGPA | NA | 0 | 77.8% | 9 |
| HSGPA 3.01-4.00 | NA | 0 | 100.0% | 6 |
| HSGPA 2.60-3.00 | NA | 0 | 33.3% | 3 |
| ACT or SAT | 75.0% | 8 | 50.0% | 2 |
| NCDAP 171 Placement | 42.9% | 7 | 64.3% | 14 |
| NCDAP 152 Placement | 55.6% | 9 | 100.0% | 1 |
| NCDAP 140 Placement | NA | 0 | NA | 0 |
| NCDAP 101 Placement | NA | 0 | NA | 0 |
| NCDAP DMA Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | 100.0% | 0 |
| All Placements | 63.0% | 27 | 69.2% | 26 |
| All Others | 71.6% | 88 | 83.3% | 42 |
| All | 69.6% | 115 | 77.9% | 68 |

MAT 140 placement indicates placing out of DMA 010-040. Again, these numbers are too small to draw any conclusions, except that again, HSGPA students did fine. DMA placement means placing into DMA 010, 020, or 030.

| First MAT 140 Success | Fall 2013 | | Fall 2014 | |
|-----------------------|------------|-----|------------|-----|
| by Math Placement | Percentage | N | Percentage | N |
| Transfer credits | 58.3% | 12 | 80.0% | 5 |
| HSGPA | 100.0% | 4 | 78.8% | 33 |
| HSGPA 3.01-4.00 | 100.0% | 3 | 92.9% | 14 |
| HSGPA 2.60-3.00 | 100.0% | 1 | 68.4% | 19 |
| ACT or SAT | 81.3% | 16 | 71.4% | 7 |
| NCDAP 171 Placement | 73.3% | 15 | 28.6% | 14 |
| NCDAP 152 Placement | 59.4% | 32 | 77.8% | 9 |
| NCDAP 140 Placement | 75.0% | 8 | 40.0% | 5 |
| NCDAP 101 Placement | 100.0% | 1 | NA | 0 |
| NCDAP DMA Placement | 100.0% | 2 | 50.0% | 2 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 70.0% | 90 | 65.3% | 75 |
| All Others | 61.6% | 417 | 71.2% | 368 |
| All | 63.1% | 507 | 70.2% | 443 |

MAT 152 has lower success rates than MAT 155 did, and several categories of students may need more support: students placed by HSGPA 2.6 to 3.0, ACT/SAT, or NCDAP. Students who were not new to college or CPCC did much better.

| First MAT 152 Success | Fall 2014 | MAT 155 | Fall 2014 | MAT 152 |
|-----------------------|------------|---------|------------|---------|
| by Math Placement | Percentage | N | Percentage | N |
| Transfer credits | 72.4% | 29 | 73.3% | 30 |
| HSGPA | 100.0% | 1 | 58.9% | 151 |
| HSGPA 3.01-4.00 | NA | 0 | 77.6% | 67 |
| HSGPA 2.60-3.00 | 100.0% | 1 | 44.0% | 84 |
| ACT or SAT | 75.0% | 4 | 52.0% | 25 |
| NCDAP 171 Placement | 100.0% | 4 | 50.0% | 34 |
| NCDAP 152 Placement | 66.7% | 3 | 56.3% | 16 |
| NCDAP 140 Placement | 100.0% | 1 | NA | 0 |
| NCDAP 101 Placement | NA | 0 | NA | 0 |
| NCDAP DMA Placement | NA | 0 | 100.0% | 1 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 78.6% | 42 | 58.8% | 257 |
| All Others | 67.0% | 388 | 70.9% | 412 |
| All | 68.1% | 430 | 66.2% | 669 |

For MAT 161, success rates went up overall, but the most successful students were those placed by ACT/SAT or HSGPA 3.0 to 4.0. Students in other categories did not do well, and may benefit from additional support.

| First MAT 161 Success | Fall 2013 | | Fall 2014 | |
|-----------------------|------------|------|------------|-----|
| by Math Placement | Percentage | N | Percentage | N |
| Transfer credits | 61.7% | 167 | 58.3% | 36 |
| HSGPA | 91.7% | 12 | 62.8% | 188 |
| HSGPA 3.01-4.00 | 100.0% | 10 | 72.6% | 95 |
| HSGPA 2.60-3.00 | 50.0% | 2 | 52.7% | 93 |
| ACT or SAT | 64.1% | 153 | 78.6% | 14 |
| NCDAP 171 Placement | 65.0% | 117 | 55.9% | 68 |
| NCDAP 152 Placement | 100.0% | 1 | NA | 0 |
| NCDAP 140 Placement | NA | 0 | NA | 0 |
| NCDAP 101 Placement | NA | 0 | NA | 0 |
| NCDAP DMA Placement | 0.0% | 1 | 33.3% | 3 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 63.9% | 451 | 61.2% | 309 |
| All Others | 55.1% | 746 | 60.6% | 663 |
| All | 58.4% | 1197 | 60.8% | 972 |

MAT 171 is the hardest entry level math course. Students in most placement categories probably need extra support.

| First MAT 171 Success | Fall 2013 | | Fall 2014 | |
|-----------------------|------------|-----|------------|-----|
| by Math Placement | Percentage | N | Percentage | N |
| Transfer credits | 65.9% | 135 | 67.0% | 88 |
| HSGPA | 77.8% | 9 | 60.9% | 289 |
| HSGPA 3.01-4.00 | 100.0% | 3 | 74.8% | 139 |
| HSGPA 2.60-3.00 | 66.7% | 6 | 48.0% | 150 |
| ACT or SAT | 67.9% | 78 | 57.8% | 64 |
| NCDAP 171 Placement | 63.5% | 52 | 56.3% | 126 |
| NCDAP 152 Placement | 83.3% | 0 | NA | 0 |
| NCDAP 140 Placement | 50.0% | 0 | NA | 0 |
| NCDAP 101 Placement | 0.0% | 0 | NA | 0 |
| NCDAP DMA Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 66.4% | 274 | 60.4% | 567 |
| All Others | 54.2% | 373 | 57.2% | 388 |
| All | 59.4% | 647 | 59.1% | 955 |

Question: will multiple measures fail at some college due to easy grading in local schools districts?

Will the 2.6 HSGPA level need to be adjusted due to NC DPI's move to a 10 point grading scale?

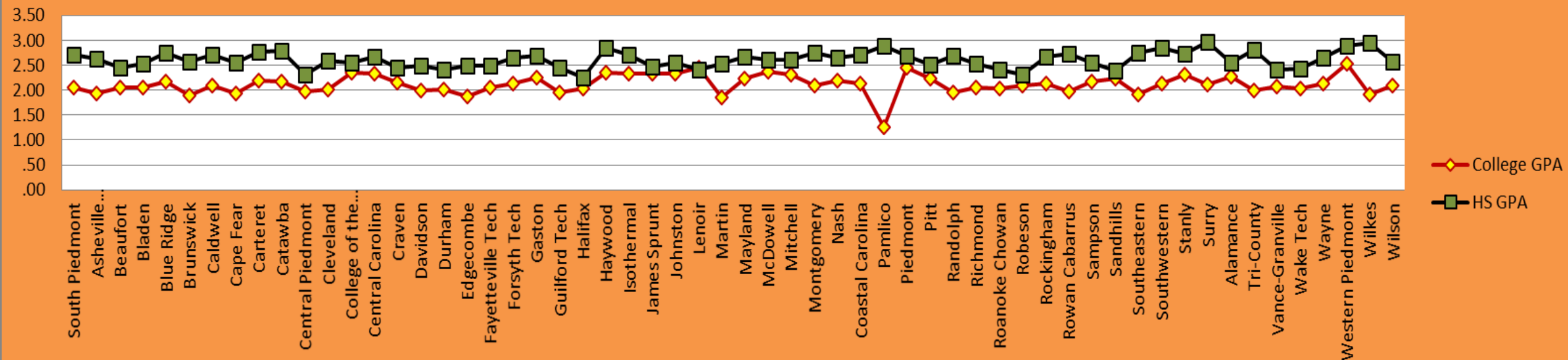
Some colleges have expressed a concern that the predictive power of the HSGPA may be negatively affected by grading practices in local high schools or school districts, especially grade inflation.

What could this mean for CPCC, whose entering local high school students have significantly *lower* HSGPA's than the mean for NCCCS colleges?

| | Mean | Median |
|---------------------------------------|------|--------|
| Charlotte Mecklenburg to CPCC | 2.29 | 2.28 |
| NC High Schools to Community Colleges | 2.57 | 2.56 |

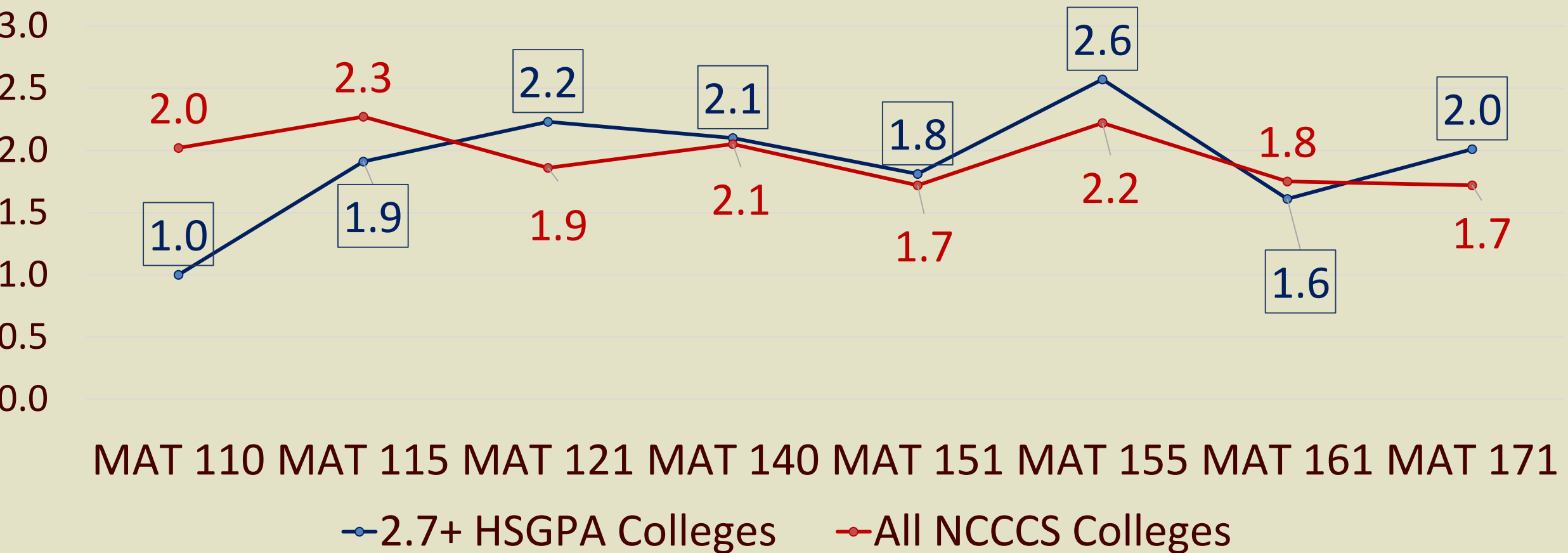
For the most part, college grades stay parallel with feeder high school grades. With a few exceptions, grades in our colleges follow grades in high school.

Relationship of High School GPA by School District to College GPA



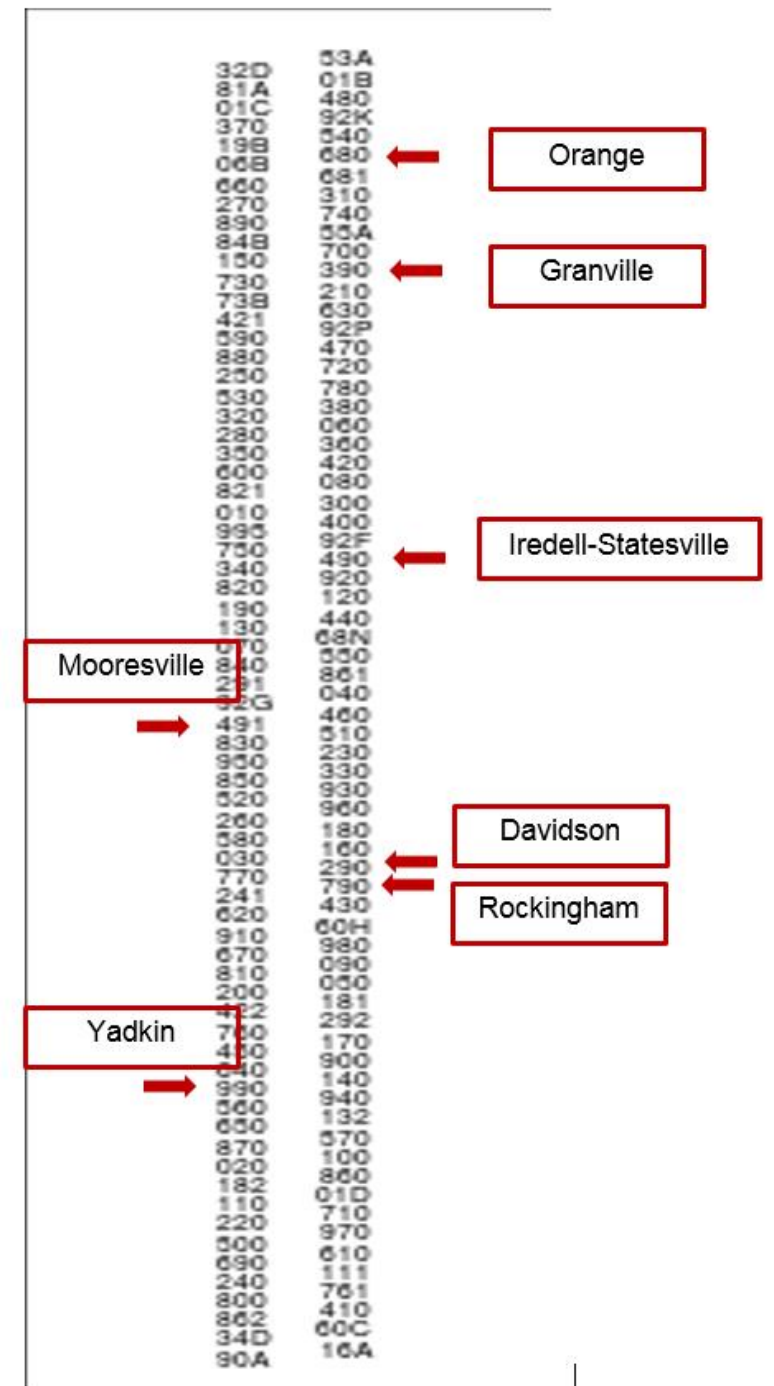
In spite of any grade inflation, there isn't much difference in math grades.

College Math GPA's for 19 Colleges with the Highest Feeder School District GPAs (2.7+)

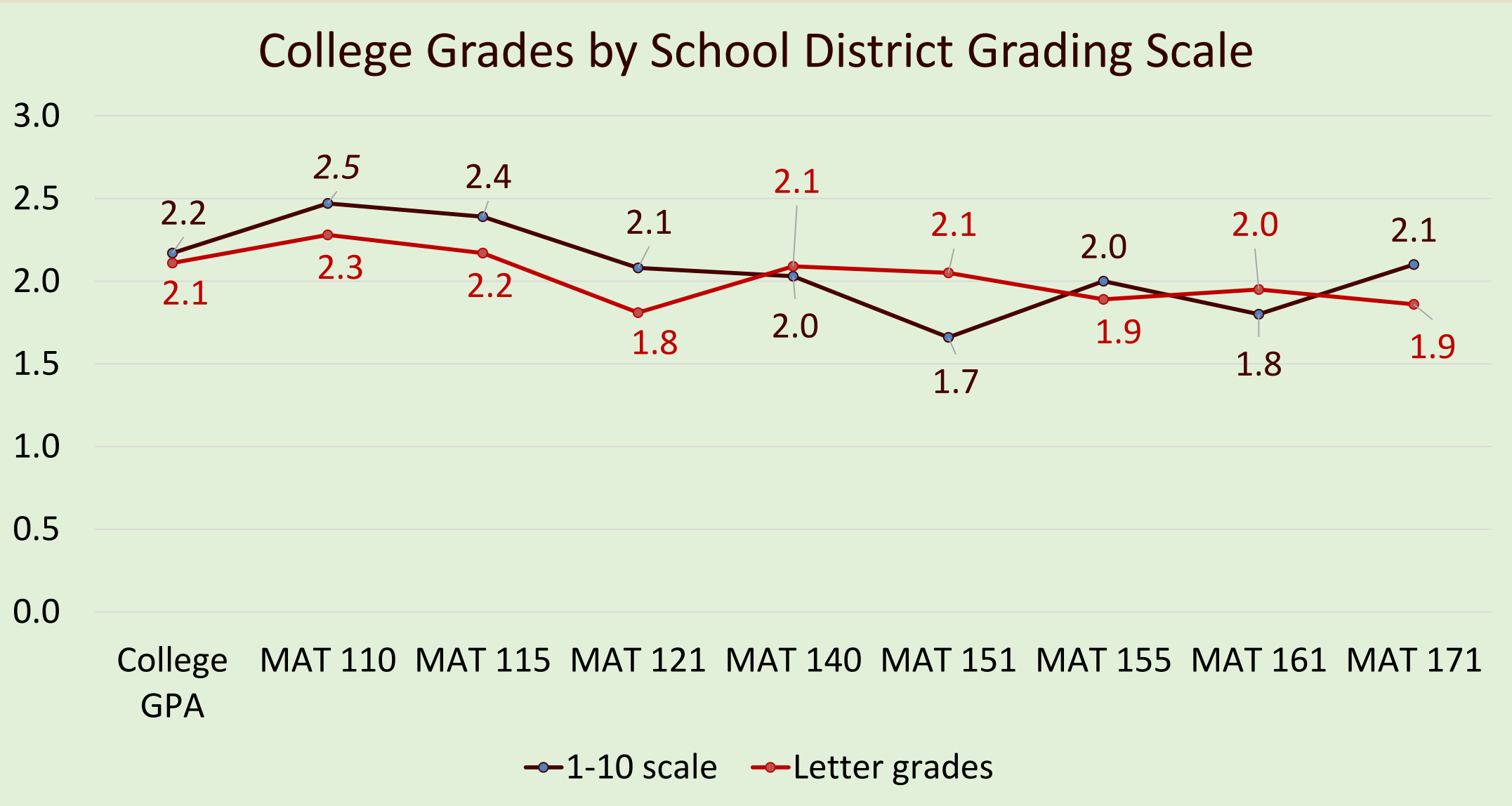


Will the 2.6 HSGPA level need to be adjusted due to DPI's shift to a 10 point grading scale?

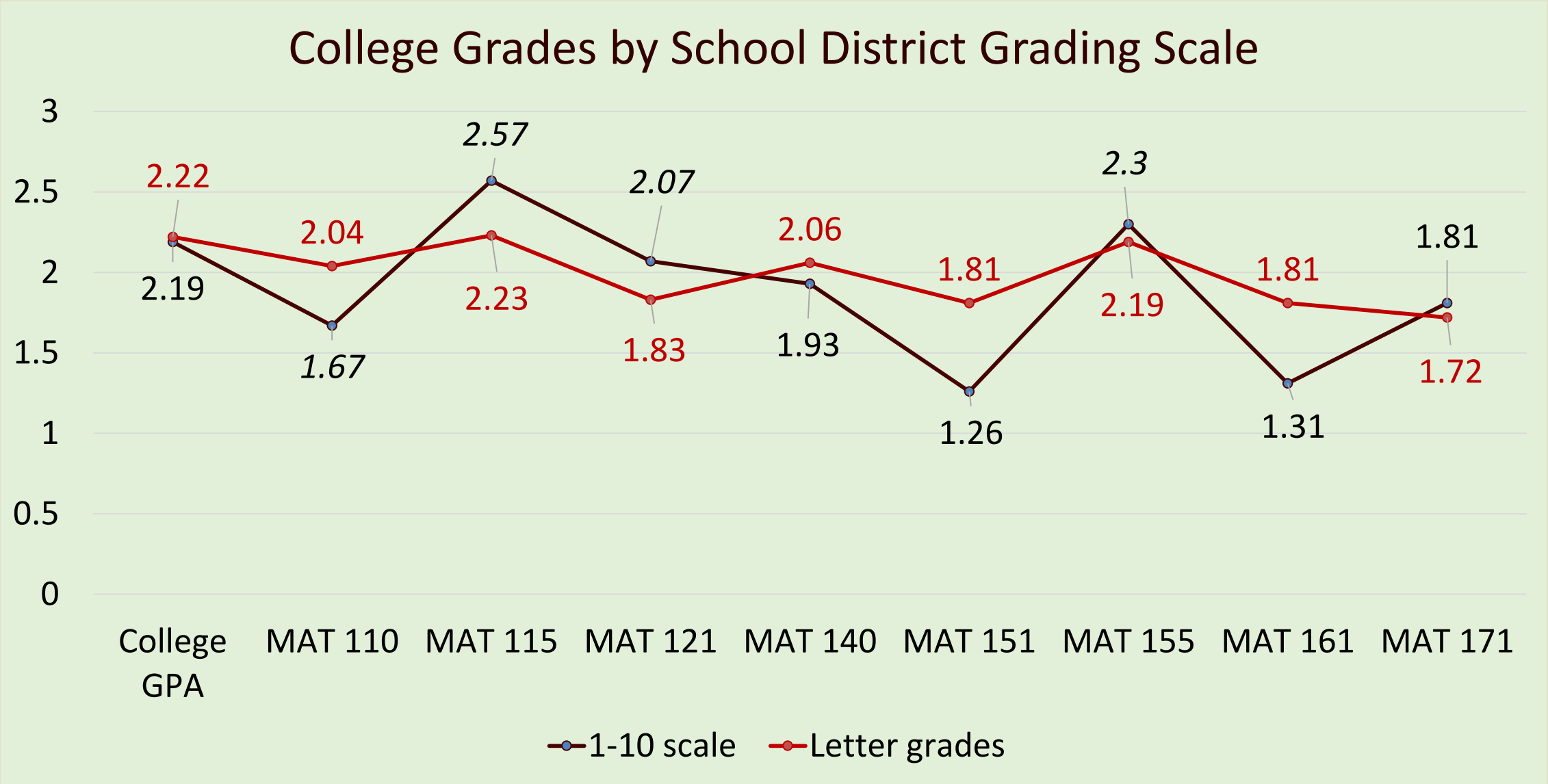
The list at right shows from top to bottom, the highest to lowest correlation of NC HSGPA to NCCCS college GPA. The marked school districts reported grades using a different grading scale (1 to 10). On a 100 point scale, they “were issuing grades that were 4.5 to 5 points lower than other districts” in all subjects (Rauschenburg, 2014), yet they ran the gamut in terms of predictive power of their GPA.



The community college math grades for these 7 school districts don't look much different from the average.



College GPA and math grades of 2.6 to 3.0 HSGPA students from these 7 school districts also don't look much different.



The consensus from the field is that most likely, students, teachers, and university admissions departments will all adjust quickly, and grade will normalize. In Virginia, they found that 67% of university admissions departments already adjusted based on local transcript factors. Many admissions directors felt that the shift to a 10 point scale wouldn't make any appreciable difference.

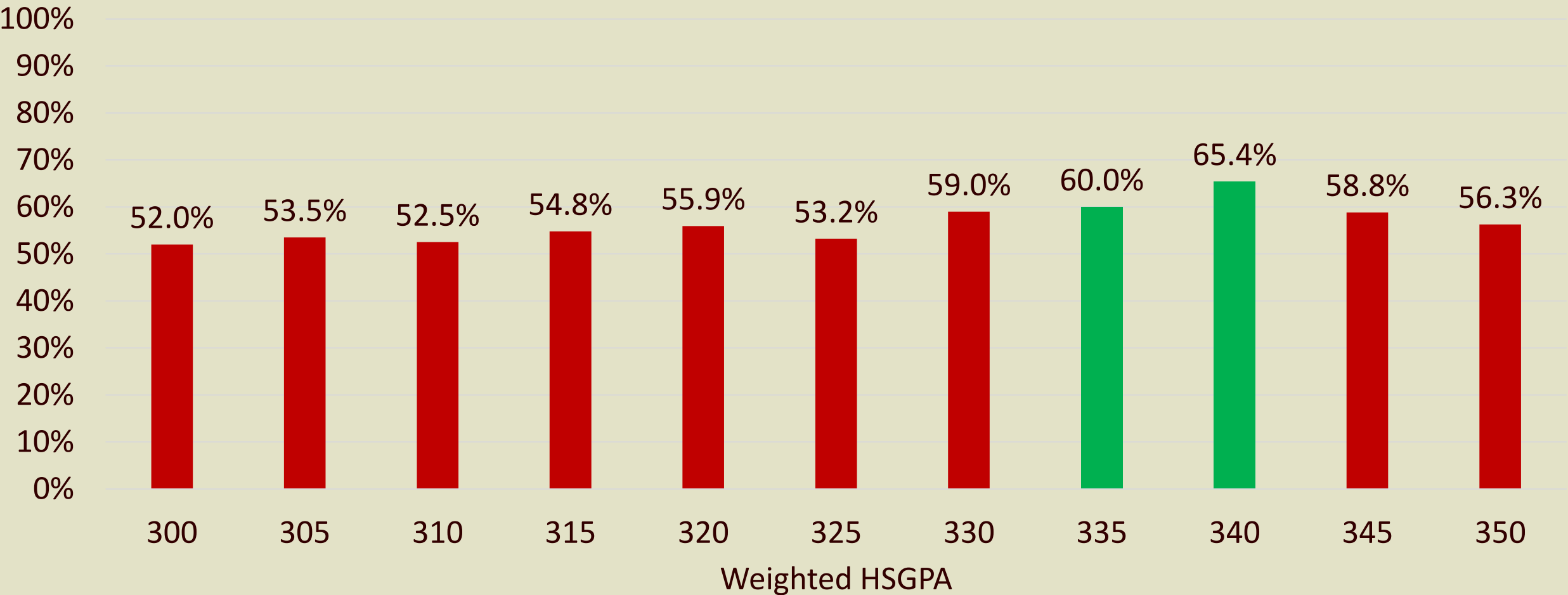
Best answer: the move to a 10 point scale will probably not make a significant difference.

As a 2012 study concluded, “The type of grading scale used did not affect the mean cumulative GPA” (Barnes & Buring).

Question: is there additional high school transcript data that could help sort the 2.6 to 3.0 students into those who probably need MAT 001 and those who may not?

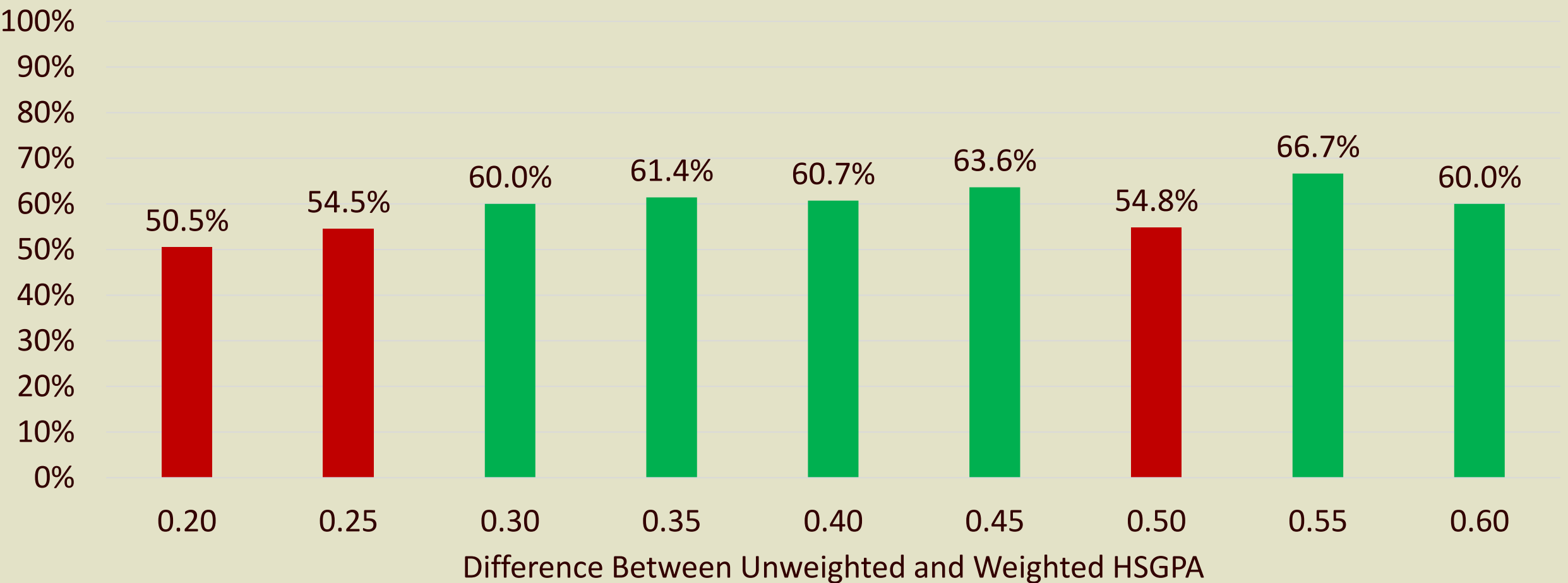
We assume that all students falling into the HSGPA 2.6 to 3.0 category will need more help (MAT 001). Maybe we can look at additional transcript data, such as weighted HSGPA, to see which students need the help and which do not.

2.6 to 3.0 HSGPA Student MAT 171 Success



The difference between weighted and unweighted HSGPA is more helpful in discriminating between students who do or do not need additional help to succeed in MAT 171.

2.6 to 3.0 HSGPA Student MAT 171 Success



In PSY 150, students in all placement categories except NCDAP ENG 111 succeeded at a good rate. Results for that category may be due to the shift of stronger students into college level placement by waiver.

| First PSY 150 Course Success | Fall 2013 | PSY 150 | Fall 2014 | PSY 150 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 71.1% | 159 | 70.3% | 158 |
| HSGPA | 100.0% | 14 | 79.3% | 242 |
| HSGPA 3.01-4.00 | 100.0% | 8 | 84.0% | 119 |
| HSGPA 2.60-3.00 | 100.0% | 6 | 74.8% | 123 |
| ACT or SAT | 80.6% | 93 | 80.4% | 92 |
| NCDAP 111 Placement | 77.4% | 217 | 60.3% | 209 |
| NCDAP DRE 098 Placement | 0.0% | 1 | 0.0% | 1 |
| NCDAP DRE 097 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 096 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | 0.0% | 0 |
| All Placements | 71.7% | 484 | 71.7% | 702 |
| All Others | 72.4% | 732 | 73.4% | 854 |
| All | 72.6% | 1216 | 72.6% | 1556 |

In SOC 210, students in all placement categories succeeded at a good rate.

| First SOC 210 Course Success | Fall 2013 | SOC 210 | Fall 2014 | SOC 210 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 72.3% | 101 | 72.6% | 117 |
| HSGPA | 88.9% | 9 | 77.0% | 126 |
| HSGPA 3.01-4.00 | 75.0% | 4 | 87.9% | 58 |
| HSGPA 2.60-3.00 | 100.0% | 5 | 67.6% | 68 |
| ACT or SAT | 84.8% | 46 | 86.5% | 96 |
| NCDAP 111 Placement | 85.0% | 107 | 68.0% | 103 |
| NCDAP DRE 098 Placement | 0.0% | 1 | 100.0% | 1 |
| NCDAP DRE 097 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 096 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 79.9% | 264 | 75.8% | 443 |
| All Others | 76.3% | 465 | 78.8% | 689 |
| All | 77.6% | 729 | 77.7% | 1132 |

In HIS 111, students in all placement categories except NCDAP ENG 111 succeeded at a good rate. We can't blame the move to the NCDAP test, since math courses experienced the same drop, and had already been using NCDAP.

| First HIS 111 Course Success | Fall 2013 | HIS 111 | Fall 2014 | HIS 111 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 68.4% | 57 | 78.4% | 51 |
| HSGPA | 100.0% | 5 | 81.6% | 125 |
| HSGPA 3.01-4.00 | 100.0% | 3 | 88.4% | 69 |
| HSGPA 2.60-3.00 | 100.0% | 2 | 73.2% | 56 |
| ACT or SAT | 93.0% | 43 | 80.7% | 57 |
| NCDAP 111 Placement | 69.8% | 86 | 58.7% | 92 |
| NCDAP DRE 098 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 097 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 096 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 75.4% | 191 | 74.5% | 325 |
| All Others | 79.2% | 370 | 73.3% | 469 |
| All | 77.9% | 561 | 73.8% | 794 |

In HIS 131, students in all placement categories except NCDAP ENG 111 and DRE 098 placement succeeded at a good rate.

| First HIS 131 Course Success | Fall 2013 | HIS 111 | Fall 2014 | HIS 111 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 75.5% | 53 | 71.2% | 59 |
| HSGPA | 87.5% | 8 | 82.3% | 79 |
| HSGPA 3.01-4.00 | 100.0% | 6 | 88.1% | 42 |
| HSGPA 2.60-3.00 | 50.0% | 2 | 75.7% | 37 |
| ACT or SAT | 76.9% | 26 | 76.7% | 30 |
| NCDAP 111 Placement | 85.4% | 48 | 61.4% | 44 |
| NCDAP DRE 098 Placement | NA | 0 | 50.0% | 2 |
| NCDAP DRE 097 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 096 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 117.0% | 135 | 73.8% | 214 |
| All Others | 87.0% | 322 | 74.5% | 376 |
| All | 95.8% | 457 | 74.2% | 590 |

For COM 110, students placed by transfer credits had the lowest, albeit still a good success rate.

| First COM 110 Course Success | Fall 2013 | COM 110 | Fall 2014 | COM 110 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 78.4% | 153 | 66.0% | 97 |
| HSGPA | 94.1% | 17 | 78.4% | 125 |
| HSGPA 3.01-4.00 | 100.0% | 7 | 90.0% | 50 |
| HSGPA 2.60-3.00 | 90.0% | 10 | 70.7% | 75 |
| ACT or SAT | 75.8% | 95 | 76.9% | 26 |
| NCDAP 111 Placement | 73.8% | 195 | 72.3% | 94 |
| NCDAP DRE 098 Placement | 100.0% | 2 | 0.0% | 1 |
| NCDAP DRE 097 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 096 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 76.6% | 462 | 71.7% | 343 |
| All Others | 72.8% | 716 | 72.5% | 720 |
| All | 74.3% | 1178 | 72.6% | 1063 |

In COM 231, students in all placement categories except NCDAP ENG 111 placement succeeded at a good rate.

| First COM 231 Course Success | Fall 2013 | COM 231 | Fall 2014 | COM 231 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 62.7% | 169 | 66.5% | 158 |
| HSGPA | 70.0% | 10 | 70.5% | 237 |
| HSGPA 3.01-4.00 | 83.3% | 6 | 80.7% | 114 |
| HSGPA 2.60-3.00 | 50.0% | 4 | 61.0% | 123 |
| ACT or SAT | 83.0% | 53 | 72.2% | 72 |
| NCDAP 111 Placement | 64.5% | 214 | 58.3% | 192 |
| NCDAP DRE 098 Placement | 0.0% | 1 | 0.0% | 1 |
| NCDAP DRE 097 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 096 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | 0.0% | 1 | NA | 0 |
| All Placements | 65.8% | 448 | 66.1% | 660 |
| All Others | 61.8% | 380 | 66.4% | 417 |
| All | 64.0% | 828 | 66.2% | 1077 |

MUS 110 at CPCC, like many humanities and fine arts courses, lacks prerequisites. Based on this data, a prerequisite of DRE 098 may be warranted.

| First MUS 110 Course Success | Fall 2013 | MUS 110 | Fall 2014 | MUS 110 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 73.8% | 42 | 62.5% | 80 |
| HSGPA | 92.0% | 25 | 82.5% | 114 |
| HSGPA 3.01-4.00 | 90.0% | 10 | 89.1% | 55 |
| HSGPA 2.60-3.00 | 93.3% | 15 | 76.3% | 59 |
| ACT or SAT | 72.0% | 25 | 79.5% | 44 |
| NCDAP 111 Placement | 63.6% | 55 | 65.2% | 92 |
| NCDAP DRE 098 Placement | 59.3% | 177 | 53.1% | 130 |
| NCDAP DRE 097 Placement | 48.1% | 52 | 51.6% | 62 |
| NCDAP DRE 096 Placement | 53.3% | 15 | 40.0% | 10 |
| NCDAP ABL Placement | 100.0% | 2 | NA | 0 |
| No Placement | 50.0% | 2 | 14.3% | 7 |
| All Placements | 62.8% | 395 | 64.0% | 539 |
| All Others | 69.9% | 326 | 68.0% | 425 |
| All | 66.0% | 721 | 65.8% | 964 |

ART 111 may also need a prerequisite of DRE 098. On the other hand, is it better to add prerequisites and confine students to developmental classes? Or find a way to develop students while in their first year classes?

| First ART 111 Course Success | Fall 2013 | ART 111 | Fall 2014 | ART 111 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 57.7% | 26 | 73.8% | 42 |
| HSGPA | 84.6% | 13 | 82.6% | 92 |
| HSGPA 3.01-4.00 | 100.0% | 5 | 90.7% | 43 |
| HSGPA 2.60-3.00 | 75.0% | 8 | 75.5% | 49 |
| ACT or SAT | 100.0% | 11 | 81.3% | 32 |
| NCDAP 111 Placement | 76.7% | 30 | 66.0% | 47 |
| NCDAP DRE 098 Placement | 62.7% | 59 | 66.2% | 71 |
| NCDAP DRE 097 Placement | 35.7% | 14 | 34.4% | 32 |
| NCDAP DRE 096 Placement | 25.0% | 4 | 12.5% | 8 |
| NCDAP ABL Placement | 50.0% | 2 | 0.0% | 1 |
| No Placement | 0.0% | 1 | 60.0% | 5 |
| All Placements | 65.0% | 160 | 68.5% | 330 |
| All Others | 81.8% | 176 | 71.7% | 223 |
| All | 73.8% | 336 | 69.8% | 553 |

DRA 111 is similar to ART 111 and MUS 110.

| First DRA 111 Course Success | Fall 2013 | DRA 111 | Fall 2014 | DRA 111 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 64.1% | 39 | 75.0% | 28 |
| HSGPA | 100.0% | 6 | 76.0% | 50 |
| HSGPA 3.01-4.00 | 100.0% | 3 | 70.8% | 24 |
| HSGPA 2.60-3.00 | 100.0% | 3 | 80.8% | 26 |
| ACT or SAT | 70.0% | 20 | 90.0% | 10 |
| NCDAP 111 Placement | 82.9% | 35 | 63.3% | 49 |
| NCDAP DRE 098 Placement | 55.2% | 96 | 50.0% | 58 |
| NCDAP DRE 097 Placement | 57.1% | 28 | 57.7% | 26 |
| NCDAP DRE 096 Placement | 66.7% | 3 | 50.0% | 2 |
| NCDAP ABL Placement | NA | 0 | 0.0% | 1 |
| No Placement | 33.3% | 3 | 33.3% | 6 |
| All Placements | 63.5% | 230 | 63.5% | 230 |
| All Others | 79.4% | 126 | 79.2% | 144 |
| All | 69.1% | 356 | 69.5% | 374 |

If prerequisites are added to every course, what will developmental students take? ACA is one answer, though ACA 122 has a bit lower success rates for these students than does ACA 111 or ACA 118.

| First ACA Course Success | Fall 2013 | ACA 111 | Fall 2013 | ACA 118 | Fall 2014 | ACA 122 |
|--------------------------|------------|---------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N | Percentage | N |
| Transfer credits | 74.2% | 31 | 68.8% | 16 | 68.8% | 80 |
| HSGPA | 89.2% | 37 | 88.2% | 17 | 83.5% | 242 |
| HSGPA 3.01-4.00 | 91.7% | 12 | 88.9% | 9 | 90.2% | 112 |
| HSGPA 2.60-3.00 | 88.0% | 25 | 87.5% | 8 | 77.7% | 130 |
| ACT or SAT | 77.8% | 27 | 63.6% | 11 | 75.4% | 57 |
| NCDAP 111 Placement | 86.0% | 43 | 80.0% | 30 | 63.2% | 174 |
| NCDAP DRE 098 Placement | 79.3% | 271 | 69.0% | 184 | 59.7% | 124 |
| NCDAP DRE 097 Placement | 75.5% | 143 | 71.3% | 87 | 64.4% | 45 |
| NCDAP DRE 096 Placement | 75.9% | 58 | 76.0% | 25 | 25.0% | 12 |
| NCDAP ABL Placement | 68.8% | 16 | 50.0% | 8 | 0.0% | 1 |
| No Placement | 66.7% | 6 | 33.3% | 9 | 66.7% | 3 |
| All Placements | 78.5% | 632 | 70.3% | 387 | 70.2% | 738 |
| All Others | 86.8% | 114 | 73.4% | 94 | 80.2% | 262 |
| All | 79.9% | 746 | 70.9% | 481 | 72.8% | 1000 |

ECO courses, mainly 251 and 252, have both English and math prerequisites. Students placed by their placement test or HSGPA 2.6 to 3.0 are not succeeding at a good rate. These are difficult courses for many new students.

| First ECO Course Success | Fall 2013 | | Fall 2014 | |
|--------------------------|------------|-----|------------|-----|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 70.3% | 101 | 66.7% | 90 |
| HSGPA | NA | 0 | 60.0% | 70 |
| HSGPA 3.01-4.00 | NA | 0 | 77.1% | 35 |
| HSGPA 2.60-3.00 | NA | 0 | 42.9% | 35 |
| ACT or SAT | 87.9% | 33 | 72.5% | 40 |
| NCDAP 111 Placement | 73.1% | 26 | 31.3% | 32 |
| NCDAP DRE 098 Placement | 40.0% | 5 | 0.0% | 1 |
| NCDAP DRE 097 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 096 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | 0.0% | 0 | NA | 0 |
| All Placements | 73.3% | 165 | 60.5% | 233 |
| All Others | 66.0% | 379 | 65.8% | 517 |
| All | 68.2% | 544 | 64.1% | 750 |

ECO students fare poorly in these same math placement categories. What about ECO 251 and 252 is so difficult for most students who are new to college?

| First ECO Course Success | Fall 2013 | | Fall 2014 | |
|--------------------------|------------|-----|------------|-----|
| by Math Placement | Percentage | N | Percentage | N |
| Transfer credits | 72.7% | 88 | 75.4% | 57 |
| HSGPA | NA | 0 | 56.0% | 75 |
| HSGPA 3.01-4.00 | NA | 0 | 75.7% | 37 |
| HSGPA 2.60-3.00 | NA | 0 | 36.8% | 38 |
| ACT or SAT | 85.7% | 35 | 67.4% | 46 |
| NCDAP 171 Placement | 68.0% | 25 | 42.9% | 42 |
| NCDAP 152 Placement | 57.1% | 7 | 66.7% | 6 |
| NCDAP 140 Placement | 33.3% | 3 | 100.0% | 1 |
| NCDAP 101 Placement | 0.0% | 0 | NA | 0 |
| NCDAP DMA Placement | 100.0% | 1 | 0.0% | 4 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | 71.4% | 7 | 100.0% | 2 |
| All Placements | 73.5% | 166 | 60.5% | 233 |
| All Others | 66.0% | 379 | 65.8% | 517 |
| All | 68.3% | 545 | 64.1% | 750 |

SPA 111 is similar to many other classes, in that students in most English placement categories succeed at a high rate.

| First SPA 111 Course Success | Fall 2013 | | Fall 2014 | |
|------------------------------|------------|-----|------------|-----|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 71.6% | 81 | 70.6% | 68 |
| HSGPA | 100.0% | 3 | 86.3% | 51 |
| HSGPA 3.01-4.00 | 100.0% | 2 | 92.6% | 27 |
| HSGPA 2.60-3.00 | 100.0% | 1 | 79.2% | 24 |
| ACT or SAT | 88.9% | 18 | 87.5% | 16 |
| NCDAP 111 Placement | 69.6% | 56 | 64.4% | 59 |
| NCDAP DRE 098 Placement | 0.0% | 2 | NA | 0 |
| NCDAP DRE 097 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 096 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | 0.0% | 0 | NA | 0 |
| All Placements | 72.5% | 160 | 74.2% | 194 |
| All Others | 61.8% | 359 | 67.8% | 379 |
| All | 65.1% | 519 | 70.0% | 573 |

BUS 110 success rates fell for all students. It is unclear what might explain the drop for returning students, those in the “All Others” category.

| First BUS 110 Course Success | Fall 2013 | BUS 110 | Fall 2014 | BUS 110 |
|------------------------------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N |
| Transfer credits | 73.6% | 72 | 63.4% | 71 |
| HSGPA | 100.0% | 6 | 71.7% | 46 |
| HSGPA 3.01-4.00 | NA | 0 | 78.3% | 23 |
| HSGPA 2.60-3.00 | 100.0% | 6 | 65.2% | 23 |
| ACT or SAT | 62.5% | 24 | 81.0% | 21 |
| NCDAP 111 Placement | 77.6% | 67 | 62.8% | 43 |
| NCDAP DRE 098 Placement | 50.0% | 2 | NA | 0 |
| NCDAP DRE 097 Placement | NA | 0 | NA | 0 |
| NCDAP DRE 096 Placement | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 |
| No Placement | NA | 0 | NA | 0 |
| All Placements | 74.3% | 171 | 67.4% | 181 |
| All Others | 71.9% | 270 | 70.1% | 254 |
| All | 72.8% | 441 | 69.0% | 435 |

BIO 111 and 168 course success rates may be low for most new students, but the low population sizes mean more variability.

| First BIO Success | Fall 2014 | BIO 110 | Fall 2014 | BIO 111 | Fall 2014 | BIO 168 |
|----------------------|------------|---------|------------|---------|------------|---------|
| by English Placement | Percentage | N | Percentage | N | Percentage | N |
| Transfer credits | 75.0% | 20 | 50.0% | 14 | 72.9% | 70 |
| HSGPA | 69.2% | 26 | 61.8% | 34 | 56.1% | 41 |
| HSGPA 3.01-4.00 | 88.9% | 9 | 85.7% | 14 | 86.7% | 15 |
| HSGPA 2.60-3.00 | 58.8% | 17 | 45.0% | 20 | 38.5% | 26 |
| ACT or SAT | 85.7% | 14 | 72.2% | 18 | 50.0% | 4 |
| NCDAP 111 Placement | 75.0% | 16 | 42.9% | 14 | 53.6% | 28 |
| NCDAP 098 Placement | 50.0% | 14 | 50.0% | 8 | 100.0% | 1 |
| NCDAP 097 Placement | 50.0% | 2 | 0.0% | 1 | NA | 0 |
| NCDAP 096 Placement | NA | 0 | NA | 0 | NA | 0 |
| NCDAP ABL Placement | NA | 0 | NA | 0 | NA | 0 |
| No Placement | 100.0% | 1 | 100.0% | 1 | 100.0% | 1 |
| All Placements | 71.0% | 93 | 57.8% | 90 | 64.1% | 145 |
| All Others | 82.2% | 325 | 63.7% | 284 | 65.2% | 396 |
| All | 79.7% | 418 | 62.3% | 374 | 64.9% | 541 |

Recommendations

Let your faculty and staff know it's working, for the purpose intended, in the manner predicted (at CPCC at least).

Recommendations

Support more students while in college classes, rather than putting so many into dev ed. Students usually learn better by doing than by learning how to do. Perhaps co-enrollment should be the focus of our next redesign.

Recommendations

Don't wait for CFNC transcribing of HSGPA. It doesn't take long to evaluate most transcripts. CPCC has given 4,772 HSGPA waivers, all done by hand. For troublesome transcripts, see the GPA widget at

[https://drive.google.com/open?id=0BwSC6_G3X7bjNXc2WDVLdk5Oem8&authuser=0.](https://drive.google.com/open?id=0BwSC6_G3X7bjNXc2WDVLdk5Oem8&authuser=0)

Recommendations

Give every student a placement. Currently, we store lots of placement information, but never formally give students a placement level and method for English and math. This will streamline enrollment and greatly help with needed research.

Recommendations

Add more high demand courses, if you haven't implemented yet, or even if you have. A shift of 13% for CPCC meant accommodating 739 more new students in college level classes, in addition to some returning students. With proper planning, we can celebrate that increase.

Questions?

