

College Spark

Guided Pathways Data Reflections Report

January 10, 2020

## Directions Provided by College Spark

Below are the questions for the 2019 Data Reflections Report. As a reminder, during years 1-4 of the College Spark Guided Pathways Grant, the Data Reflections Report focuses on a subject matter that will be a focused topic at the winter GP Cohort Retreat. (In year 5 the focus shifts to reporting on the <u>Early</u> <u>Progress/Implementation Measures</u>.)

Math strategies, including co-requisite models and the equity implications related to increasing math success will be a major focus of the upcoming retreat. In preparation for this event, please collect the following data and engage in a discussion on your campus utilizing the prompts below. Please provide College Spark with a summary of the requested data and a narrative response to the reflections questions below no later than January 10th. Please also note that you will be asked to engage with this data and your college's responses to the reflection prompts during an event at the Cohort Retreat.

For Cohort I colleges, the data provided will be an update on data that was provided for your second data reflections report; this is by design. The questions below are also tied to the landscape math analysis that Laura Schueller is leading for SBCTC. If you have any questions please reach out to <u>me</u> or <u>Kristi Wellington Baker</u>.

**DATA**: Please provide the number and percentage of credential seeking students disaggregated by race/ ethnicity/ gender/ income that place into each level of pre-college and college-level math offered at your college. For each placement level, please also indicate what percentage of students (also disaggregated by race/ ethnicity/ gender/ income) that go on to earn college-level math credit within 1 year, within 2 years, and ever.

**\*\***NOTE: Please provide this data separately for transfer students and for workforce students.

**REFLECTION**: Based on the data, please respond to the following:

**Policy** - What policies impact the students' entry, progression and completion of the pathway appropriate college level math at your institution? What student populations are disproportionately negatively impacted?

**Practice** – What practices (placement, advising, faculty engagement, cross-institutional collaboration, etc...) impact students' entry, progression and completion of the pathway appropriate college level math at your institution? What student populations are disproportionately negatively impacted?

**Pedagogy** – What pedagogical changes have faculty made, are trying to make, are hoping to make in support of student success in math? What support has the college provided faculty to make the pedagogical changes?



## Transfer: Initial Math Course Level and Year Attempted

#### Abbreviations: QSR = Quantitative & Symbolic Reasoning; CTE = Career Technical Education

Transfer: Initial Math Course Level by Race/Ethnicity, Gender, and Income Level, 2014-15 to 2018-19

	QSR	CTE	College Algebra	1 Level Below	2 Levels Below	3 Levels Below	Total	Below College- Level
American Indian/ AK Native	58% N=11		11% N=2	5% N=1	21% N=4	5% N=1	100% N=19	32% N=6
Asian	<b>64%</b> N=687	0% N=4	10% N=112	<b>8%</b> N=85	<b>10%</b> N=105	<b>7%</b> N=75	100% N=1,068	<b>25%</b> N=265
Black/ African American	<b>44%</b> N=286	1% N=4	8% N=50	<b>8%</b> N=54	18% N=115	<b>22%</b> N=140	100% N=649	48% N=309
Hispanic	9% N=2			13% N=3	35% N=8	<b>43%</b> N=10	100% N=23	91% N=21
Native HI/Other Pacific Islander	30% N=10		6% N=2	3% N=1	36% N=12	24% N=8	100% N=33	64% N=21
Other Race	<b>40%</b> N=84	1% N=3	12% N=25	<b>10%</b> N=20	18% N=37	<b>19%</b> N=40	100% N=209	46% N=97
Two or more races	<b>40%</b> N=260	1% N=6	12% N=80	<b>8%</b> N=49	21% N=138	18% N=116	100% N=649	<b>47%</b> N=303
White	58% N=797	0% N=5	12% N=160	6% N=87	15% N=206	9% N=119	100% N=1,374	30% N=412
Not Reported	59% N=258	0% N=1	10% N=43	<b>7%</b> N=29	12% N=53	12% N=52	100% N=436	31% N=134
Female	<b>57%</b> N=1,304	0% N=3	9% N=203	8% N=181	14% N=315	13% N=297	100% N=2,303	34% N=793
Male	<b>50%</b> N=1,054	1% N=20	13% N=263	<b>7%</b> N=143	17% N=358	<b>12%</b> N=260	100% N=2,098	36% N=761
Not Reported	63% N=37		14% N=8	8% N=5	8% N=5	7% N=4	100% N=59	24% N=14
Economically Disadvantaged	<b>34%</b> N=382	1% N=8	<b>8%</b> N=88	<b>8%</b> N=87	<b>24%</b> N=261	<b>26%</b> N=284	100% N=1,110	<b>57%</b> N=632
Not Economically Disadvantaged	60% N=2,013	0% N=15	12% N=386	<b>7%</b> N=242	12% N=417	8% N=277	100% N=3,350	28% N=936
5-year Total	54% N=2,395	1% N=23	11% N=474	7% N=329	15% N=678	13% N=561	100% N=4,460	35% N=1,568

Income Level



### Workforce: Initial Math Course Level and Year Attempted

Workforce: Initial Math Course Level by Race/Ethnicity, Gender, and Income Level, 2014-15 to 2018-19

		QSR	CTE	College Algebra	1 Level Below	2 Levels Below	3 Levels Below	Total	Below College- Level
	American Indian/ AK Native	8% N=6	85% N=66		1% N=1	3% N=2	4% N=3	100% N=78	8% N=6
	Asian	<b>48%</b> N=177	24% N=88	9% N=34	<b>4%</b> N=15	<b>8%</b> N=29	<b>7%</b> N=24	100% N=367	19% N=68
	Black/ African American	22% N=98	<b>56%</b> N=244	<b>4%</b> N=16	2% N=8	<b>7%</b> N=29	9% N=41	100% N=436	18% N=78
ity	Hispanic	2% N=1	68% N=43	2% N=1	2% N=1	10% N=6	17% N=11	100% N=63	29% N=18
e/Ethnic	Native HI/Other Pacific Islander	20% N=5	60% N=15				20% N=5	100% N=25	20% N=5
Rac	Other Race	<b>27%</b> N=37	<b>38%</b> N=52	5% N=7	6% N=8	12% N=16	12% N=17	100% N=137	30% N=41
	Two or more races	31% N=99	38% N=120	<b>4%</b> N=14	<b>4%</b> N=14	13% N=41	10% N=31	100% N=319	27% N=86
	White	<b>43%</b> N=464	<b>35%</b> N=370	<b>5%</b> N=57	3% N=35	<b>8%</b> N=82	<b>6%</b> N=62	100% N=1,070	<b>17%</b> N=179
	Not Reported	<b>40%</b> N=139	<b>44%</b> N=152	3% N=10	3% N=11	6% N=21	5% N=16	100% N=349	14% N=48
	Female	<b>58%</b> N=694	<b>15%</b> N=182	5% N=59	<b>4%</b> N=47	9% N=105	9% N=113	100% N=1,200	<b>22%</b> N=265
Gender	Male	<b>20%</b> N=328	<b>59%</b> N=944	5% N=79	3% N=44	8% N=121	<b>6%</b> N=93	100% N=1,609	<b>16%</b> N=258
	Not Reported	11% N=4	69% N=24	3% N=1	6% N=2		11% N=4	100% N=35	17% N=6
e Level	Economically Disadvantaged	<b>21%</b> N=121	<b>36%</b> N=206	<b>5%</b> N=27	5% N=30	<b>15%</b> N=87	<b>17%</b> N=98	100% N=569	<b>38%</b> N=215
Incom	Not Economically Disadvantaged	<b>40%</b> N=905	<b>41%</b> N=944	5% N=112	3% N=63	6% N=139	5% N=112	100% N=2,275	<b>14%</b> N=314
	5-year Total	36% N=1,026	40% N=1,150	5% N=139	3% N=93	8% N=226	7% N=210	100% N=2,844	19% N=529



Transfer: College-Level Math Attainment by Initial Math Course Level and Year Attempted

		Total Students	w/in One Year	w/in Two Years	Ever
ю	1 Level Below	85	<b>64%</b> N=54	<b>69%</b> N=59	<b>71%</b> N=60
2014-1	2 Levels Below	148	<b>42%</b> N=62	<b>51%</b> N=75	<b>53%</b> N=79
	3 Levels Below	136	<b>16%</b> N=22	<b>31%</b> N=42	38% N=51
	1 Level Below	86	<b>53%</b> N=46	<b>58%</b> N=50	<b>59%</b> N=51
015-1	2 Levels Below	158	<b>51%</b> N=80	<b>57%</b> N=90	<b>58%</b> N=92
N	3 Levels Below	182	<b>18%</b> N=32	<b>31%</b> N=56	<b>34%</b> N=61
2	1 Level Below	75	60% N=45	63% N=47	64% N=48
016-1	2 Levels Below	158	<b>34%</b> N=54	<b>44%</b> N=70	<b>46%</b> N=73
(N	3 Levels Below	127	<b>17%</b> N=22	<b>31%</b> N=39	33% N=42
	1 Level Below	43	<b>51%</b> N=22	<b>56%</b> N=24	<b>56%</b> N=24
017-1	2 Levels Below	113	39% N=44	<b>44%</b> N=50	<b>44%</b> N=50
N	3 Levels Below	73	<b>16%</b> N=12	<b>29%</b> N=21	<b>29%</b> N=21
6	1 Level Below	40	<b>45%</b> N=18	<b>45%</b> N=18	<b>45%</b> N=18
2018-1	2 Levels Below	101	<b>32%</b> N=32	<b>32%</b> N=32	<b>32%</b> N=32
2	3 Levels Below	43	21% N=9	21% N=9	21% N=9

Transfer: College-Level Math Attainment by Initial Math Course Level and Year Attempted

Transfer: College-Level Math Attainment by Initial Math Course Level and Race/Ethnicity, 2014-15 to 2018-19

		Total Students	w/in One Year	w/in Two Years	Ever
۶¥.,	1 Level Below	1	100% (N=1)	100% (N=1)	100% (N=1)
nerica lian// Jative	2 Levels Below	4	25% (N=1)	25% (N=1)	25% (N=1)
An	3 Levels Below	1			100% (N=1)
	1 Level Below	85	72% (N=61)	<b>75% (</b> N=64)	76% (N=65)
Asian	2 Levels Below	105	45% (N=47)	52% (N=55)	55% (N=58)
	3 Levels Below	75	24% (N=18)	<b>39% (</b> N=29)	40% (N=30)
an	1 Level Below	54	<b>41%</b> (N=22)	46% (N=25)	46% (N=25)
k/ Afr nerici	2 Levels Below	115	45% (N=52)	<b>49% (</b> N=56)	50% (N=58)
Blac	3 Levels Below	140	15% (N=21)	27% (N=38)	33% (N=46)
.e	1 Level Below	3	33% (N=1)	33% (N=1)	33% (N=1)
ispan	2 Levels Below	8	50% (N=4)	50% (N=4)	50% (N=4)
I	3 Levels Below	10	30% (N=3)	40% (N=4)	40% (N=4)
Other	1 Level Below	1			
e HI//	2 Levels Below	12	25% (N=3)	25% (N=3)	25% (N=3)
Nativ Pacif	3 Levels Below	8	25% (N=2)	25% (N=2)	25% (N=2)
ace	1 Level Below	20	40% (N=8)	50% (N=10)	50% (N=10)
her R:	2 Levels Below	37	38% (N=14)	46% (N=17)	49% (N=18)
đ	3 Levels Below	40	15% (N=6)	25% (N=10)	25% (N=10)
lore	1 Level Below	49	53% (N=26)	57% (N=28)	<b>59%</b> (N=29)
o o r m races	2 Levels Below	138	34% (N=47)	<b>41%</b> (N=56)	<b>41%</b> (N=56)
Tw	3 Levels Below	116	13% (N=15)	<b>28%</b> (N=33)	<b>31%</b> (N=36)
	1 Level Below	87	61% (N=53)	63% (N=55)	64% (N=56)
White	2 Levels Below	206	40% (N=83)	50% (N=102)	50% (N=104)
	3 Levels Below	119	18% (N=22)	<b>29%</b> (N=35)	<b>31%</b> (N=37)
rted	1 Level Below	29	45% (N=13)	48% (N=14)	48% (N=14)
Repo	2 Levels Below	53	40% (N=21)	43% (N=23)	45% (N=24)
Not	3 Levels Below	52	19% (N=10)	31% (N=16)	35% (N=18)

Transfer: College-Level Math Attainment by Initial Math Course Level and Gender, 2014-15 to 2018-19

		Total Students	w/in One Year	w/in Two Years	Ever
	1 Level Below	181	57% (N=103)	<b>61%</b> (N=111)	62% (N=113)
Female	2 Levels Below	315	44% (N=139)	50% (N=156)	51% (N=160)
	3 Levels Below	297	<b>19%</b> (N=56)	32% (N=95)	36% (N=106)
	1 Level Below	143	55% (N=79)	59% (N=84)	59% (N=85)
Male	2 Levels Below	358	<b>37%</b> (N=133)	45% (N=160)	<b>46%</b> (N=164)
	3 Levels Below	260	15% (N=40)	27% (N=69)	<b>29%</b> (N=75)
ted	1 Level Below	5	60% (N=3)	60% (N=3)	60% (N=3)
Not Report	2 Levels Below	5		20% (N=1)	40% (N=2)
	3 Levels Below	4	25% (N=1)	75% (N=3)	<b>75%</b> (N=3)

Transfer: College-Level Math Attainment by Initial Math Course Level and Income Level, 2014-15 to 2018-19

Economically Disadvantaged	1 Level Below	87	67% (N=58)	69% (N=60)	69% (N=60)
	2 Levels Below	261	44% (N=116)	49% (N=127)	50% (N=131)
	3 Levels Below	284	18% (N=52)	31% (N=88)	34% (N=96)
Not Economically Disadvantaged	1 Level Below	242	52% (N=127)	57% (N=138)	58% (N=141)
	2 Levels Below	417	37% (N=156)	46% (N=190)	47% (N=195)
	3 Levels Below	277	16% (N=45)	29% (N=79)	32% (N=88)

Workforce: College-Level Math Attainment by Initial Math Course Level and Year Attempted



		Total Students	w/in One Year	w/in Two Years	Ever
ю	1 Level Below	27	<b>48%</b> N=13	52% N=14	<b>59%</b> N=16
014-1	2 Levels Below	52	<b>50%</b> N=26	<b>50%</b> N=26	<b>52%</b> N=27
	3 Levels Below	59	<b>10%</b> N=6	20% N=12	29% N=17
	1 Level Below	25	<b>52%</b> N=13	<b>56%</b> N=14	<b>56%</b> N=14
015-16	2 Levels Below	48	<b>33%</b> N=16	35% N=17	35% N=17
2	3 Levels Below	60	13% N=8	23% N=14	<b>25%</b> N=15
~	1 Level Below	17	41% N=7	<b>47%</b> N=8	<b>47%</b> N=8
016-1	2 Levels Below	39	<b>38%</b> N=15	<b>46%</b> N=18	<b>49%</b> N=19
N	3 Levels Below	41	22% N=9	<b>39%</b> N=16	<b>41%</b> N=17
~	1 Level Below	10	<b>50%</b> N=5	<b>50%</b> N=5	<b>50%</b> N=5
017-18	2 Levels Below	28	<b>46%</b> N=13	<b>46%</b> N=13	<b>46%</b> N=13
	3 Levels Below	15	13% N=2	20% N=3	20% N=3
6	1 Level Below	14	<b>36%</b> N=5	<b>36%</b> N=5	36% N=5
018-1	2 Levels Below	59	27% N=16	27% N=16	27% N=16
(N	3 Levels Below	35	<b>9%</b> N=3	9% N=3	9% N=3

Workforce: College-Level Math Attainment by Initial Math Course Level and Year Attempted

# Workforce: College-Level Math Attainment by Initial Math Course Level and Race/Ethnicity, 2014-15 to 2018-19

		Total Students	w/in One Year	w/in Two Years	Ever
۲¥.	1 Level Below	1	100%(N=1)	100%(N=1)	100% (N=1)
nerica dian// Jative	2 Levels Below	2	50%(N=1)	50% (N=1)	50% (N=1)
Ind N	3 Levels Below	3		33%(N=1)	33% (N=1)
	1 Level Below	15	67% (N=10)	67% (N=10)	67% (N=10)
Asian	2 Levels Below	29	45% (N=13)	52% (N=15)	52% (N=15)
	3 Levels Below	24	13%(N=3)	29% (N=7)	42% (N=10)
ican an	1 Level Below	8	50% (N=4)	50% (N=4)	63% (N=5)
k/ Afr nerica	2 Levels Below	29	<b>41%</b> (N=12)	<b>41%</b> (N=12)	<b>41%</b> (N=12)
Blac	3 Levels Below	41	7% (N=3)	20% (N=8)	24%(N=10)
.e	1 Level Below	1			
ispan	2 Levels Below	6	67% (N=4)	67% (N=4)	67% (N=4)
I	3 Levels Below	11	18%(N=2)	27% (N=3)	27% (N=3)
0 ther ander	1 Level Below				
/e HI/(	2 Levels Below				
Nativ Pacif	3 Levels Below	5			
ace	1 Level Below	8	13%(N=1)	13%(N=1)	13% (N=1)
her R.	2 Levels Below	16	25% (N=4)	25% (N=4)	31% (N=5)
đ	3 Levels Below	17	24% (N=4)	29% (N=5)	35% (N=6)
lore	1 Level Below	14	57% (N=8)	57% (N=8)	64% (N=9)
o or m races	2 Levels Below	41	<b>41%</b> (N=17)	<b>41%</b> (N=17)	44% (N=18)
Tw	3 Levels Below	31	<b>19%</b> (N=6)	29% (N=9)	29% (N=9)
c)	1 Level Below	35	46% (N=16)	54% (N=19)	54% (N=19)
White	2 Levels Below	82	34% (N=28)	37% (N=30)	37% (N=30)
	3 Levels Below	62	13%(N=8)	18% (N=11)	19% (N=12)
rted	1 Level Below	11	27% (N=3)	27% (N=3)	27% (N=3)
Repo	2 Levels Below	21	33% (N=7)	33% (N=7)	33% (N=7)
Not	3 Levels Below	16	13%(N=2)	25% (N=4)	25% (N=4)

Workforce: College-Level Math Attainment by Initial Math Course Level and Gender, 2014-15 to 2018-19

		Total Students	w/in One Year	w/in Two Years	Ever
	1 Level Below	47	38% (N=18)	38% (N=18)	43% (N=20)
Female	2 Levels Below	105	42% (N=44)	43% (N=45)	44% (N=46)
	3 Levels Below	113	14% (N=16)	25% (N=28)	<b>30%</b> (N=34)
	1 Level Below	44	55% (N=24)	61% (N=27)	<b>61%</b> (N=27)
Male	2 Levels Below	121	35% (N=42)	37% (N=45)	38% (N=46)
	3 Levels Below	93	13% (N=12)	20% (N=19)	<b>22%</b> (N=20)
ped	1 Level Below	2	50% (N=1)	50% (N=1)	50% (N=1)
Not Report	2 Levels Below				
	3 Levels Below	4		25% (N=1)	25% (N=1)

Workforce: College-Level Math Attainment by Initial Math Course Level and Income Level, 2014-15 to 2018-19

Economically Disadvantaged	1 Level Below	30	50% (N=15)	53% (N=16)	53%(N=16)
	2 Levels Below	87	40% (N=35)	<b>43%</b> (N=37)	44% (N=38)
	3 Levels Below	98	14% (N=14)	<b>27%</b> (N=26)	<b>30%</b> (N=29)
Not Economically Disadvantaged	1 Level Below	63	<b>44%</b> (N=28)	<b>48%</b> (N=30)	51% (N=32)
	2 Levels Below	139	37% (N=51)	38% (N=53)	39% (N=54)
	3 Levels Below	112	13% (N=14)	20% (N=22)	23% (N=26)

**REFLECTION**: Based on the data, please respond to the following:

**Policy** - What policies impact the students' entry, progression and completion of the pathway appropriate college level math at your institution? What student populations are disproportionately negatively impacted?

- The main polices impacting students' entry, progression and completion are South's placement process, Steps to Enroll and our math pathways.
  - Placement South has limited placement options for math and all are based on highstakes tests. The primary tool selected after COMPASS ended has impacted placement outcomes in unanticipated ways. Also different placement options have different expiration dates causing confusion for students, faculty and staff and impacts students disproportionately depending on the method they are using.
  - Steps to Enroll the compressed and complicated steps to enroll combined with the high stakes test place a significant burden on entering students and do not give students enough time to explore their placement options.
  - Math Pathways While some progress was made to reduce the number of pre-college algebra courses a few years ago, in some ways it complicated the pathway. Reducing the steps to college level, and we hope to see increase those that make it in two years.
- Students who identify as Black, Hispanic/Lantinx, Native American/Pacific Islander and are
  pursing transfer degrees are disproportionately placing 2 to 3 or more levels below college level
  as compared to other race/ethnic groups. Also, students identified as "economically
  disadvantaged" are placing lower at significant rates as compared to their "not economically
  disadvantaged" counterparts.
- For Workforce students those same race/ethnic groups are taking the CTE math option at much higher percentages than their white and Asian counterparts. The CTE math allows them to complete the degree, but it is a non-transferable math course and does not set them up well for further education or a bachelor's degree.
- As our math population grows younger and fresher from high school, we see a natural increase in progression and reduction of those below 2 quarters of pre-college work.
- We still struggle with both black/African American and Hispanic populations in terms of attainment across the math pathways.

**Practice** – What practices (placement, advising, faculty engagement, cross-institutional collaboration, etc...) impact students' entry, progression and completion of the pathway appropriate college level math at your institution? What student populations are disproportionately negatively impacted?

• Complexity and multi-step process of the current math placement test has made it more difficult to place into upper-level math courses and placed more students into a college level algebra course that is not a QSR for transfer degrees and only leads to the STEM math pathway (pre-calculus and calculus). The set-up of the pathway also leads more students to the algebra pathway and has hindered the establishment of the Statway series as students who would most benefit from Statway are drawn to the algebra pathways as it appears to lead to more flexible options.

- Progress has been made with established a better process and method of entering and recording placement scores in the Legacy system. This has improved efficiency of helping students and advisors register for an eligible math course. It will also help the college better track placement outcomes based on method.
- We have seen a shift in how students are placing into courses (QST, CTC, College Algebra, etc.) that occurred between the 2016-17 to 2017-18 academic years. This is likely due to the switch from the COMPASS test (discontinued Winter quarter 2017) to the Wonderlic test. More students are placing into QSR courses.

**Pedagogy** – What pedagogical changes have faculty made, are trying to make, are hoping to make in support of student success in math? What support has the college provided faculty to make the pedagogical changes?

- Math faculty are currently working on creating a co-requisite model allowing students to take a college-level math course within the first or second quarter of enrollment through the support of a specific College Spark Grant.
  - Work started in earnest in the summer of 2019 with Title III grant support and continues this academic year with a College Spark grant.
  - Math faculty are also partnering with faculty in other departments as part of new corequisite model development.
- Other examples of ongoing pedagogical approaches in math
  - Productive persistence (especially with Statway)
    - Statway has also be shorted from a three-quarter sequence to a two-quarter sequence
  - Active Learning Strategies
  - ALEKS on-line math support
  - Significant engagement in professional development and conference opportunities leading to successful application