

STATE BOARD FOR COMMUNITY COLLEGES AND OCCUPATIONAL EDUCATION

September 13, 2023

TOPIC: Annual Developmental Education Report

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RELATIONSHIP TO THE STRATEGIC PLAN: Transform the Student Experience

EXPLANATION: The attached report presents the success rates in college level courses of students enrolled in developmental courses, supplemental academic instruction, and college level gateway English and math courses in the 2021-2022 academic year. The report also disaggregates student success by race/ethnicity, gender, age, and Pell eligibility.

In Academic Year 2021-2022 system-wide a total of 2,242 students registered for stand-alone developmental education courses. As a percentage of all registered students at CCCS, this comes to 3.0% of all students, well within the required 10 percent or lower required by the recent legislation.

RECOMMENDATION: This is an annual report to the Board and does not require Board action.

ATTACHMENT(S):
Dev Ed Report AY 21-22

ACADEMIC YEAR 2021-2022:
DEVELOPMENTAL
EDUCATION REPORT

SUMMARY

Recent legislation (act HB19-1206 passed in 2019) requires that by 2022, institutions directly enroll no more than 10 percent of students in stand-alone developmental education courses “that may extend the student’s time to degree”. In academic year (AY) 2022, system-wide, the number and the percentage of non-high school students registered for stand-alone developmental education courses continued to decline as previous two years: from 5.5% (6,889) in AY 2020, 4.0% (3,192) in AY 2021, to 3% (2,242) in AY 2022¹ (Figure 1). Similar to last year, PPSC (4.8%) and RRCC (4.3%) observed the largest percentage of non-high school students in stand-alone developmental education courses. These percentages, however, have reduced 2.3 percentage points and 1.3 percentage point respectively. Students of color, male, first generation, and Pell eligible students take DE courses in greater proportion than their peers, relative to their overall enrollment (Figure 2).

Figure 1: Number of DE Students as Percentage of Enrollment

College	Students Registered for DE Coursework AY21-22	All Registered Students (Non-HS)	Percentage DE of All Registered Students
ACC	333	9,143	3.6%
CCA	150	5,526	2.7%
CCD	152	7,622	2.0%
CNCC	40	953	4.2%
FRCC	453	18,216	2.5%
LCC	13	529	2.5%
MCC	27	906	3.0%
NJC	13	1,438	0.9%
OC	23	989	2.3%
PCC	83	6,744	1.2%
PPSC	642	13,422	4.8%
RRCC	311	7,188	4.3%
TSC	2	1,506	0.1%
Total	2,242	74,182	3.0%

¹ Definitions for courses considered DE vs SAI have shifted over the years, and more course numbers in AY 2020-2021 are offered as SAI courses than in years’ past. For instance, in the AY 19-20 Developmental Education Report, five specific course numbers were considered SAI courses, whereas the current definitions include any course numbers between 070 and 099 as SAI. Regardless, the yearly totals above reflect accurate representations of the DE course definitions in that given year.

Figure 2 – CCCS Overall Demographic Breakdown of Dev Ed Students

CCCS	Students Registered for DE Coursework AY 21-22	Percentage of Total DE Students	All Registered Students	Percentage DE of All Registered Students
Race/Ethnicity				
American Indian or Alaskan Native	18	0.8%	637	2.8%
Asian	70	3.1%	2,717	2.6%
Black or African American	170	7.6%	5,025	3.4%
Hispanic	628	28.0%	18,532	3.4%
Multiple races	120	5.4%	3,203	3.7%
Native Hawaiian and Other Pacific Islander	10	0.4%	208	4.8%
Non-Resident Alien (International)	44	2.0%	1,363	3.2%
Unknown	45	2.0%	2,412	1.9%
White	1,137	50.7%	40,085	2.8%
Gender				
Female	1,211	54.0%	43,274	2.8%
Male	1,031	46.0%	30,908	3.3%
Age Category				
24 and Under	1,317	58.7%	38,494	3.4%
25 and Over	925	41.3%	35,684	2.6%
Unknown	0	0.0%	4	0.0%
First Generation				
First Generation	1,262	56.3%	38,077	3.3%
Non-First Generation	980	43.7%	36,105	2.7%
Pell Eligibility				
Pell Eligible	1,024	45.7%	25,462	4.0%
Non-Pell Eligible	485	21.6%	16,483	2.9%
Unknown (No FAFSA)	733	32.7%	32,237	2.3%
Total	2,242		74,182	3.0%

Figures 3 and 4 follow cohorts of students taking at least one developmental education (DE) or supplemental academic instruction (SAI) course during AY 2020-2021 and AY 2021-2022. Within these groups, the tables measure the number and proportion of students that also successfully completed a gateway course in the same subject within three academic terms. For example, a student taking DE/SAI in spring is counted as having completed a gateway course if it occurs by the end of the following fall. DE pass is the total number of DE students who passed a DE course within two semesters. Two semesters method was used to show the number of DE students who are eligible to take a gateway course in their third semester. A successful completion entails a grade of “C” or better in the gateway course. At some schools, a small number of students took both DE and SAI courses during the academic year. Therefore, these cases are broken into their own category for appropriate comparison.

While the number of non-high school students in stand-alone developmental education courses has been decreasing, the enrollment in SAI math courses have been increasing. In AY 2021-2022, 2,783 students were enrolled in SAI math courses (Figure 3.1), which is an 8.5% increase (2,565 students, Figure 3.2) from last year.

Students participating in the math SAI model consistently completed their corresponding college-level gateway courses² at a much higher rate than their DE counterparts. While gateway completion rates remained the same at 63% over the past two years among students participating in the math SAI model, these rates decreased among students participating in math DE courses (26.9% vs. 28.2%). On the other hand, gateway completion rate among students participating in the English SAI model increased 9 percentage points from last year (55.8% vs. 48.8%).

² Math gateway courses include course numbers 103/1120, 107/1140, 108/1150, 109/1009, 112/1160, 120/1240, 121/1340, 123/1320, and 135/1260

Figure 3.1 – Math Gateway Course Completion Rates by DE/SAI Students by Key Demographics (HS Not Included) -- AY21/22

CCCS	Students Taking MAT SAI Only	MAT SAI Only and Passed Gateway	Students Taking MAT DE Only	MAT DE Only and Passed DE	MAT DE Only and Passed Gateway	Students Taking MAT DE + SAI	MAT DE + SAI and Passed Gateway	MAT DE Course Completion Rate	MAT SAI Only Gateway Completion Rate	MAT DE Only Gateway Completion Rate	MAT DE + SAI Gateway Completion Rate
Race/Ethnicity											
American Indian or Alaskan Native	28	19	17	8	4	0	0	47.1%	67.9%	23.5%	
Asian	116	81	70	39	16	0	0	55.7%	69.8%	22.9%	
Black or African American	308	146	161	76	24	8	5	47.2%	47.4%	14.9%	62.5%
Hispanic	877	532	604	344	150	18	10	57.0%	60.7%	24.8%	55.6%
Multiple races	133	79	118	74	35	2	0	62.7%	59.4%	29.7%	0.0%
Native Hawaiian and Other Pacific Islander	9	4	10	6	3	0	0	60.0%	44.4%	30.0%	
Non-Resident Alien (International)	79	54	43	31	19	1	1	72.1%	68.4%	44.2%	100.0%
Unknown	25	17	43	22	4	1	1	51.2%	68.0%	9.3%	100.0%
White	1,208	824	1,095	686	327	42	24	62.6%	68.2%	29.9%	57.1%
Gender											
Female	1,691	1,112	1,162	705	318	45	23	60.7%	65.8%	27.4%	51.1%
Male	1,092	644	999	581	264	27	18	58.2%	59.0%	26.4%	66.7%
Age Category											
24 and Under	1,760	1,041	1,281	727	335	32	18	56.8%	59.1%	26.2%	56.3%
25 and Over	1,023	715	880	559	247	40	23	63.5%	69.9%	28.1%	57.5%
First Generation											
First Generation	1,685	1,018	1,216	706	308	38	19	58.1%	60.4%	25.3%	50.0%
Non-First Generation	1,098	738	945	580	274	34	22	61.4%	67.2%	29.0%	64.7%
Pell Eligibility											
Pell Eligible	1,355	818	978	563	251	36	17	57.6%	60.4%	25.7%	47.2%
Non-Pell Eligible	659	460	454	300	151	17	11	66.1%	69.8%	33.3%	64.7%
Unknown (No FAFSA)	769	478	729	423	180	19	13	58.0%	62.2%	24.7%	68.4%
Total	2,783	1,756	2,161	1,286	582	72	41	59.5%	63.1%	26.9%	56.9%

Figure 3.2 – Math Gateway Course Completion Rates by DE/SAI Students by Key Demographics (HS Not Included) -- AY20/21

CCCS	Students Taking MAT SAI Only	MAT SAI Only and Passed Gateway	Students Taking MAT DE Only	MAT DE Only and Passed DE	MAT DE Only and Passed Gateway	Students Taking MAT DE + SAI	MAT DE + SAI and Passed Gateway	MAT DE Course Completion Rate	MAT SAI Only Gateway Completion Rate	MAT DE Only Gateway Completion Rate	MAT DE + SAI Gateway Completion Rate
Race/Ethnicity											
American Indian or Alaskan Native	17	6	31	16	6	1	1	51.6%	35.3%	19.4%	100.0%
Asian	104	73	76	56	23	1	1	73.7%	70.2%	30.3%	100.0%
Black or African American	296	167	250	120	54	6	3	48.0%	56.4%	21.6%	50.0%
Hispanic	818	474	839	493	211	25	15	58.8%	57.9%	25.1%	60.0%
Multiple races	106	62	147	95	37	6	3	64.6%	58.5%	25.2%	50.0%
Native Hawaiian and Other Pacific Islander	8	7	13	7	2	1	1	53.8%	87.5%	15.4%	100.0%
Non-Resident Alien (International)	65	49	33	20	12	2	2	60.6%	75.4%	36.4%	100.0%
Unknown	31	25	83	56	15	1	1	67.5%	80.6%	18.1%	100.0%
White	1,120	761	1,639	1,128	518	38	18	68.8%	67.9%	31.6%	47.4%
Gender											
Female	1,592	1,038	1,768	1,189	486	48	29	67.3%	65.2%	27.5%	60.4%
Male	973	586	1,343	802	392	33	16	59.7%	60.2%	29.2%	48.5%
Age Category											
24 and Under	1,605	939	1,808	1,101	481	47	24	60.9%	58.5%	26.6%	51.1%
25 and Over	960	685	1,303	890	397	34	21	68.3%	71.4%	30.5%	61.8%
First Generation											
First Generation	1,560	945	1,852	1,150	499	55	31	62.1%	60.6%	26.9%	56.4%
Non-First Generation	1,005	679	1,259	841	379	26	14	66.8%	67.6%	30.1%	53.8%
Pell Eligibility											
Pell Eligible	1,309	803	1,453	908	421	44	20	62.5%	61.3%	29.0%	45.5%
Non-Pell Eligible	634	443	713	497	234	23	16	69.7%	69.9%	32.8%	69.6%
Unknown (No FAFSA)	622	378	945	586	223	14	9	62.0%	60.8%	23.6%	64.3%
Total	2,565	1,624	3,111	1,991	878	81	45	64.0%	63.3%	28.2%	55.6%

Figure 4.1 – English Gateway Course Completion Rates by DE/SAI Students by Key Demographics -- AY21/22

CCCS	Students Taking ENG SAI Only	ENG SAI Only and Passed Gateway	Students Taking ENG DE Only	ENG DE Only and Passed DE	ENG DE Only and Passed Gateway	ENG DE Course Completion Rate	ENG SAI Only Gateway Completion Rate	ENG DE Only Gateway Completion Rate
Race/Ethnicity								
American Indian or Alaskan Native	29	12	1	0	0	0.0%	41.4%	0.0%
Asian	154	97	0	0	0		63.0%	
Black or African American	372	200	1	1	0	100.0%	53.8%	0.0%
Hispanic	993	530	9	5	2	55.6%	53.4%	22.2%
Multiple races	161	77	0	0	0		47.8%	
Native Hawaiian and Other Pacific Islander	14	3	0	0	0		21.4%	
Non-Resident Alien (International)	75	46	0	0	0		61.3%	
Unknown	26	18	0	0	0		69.2%	
White	1,186	698	2	1	1	50.0%	58.9%	50.0%
Gender								
Female	1,789	1,050	5	2	2	40.0%	58.7%	40.0%
Male	1,221	631	8	5	1	62.5%	51.7%	12.5%
Age Category								
24 and Under	1,892	979	9	5	2	55.6%	51.7%	22.2%
25 and Over	1,118	702	4	2	1	50.0%	62.8%	25.0%
First Generation								
First Generation	1,954	1,069	10	6	2	60.0%	54.7%	20.0%
Non-First Generation	1,056	612	3	1	1	33.3%	58.0%	33.3%
Pell Eligibility								
Pell Eligible	1,642	885	7	5	1	71%	53.9%	14.3%
Non-Pell Eligible	593	378	1	0	0	0%	63.7%	0.0%
Unknown (No FAFSA)	775	418	5	2	2	40%	53.9%	40.0%
Total	3,010	1,681	13	7	3	53.8%	55.8%	23.1%

Figure 4.2 – English Gateway Course Completion Rates by DE/SAI Students by Key Demographics -- AY20/21

CCCS	Students Taking ENG SAI	ENG SAI Students Passing Gateway	Students Taking ENG DE Only	ENG DE Only and Passed DE	ENG DE Only and Passed Gateway	ENG DE Course Completion Rate	ENG SAI Only Gateway Completion Rate	ENG DE Only Gateway Completion Rate
Race								
American Indian or Alaskan Native	43	19	.	.	.	.	44.2%	.
Asian	143	94	.	.	.	.	65.7%	.
Black or African American	373	161	1	0	0	0.0%	43.2%	0.0%
Hispanic	1010	429	4	2	2	50.0%	42.5%	50.0%
Multiple races	164	62	.	.	.	.	37.8%	.
Native Hawaiian and Other Pacific Islander	12	4	.	.	.	.	33.3%	.
Non-Resident Alien (International)	59	41	.	.	.	.	69.5%	.
Unknown	41	28	.	.	.	.	68.3%	.
White	1201	647	4	2	2	50.0%	53.9%	50.0%
Gender								
Female	1876	958	2	2	2	100.0%	51.1%	100.0%
Male	1170	527	7	2	2	28.6%	45.0%	28.6%
Age								
24 and Under	1902	863	6	2	2	33.3%	45.4%	33.3%
25 and Over	1144	622	3	2	2	66.7%	54.4%	66.7%
First Generation								
First Generation	2011	936	5	2	2	40.0%	46.5%	40.0%
Not First Generation	1035	549	4	2	2	50.0%	53.0%	50.0%
Pell Eligibility								
Pell Eligible	1760	839	7	3	3	42.9%	47.7%	42.9%
Not Pell Eligible	601	342	2	1	1	50.0%	56.9%	50.0%
Unknown (No FAFSA)	685	304	.	.	.	.	44.4%	.
Total	3,046	1,485	9	4	4	44.4%	48.8%	44.4%

APPENDIX A: METHODOLOGY

DATA SOURCE:

Dev Ed student report data were pulled from the operational data store (ODS) at the Colorado Community College System office. Populations in the majority of the sections were pulled from freeze tables for consistency, and are reflective of the end-of-term freeze for a given academic term. The end-of-term freeze dates allow time for data entry and cleanup after the actual end of the semester. End-of-term freeze dates are as follows:

- Summer – October 10
- Fall – February 10
- Spring – July 10

METHODOLOGY:

CCCS headcount: Unduplicated headcount of overall CCCS population, including students taking non-countable courses.

Course Completion: A successful completion in this report entails receiving a grade of 'C' or better. Fail courses include withdrawals. Pass rate is calculated by dividing the number of students passed (any grade of A, B, C, S/A, S/B, S/C, S, P) by total number of enrolled students (any student who received a grade, including W).

Developmental Education (DE) Courses: Any course subject = 'MAT' with a course number less than 070 or equal to 106. Also, any course subject in 'ENG', 'CCR', or 'REA' with a course number less than 070 or 100-102. Additionally, CCR 092 was considered DE at CNCC only for the purposes of this report.

Gateway Courses: Any course subject 'ENG' with course number 121, 131, 1021, 1031. Additionally, any course subject 'MAT' with course number in ('120','1240','121','1340','135','1260','107','1140','108','1150','109','1009','103','1120','112','1160','123','1320').

High School Students: High school students are omitted from this report. The criteria for which are any students with an active student attribute like 'HS%' or 'GTC%' or a student type of 'H' or 'L' in a given academic term.

Race/ethnicity: IPEDS's definition of race/ethnicity is used in this report.

Supplemental Academic Instruction (SAI) Courses: Any course subjects 'MAT','ENG', or 'CCR' with course numbers 070-099.

APPENDIX B: TERMINOLOGY

This report uses the term, “College Readiness Support” to describe the activities examined. Many terms, including “remedial education,” “basic skills,” “developmental education,” and others have been used over the years to describe the additional coursework prescribed by colleges for students who are assessed or self-assessed as not prepared for college level coursework in English composition or Mathematics. The lack of a standard vocabulary within education research and education policy discussions on the topic can lead to confusion when discussing college readiness activities. In the present report, the following terms will be used to describe two distinct methods of college readiness support:

College Readiness (CR):

While not a standard term in discussions on the topic, this report is using the term “College Readiness Support” (abbreviated as “CR” in some places within this report) to describe both developmental/prerequisite and supplemental/co-requisite support courses.

Developmental Education (DE):

Developmental education courses -- often abbreviated as “DE” -- are prerequisite courses intended to offer remedial training in basic subject-specific academic skills. Many reports and articles on this topic use “developmental education” as an umbrella term to cover both co-requisite and prerequisite college readiness activities. However, the state of Colorado is moving toward consistently using the term “Developmental Education” to refer to prerequisite coursework below the college level. Developmental courses are intended to teach and build foundational skills prior to registering for college-level coursework.

Supplemental Academic Instruction (SAI):

In contrast to DE courses, Supplemental Academic Instruction (SAI) courses are co-requisite courses offering remedial training in basic subject-specific academic skills. These courses allow students assessed (or self-assessed) as not yet college-ready to take college-level courses with additional academic support. SAI is sometimes framed as an alternative to the DE approach that presents fewer barriers to college course registration and completion while also offering “just in time remediation” that directly connects foundational skills and their application in college-level coursework.

Gateway Courses:

“Gateway courses” are 100/1000-level college courses that are required for completion of an associate’s degree and often act as prerequisites for higher-level coursework. The college readiness courses discussed in this report are intended to prepare students for gateway courses in English (ENG 121/1021, English Composition I) and math (college level, but non-transfer Career and Technical math courses like MAT 103/1120, Clinical Calculations; MAT 107/1140, Career Math; MAT 108/1150, Technical Mathematics; MAT 109/1009, Geometry; and MAT 112/1160, Financial Mathematics; or college transfer courses like MAT 120/1240, Math for Liberal Arts; MAT 121/1340, College Algebra; MAT 123/1320, Finite Mathematics; or MAT 135/1260, Intro to Statistics; depending on a student’s course of study).

APPENDIX C: DE AND SAI OFFERINGS AT CCCS

College readiness offerings at CCCS colleges have changed substantially over the years. As of AY 2021-2022 all of the colleges offer SAI courses in English/Reading and most offer SAI courses in math.

Beginning in the 2013-2014 academic year, the system began a transition toward a model that included both DE and SAI courses rather than only DE courses. The previous DE model could take multiple semesters to complete, while the new model takes a single semester and includes co-requisite instruction for students with low ability. The courses within this model are described below. Some colleges also offer alternative courses oriented toward meeting college-level course prerequisites. Most of these courses are DE (prerequisite) courses. Notably, while all colleges currently see registration in both DE and SAI courses for College Composition and Reading, not all colleges had active SAI math offerings in 2021-2022.

CCR (College Composition and Reading) Courses

- CCR 091 is a supplemental lab for students with very low reading or writing placement scores who are also registered for CCR 092.
- CCR 092 provides an introduction to college-level reading and writing. Students with low reading or writing placement scores take CCR 092 as a prerequisite for English 121 (college-level English composition).
- CCR 093 is a supplemental academic instruction course offered as a co-requisite to college-level courses outside of the English curriculum, such as Psychology 101, for students with reading or writing placement scores below college-level.
- CCR 094 is a supplemental academic instruction course offered as a co-requisite to English 121 for students with reading or writing placement scores below college-level and is sometimes used by CCR 092 completers seeking additional academic support in their college English course.

English Courses

- ENG077 is a supplemental academic instruction course offered as a co-requisite to ENG 131 for students with writing placement scores below college-level

Math Courses

- MAT 020 is a supplemental lab for students with very low math scores who are also registered for MAT 050.
- MAT 050 is a prerequisite to non-algebra-track college-level Math courses (e.g., MAT 103, 107, 108, 109, 120, or 135) for students with low math placement scores. While not designed as a pathway to college algebra, many students with low placement scores still begin the developmental math sequence with MAT 050, then register for MAT 055 prior to registering for college-level algebra course.
- MAT 025 is a supplemental lab for MAT 055 (a DE course described below).
- MAT 055 is a prerequisite for MAT 121 (College Algebra) for students with low math placement scores.
- MAT071 is a supplemental academic instruction course offered as a co-requisite to MAT 107 for students with math placement scores slightly below the college level.
- MAT072 is a supplemental academic instruction course offered as a co-requisite to MAT 120 for students with math placement scores slightly below the college level.

- MAT073 is a supplemental academic instruction course offered as a co-requisite to MAT 135 for students with math placement scores slightly below the college level.
- MAT080 is a supplemental academic instruction course offered as a co-requisite to MAT 120 for students with math placement scores slightly below the college level.
- MAT081 is a supplemental academic instruction course offered as a co-requisite to MAT 121 for students with math placement scores slightly below the college level.
- MAT083 is a supplemental academic instruction course offered as a co-requisite to MAT 103 for students with math placement scores slightly below the college level.
- MAT085 is a supplemental academic instruction course offered as a co-requisite to MAT 135 for students with math placement scores slightly below the college level.
- MAT087 is a supplemental academic instruction course offered as a co-requisite to MAT 107 for students with math placement scores slightly below the college level.
- MAT 091 is a supplemental academic instruction course offered as a co-requisite to applied math courses such as MAT 107 (Career Math) for students with math placement scores slightly below the college level.
- MAT 092 is a supplemental academic instruction course offered as a co-requisite to college-level math courses such as MAT 120 (Math for Liberal Arts) and MAT 135 (Intro to Statistics) for students with placement scores slightly below the college level.
- MAT 093 is a supplemental academic instruction course offered as a co-requisite to MAT 121 (College Algebra) for students with math placement scores slightly below the college level.