

To: Transformation Grant Steering Committee

From: Lisa Ly, Research Analyst

Date: September 26, 2016

Subject: 2016-17 Transformation Grant Planning Analyses

(Math 210 and Math 114 Enrollment; First Basic Skills Term; MPS Students' English Basic Skills Completion Rate)

Background

The Transformation Grant provides basic skills funding for FY 2016-17 through 2018-19 (three-year period). This report summarizes the analyses being conducted to help inform planning for FY 2016-17.

- Analyses completed during the grant application process revealed the more terms it took for students to complete their math basic skills, the lower their sequence completion rate.
- If the sequence included a summer term, students were less likely to persist to the following fall term, which impacted basic skills completion rates regardless of the starting math level.

I. Math 210 Enrollment: Summer Terms 2014, 2015 and 2016

Question: To help with course scheduling, how many summer Math 210 non-completers persist to the fall term?

Summer Math 210 Course Outcomes

- On average, 87 students enrolled in Math 210 each summer.
- The majority of them (73%) successfully completed Math 210.
- The remaining students did not pass (15%) or withdrew (12%) from the course.

Table 1: Summer Math 210 Course Outcomes

	Summer 2014		Summer 2015		Summer 2016		Average	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
Success	72	73%	60	67%	57	79%	63	73%
Non Success	12	12%	19	21%	9	13%	13	15%
Withdrew	15	15%	10	11%	6	8%	10	12%
Total	99	100%	89	100%	72	100%	87	100%

Persist to Fall Term

The students who did not complete Math 210 in the summer are tracked to the subsequent fall term to determine if they continued with their education.

- A little over half (52%) of the summer 210 non-completers enrolled in the fall term (table 2).
- Among those who enrolled, math accounted for 13% of all their fall course enrollments (table 3).

Table 2: Summer Math 210 Non-Completers - Persist to Fall Term

	Summer 2014		Summer 2015		Summer 2016*		Average	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
Yes	15	56%	15	52%	7	47%	12	52%
No	12	44%	14	48%	8	53%	11	48%
Total	27	100%	29	100%	15	100%	24	100%

*Number of students enrolled in fall 2016 is current as of August 15, 2016.

Table 3: Summer Math 210 Non-Completers who Persist to Fall Term – Course Enrollment, Math vs. non-Math Subjects

	Summer 2014		Summer 2015		Summer 2016*		Average	
	Enrollments	Percent	Enrollments	Percent	Enrollments	Percent	Enrollments	Percent
Math	5	12%	4	9%	5	26%	5	13%
Non-Math	36	88%	41	91%	14	74%	30	87%
Total	41	100%	45	100%	19	100%	35	100%

*Fall 2016 course enrollment is current as of August 15, 2016.

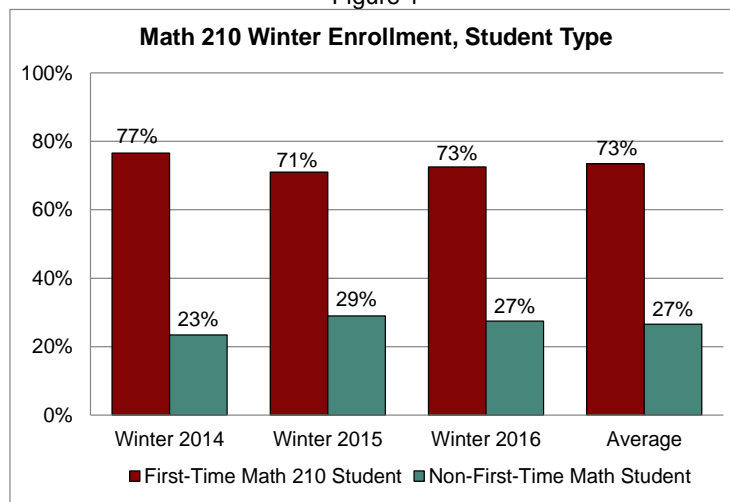
II. Math 210 Enrollment: Winter Terms 2014, 2015 and 2016

Question: To help with course scheduling, which term do winter Math 210 enrollees come from?

First-Time Math 210 Students

- 73% of winter Math 210 students are first-time Math 210 enrollees.
- 27% have enrolled in a math course in a prior term.

Figure 1

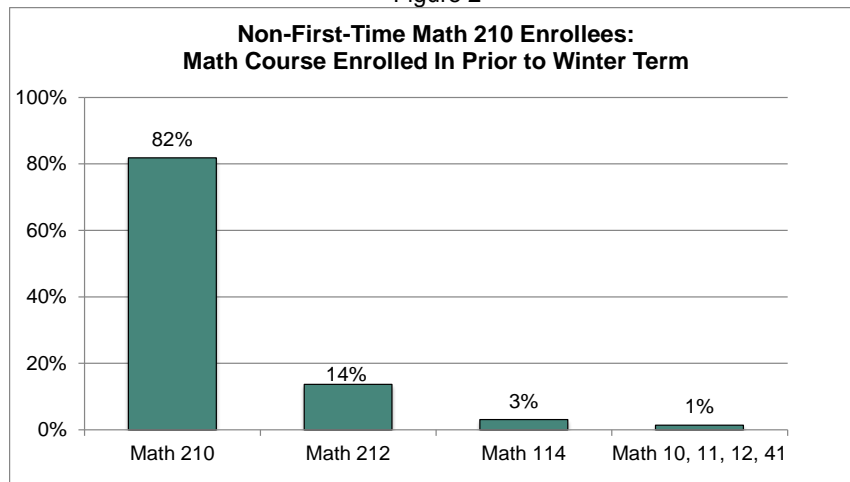


Non-First-Time Math 210 Students

Figure 2 provides the math course that non-first-time Math 210 enrollees took *prior* to the winter term.

- Math 210 accounts for the majority (82%) of all prior math enrollments.
- Math 212 (14%) and Math 114 or higher (4%) comprises the remaining math enrollments.

Figure 2



Identifying Which Term Non-First-Time Math 210 Students Come From

- 78% of non-first-time Math 210 winter enrollees enrolled in Math 210 within the past year—with the majority enrolled in Math 210 from the prior fall term.

Table 4: Non-First-Time Math 210 Winter Enrollees - Prior Math 210 Enrollment

	Non-First Time Math 210 Winter Enrollees							
	Winter 2014		Winter 2015		Winter 2016		Average	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
Math 210 Prior Enrollment (within past year)								
1 quarter prior (fall term)	48	44%	70	56%	51	47%	56	50%
2 quarters prior (summer term)	6	6%	3	2%	6	6%	5	4%
3 quarters prior (spring term)	18	17%	11	9%	6	6%	12	10%
4 quarters prior (winter term)	11	10%	19	15%	17	16%	16	14%
Math 210 Prior Enrollment (more than one year ago)								
5 or more quarters prior	26	24%	21	17%	28	26%	25	22%
Subtotal (enrolled within past year)	83	76%	103	83%	80	74%	89	78%
Subtotal (enrolled more than one year ago)	26	24%	21	17%	28	26%	25	22%
Total Non-First-Time Math Enrollees	109		124		108		114	

III. Math 210 Non-Completers who Repeat the Course: 2013-14, 2014-15 and 2015-16

Question: To help with course scheduling, when are Math 210 non-completers likely to repeat the course?

Math 210 Non-Completers by Term

- *Fall term:* 44% of students did not pass or withdrew from the course.
- *Winter term:* 44% of students did not pass or withdrew from the course.
- *Spring term:* 46% of students did not pass or withdrew from the course.
- *Summer term:* 35% of students did not pass or withdrew from the course.





Table 5: Math 210 Course Outcomes
(Average of 2013-14, 2014-15 and 2015-16)


	Fall		Winter		Spring		Summer	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
Success	361	59%	279	59%	196	53%	61	66%
Non Success	183	30%	144	30%	115	31%	18	20%
Withdrew	66	11%	53	11%	57	15%	14	15%
Total	610	100%	476	100%	368	100%	93	100%

Math 210 Non-Completers and When They Repeat Math 210

- Math 210 non-completers are likely to repeat Math 210 one quarter later. They are less likely to enroll in a summer term.
 - *Fall Math 210 non-completers:* most (50%) repeat the course in the winter term.
 - *Winter Math 210 non-completers:* most (43%) repeat the course in the spring term.
 - *Spring Math 210 non-completers:* most (52%) repeat in the fall term.
 - *Summer Math 210 non-completers:* most (30%) repeat in the following fall term.

Table 6: Math 210 Non-Completers - Term Repeated Math 210
(Averages of 2013-14, 2014-15 and 2015-16)

Enrolled in Math 210 Again	Fall		Winter		Spring		Summer	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
1 quarter later	56	50%	36	43%	2 	3%	4	30%
2 quarters later	27	24%	5 	6%	35	52%	5	35%
3 quarters later	2 	2%	20	24%	11	16%	2	14%
4 quarters later	18	16%	12	15%	7	10%	1 	5%
5 or more quarters later	9	8%	10	12%	12	18%	2	16%
Total	112	100%	82	100%	68	100%	14	100%

 Denotes summer term.

IV. Math 114 Enrollment: Summer Terms 2014, 2015 and 2016

Question: To help with course scheduling, how many summer Math 114 non-completers persist to the fall term?

Course Outcomes

- On average, 265 students enrolled in Math 114 each summer.
- The majority of them (70%) successfully completed Math 114.
- The remaining students did not pass (17%) or withdrew (13%) from the course.

Table 7: Summer Math 114 Course Outcomes

	Summer 2014		Summer 2015		Summer 2016		Average	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
Success	165	61%	166	63%	176	78%	185	70%
Non Success	61	23%	52	20%	27	12%	46	17%
Withdrew	43	16%	44	17%	24	11%	35	13%
Total	269	100%	262	100%	227	100%	265	100%

Persist to Fall Term

The students who did not complete Math 114 in the summer are tracked to the subsequent fall term to determine if they continued with their education.

- 76% of the summer 114 non-completers enrolled in the fall term (table 8).
- Among those who enrolled, math accounted for 15% of all their fall course enrollments (table 9).

Table 8: Summer Math 114 Non-Completers - Persist to Fall Term

	Summer 2014		Summer 2015		Summer 2016*		Average	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
Yes	78	75%	77	80%	37	73%	64	76%
No	26	25%	19	20%	14	27%	20	24%
Total	104	100%	96	100%	51	100%	84	100%

*Number of students enrolled in fall 2016 is current as of September 12, 2016.

Table 9: Summer Math 114 Non-Completers who Persist to Fall Term - Course Enrollment, Math vs. Non-Math Subjects

	Summer 2014		Summer 2015		Summer 2016*		Average	
	Enrollments	Percent	Enrollments	Percent	Enrollments	Percent	Enrollments	Percent
Math	27	13%	34	16%	14	15%	25	15%
Non-Math	184	87%	177	84%	81	85%	147	85%
Total	211	100%	211	100%	95	100%	172	100%

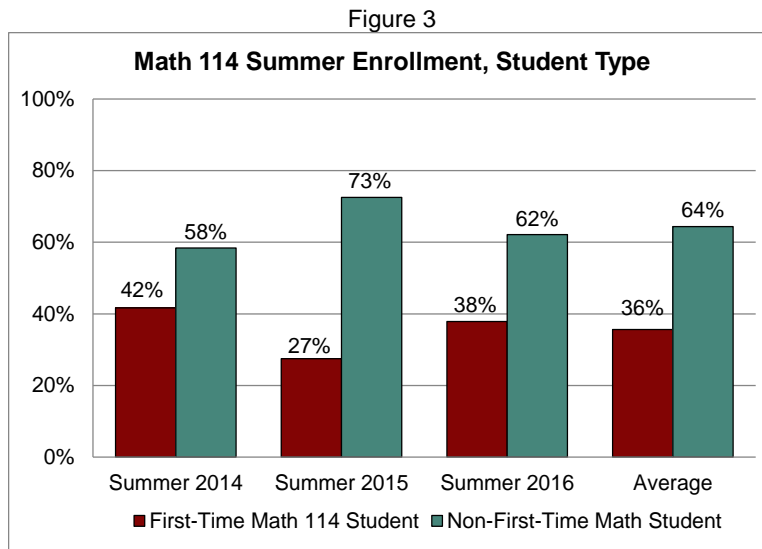
*Fall 2016 course enrollment is current as of September 12, 2016.

V. Math 114 Enrollment: Summer Terms 2014, 2015 and 2016

Question: To help with course scheduling, which term do summer Math 114 enrollees come from?

First-Time Math 114 Students

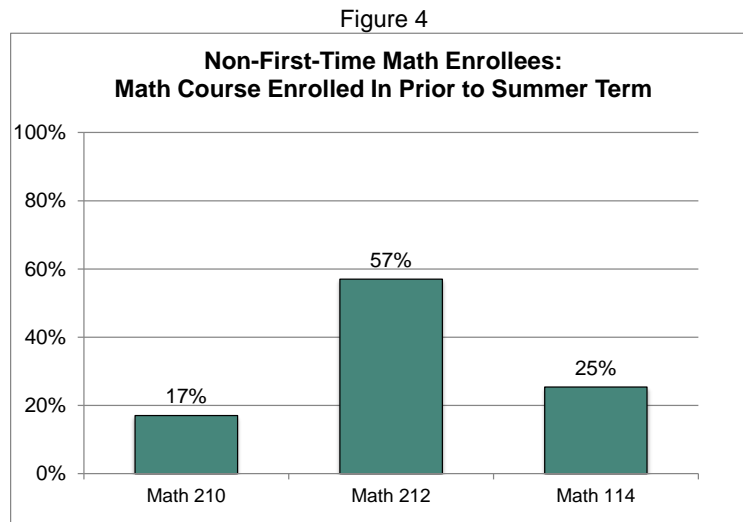
- 36% of summer Math 114 students are first-time Math 114 enrollees.
- The remaining 64% have enrolled in a math course in a prior term.



Non-First-Time Math 114 Students

Figure 4 provides the math course that non-first-time Math 114 enrollees took *prior* to the summer term.

- Math 212 accounts for the majority (57%) of all prior math enrollments.
- Math 114 (25%) and Math 210 (17%) comprises the remaining math enrollments.



Math 217, Math 57 and Math 10, 11, 12, 41 each had 2 enrollments. However, they comprise a small proportion of prior math enrollments and are not reflected in figure 4.

Identifying Which Term Non-First-Time Math 114 Students Come From

- 76% of non-first-time Math 114 summer enrollees enrolled in Math 212 within the past year—with the majority enrolled in Math 212 from the prior spring term.

Table 10: Non-First-Time Math 114 Summer Enrollees - Prior Math 212 Enrollment

	Non-First Time Math 114 Summer Enrollees							
	Summer 2014		Summer 2015		Summer 2016		Average	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
Math 212 Prior Enrollment (within past year)								
1 quarter prior (spring term)	68	37%	85	36%	63	38%	72	37%
2 quarters prior (winter term)	29	16%	54	23%	31	19%	38	19%
3 quarters prior (fall term)	34	18%	41	17%	23	14%	33	17%
4 quarters prior (summer term)	5	3%	8	3%	5	3%	6	3%
Math 212 Prior Enrollment (more than one year ago)								
5 or more quarters prior	50	27%	49	21%	44	27%	48	24%
Subtotal (enrolled within past year)	136	73%	188	79%	122	73%	149	76%
Subtotal (enrolled more than one year ago)	50	27%	49	21%	44	27%	48	24%
Total Non-First-Time Math Enrollees	186		237		166		196	

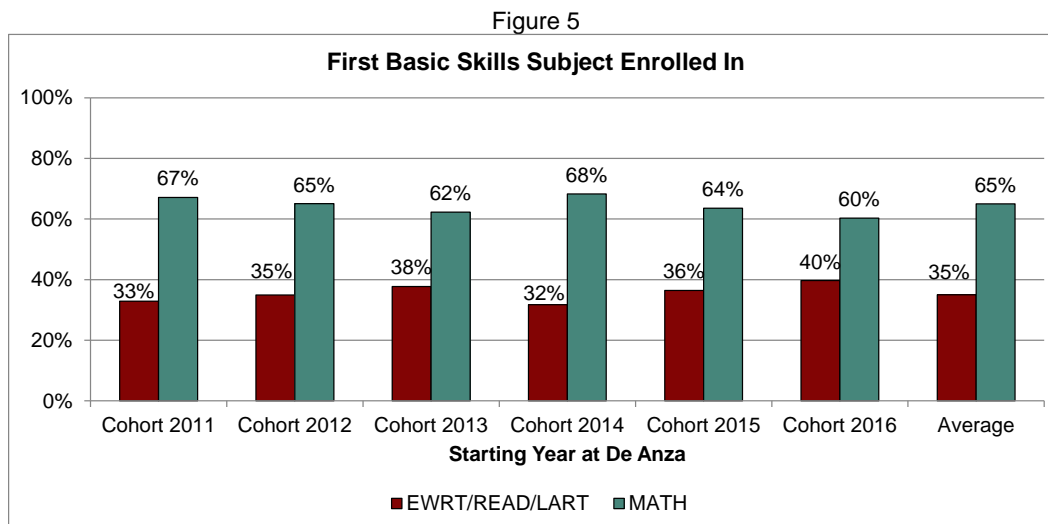
VI. First Basic Skills Term vs. First Term at De Anza: 2010-11 to 2015-16

Question: To better understand student enrollment behaviors, how long do students take to enroll in their first basic skills course?

In this portion of the report, the first enrollment term is used to assign students to a cohort. Students in these six cohorts, 2011 through 2016, are then tracked to obtain their first basic skills enrollment. Basic skills reflect Math 210, 212, 217, 114 and EWRT/READ/LART 200 and 211.

First Basic Skills Subject Enrolled In

- On average, the first basic skills subject that most students enrolled in is math (65%).

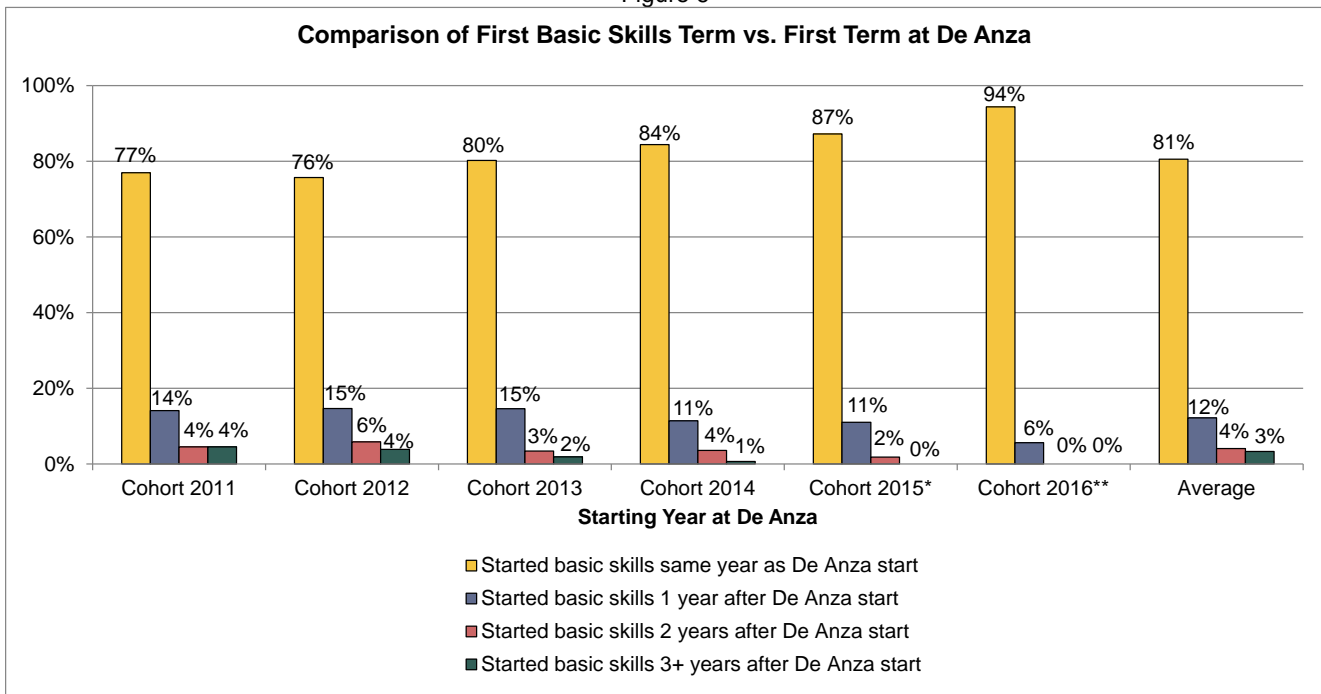


Data omits students who enrolled in basic skills English and Math course in the same term.

First Basic Skills Term vs. First Term at De Anza

- 81% of students enrolled in their first basic skills course in the *same year* as starting at De Anza.
- 12% of students enrolled in their first basic skills course *one year after* starting at De Anza.
- 7% of students enrolled in their first basic skills course *two or more years after* starting at De Anza.

Figure 6



*Cohort 2015: starting basic skills three years or more after starting at De Anza is not applicable.

**Cohort 2016: Starting basic skills two or more years after starting at De Anza is not applicable.

VII. English Basic Skills Completion Rate of MPS Students: 2011-12 to 2015-16

Question: To better understand student enrollment behaviors, how long does it take MPS students to complete their English basic skills sequence?

Table 11 compares the English basic skills completion rate and time to completion by MPS math levels. The first MPS term was used to assign students to a MPS cohort.

- On average, 60% of MPS students are also enrolled in English basic skills.
 - 52% completed their English basic skills *prior* to enrolling in MPS.
 - 48% completed their English basic skills *during or after* enrolling in MPS—with the majority completing within the same year as starting MPS.
- Consistent with the analysis completed during the grant application process, students who start at a higher basic skills level complete the basic skills sequence at higher rate than those who start at a lower basic skills level.
 - MPS students who started at EWRT/READ 211 completed EWRT 1A at a higher rate than those who started at EWRT/READ 200, 71% vs. 55%.
 - The English basic skills completion rate is higher for MPS students who started at a higher math level.
 - *Math 210 MPS (starting level):* 41% completed English basic skills
 - *Math 212 MPS (starting level):* 63% completed English basic skills
 - *Math 114 MPS (starting level):* 75% completed English basic skills
 - *Math 10 MPS (starting level):* 85% completed English basic skills

Table 11: English Basic Skills Completion of MPS Students

MPS Cohort	English Basic Skills* Enrollment			Comparison of English Basic Skills Completion Term vs. MPS Start Term												
				Average of 2011-12 to 2015-16												
Starting Level	Students	Starting Level	Students	Percent (MPS in English Basic Skills)	Completed Prior to MPS Start		Completed Same Year as MPS Start		Completed 1 Year after MPS Start		Completed 2 Years after MPS Start		Completed 3+ Years after MPS Start		Total	
					Students	Percent	Students	Percent	Students	Percent	Students	Percent	Students	Percent	Students	Percent
Math 210	328	EWRT READ 200	98	30%	16	47%	9	26%	7	21%	2	6%	0	0%	34	35%
		EWRT READ 211	94	29%	18	40%	18	40%	5	11%	3	7%	1	2%	45	48%
		Subtotal	192	59%	34	43%	27	34%	12	15%	5	6%	1	1%	79	41%
Math 212	633	EWRT READ 200	108	17%	29	51%	20	35%	5	9%	2	4%	1	2%	57	53%
		EWRT READ 211	282	45%	71	38%	100	53%	12	6%	2	1%	3	2%	188	67%
		Subtotal	390	62%	100	41%	120	49%	17	7%	4	2%	4	2%	245	63%
Math 114	391	EWRT READ 200	79	20%	27	47%	16	28%	11	19%	3	5%	0	0%	57	72%
		EWRT READ 211	180	46%	66	48%	60	43%	11	8%	1	1%	0	0%	138	77%
		Subtotal	259	66%	93	48%	76	39%	22	11%	4	2%	0	0%	195	75%
Math 10	463	EWRT READ 200	58	13%	20	51%	15	38%	3	8%	0	0%	1	3%	39	67%
		EWRT READ 211	193	42%	125	76%	34	21%	4	2%	0	0%	1	1%	164	85%
		Subtotal	251	54%	145	71%	49	24%	7	3%	0	0%	2	1%	203	81%
Average	454	EWRT READ 200	86	19%	23	49%	15	32%	7	14%	2	4%	1	1%	47	55%
		EWRT READ 211	187	41%	70	52%	53	40%	8	6%	2	1%	1	1%	134	71%
		Subtotal	273	60%	93	52%	68	38%	15	8%	3	2%	2	1%	181	66%

*English basic skills enrollment reflect courses in EWRT, READ, and LART departments.