

**WHAT LEVELS OF DEVELOPMENTAL EDUCATION DO STUDENTS TEST INTO?
TO WHAT EXTENT DO STUDENTS EMERGE FROM DEVELOPMENTAL EDUCATION?**

Local and state Florida College System (FCS) officials are actively engaged in the national dialogue about college readiness, developmental education reform, and intensifying efforts to increase college completion. As part of these efforts, the FCS developed and launched the [Postsecondary Education Readiness Test \(PERT\)](#), a customized computer adaptive test that is aligned with Florida’s college readiness expectations. Additionally for more recent cohorts, condensed developmental education course sequences have been created – implemented locally between Fall 2011 and Spring 2012 – which are designed to help accelerate student progression into college credit courses. The new sequencing resulted in colleges having two levels of developmental education courses per subject area (Upper and Lower). Hence, in future analysis the Middle and Experimental categories will be absorbed into the Upper and Lower categories. In addition, FCS institutions continue to redesign developmental education by combining Reading and Writing into a single course, contextualizing content, and examining other mechanisms to expedite transitions into college credit courses.

Florida results described here focus on Fall 2009 First Time in College (FTIC) degree seeking students taking an entry level test whose results show a need for developmental education, and tracks them through Summer 2012. Overall results were produced along with breakouts by initial developmental education course enrollment level taken – Lower, Middle, Upper and Experimental (where applicable) – and age range. Sequence completion refers to successfully completing the highest level of developmental education in a subject matter within 3 years.

Math Overall Math accounted for the largest group of entering students requiring developmental coursework (N = **36,133**). The number of FTIC Fall 2009 students exhibiting deficiencies in their Math preparation by level (Upper = 16,377; Middle = 10,841; and Lower N = 4,412) reveals that the count of students testing into Upper developmental Math was 3.7 times greater than those testing into Lower developmental Math. **Hence, the largest group of students enrolling in developmental Math is close to being college ready.** Test preparation may hold promise in diminishing the number of individuals who are required to enroll in developmental Math. Acceleration mechanisms may provide another viable option for working to expedite student movement into college level coursework for individuals testing into Upper level developmental Math.

Table 1. Passed Highest Level of Developmental Math Based on Initial Placement Level of Individuals Who Enrolled in Developmental Sequence Entering Cohorts Tracked 3 Years

	Lower	Middle	Upper	Overall
CCRC Analysis of Achieving the Dream Data	20.5%	41.4%	69.8%	45.2%
Florida College System Overall	39.4%	39.5%	69.7%	55.1%

Sources: Florida Community College Technical Center MIS (CCTCMIS) and FCS Research & Analytics. [Bailey, T.; Jeong, D.W.; & Cho, S.](#) (2009). Community College Research Center (CCRC) affiliated researchers used an Achieving the Dream (AtD) college data set to track first-time credential-seeking freshmen initially enrolled between Fall 2003 and Fall 2004 and followed their developmental education enrollments for 3 years through the Summers of 2006 and 2007. CCRC results reported here are based on students who enrolled in developmental education and calculated from data in CCRC Table 3.

Math Context. Overall 55.1percent of Florida students enrolling in developmental Math coursework completed the developmental sequence within 3 years. One source of similar information is a study by [Bailey, T.; Jeong, D.W.; & Cho, S.](#) (2009). These Community College Research Center (CCRC) affiliated researchers examined the completion of developmental sequences within 3 years using multi-state Achieving the Dream (AtD) data. Data from a handful of Florida’s participating AtD colleges were included in the CCRC analysis. Focusing on individuals who enrolled in developmental Math and completed the sequence within 3 years from the CCRC study required a series of calculations to match Florida’s approach and showed that overall 45.2 percent of the AtD cohort who enrolled in developmental Math completed the

developmental sequence which is about ten percent below Florida’s overall results. The “by level” results were similar across the studies with the exception of the Lower level where Florida results were more positive (+18.9 percent) and still need to improve.

Florida students were much more likely to actually pursue needed developmental Math within 3 years of initial enrollment. Overall about one-quarter (27.0 percent) of the AtD cohort never enrolled in recommended developmental Math compared to one-eighth (12.5 percent) of the Florida cohort. Florida requires students to complete developmental education by the time that 12 college credits are earned or co-enroll in developmental education and college credit courses every term until the developmental education sequence is completed. Policies in other states vary.

Table 2. Passed Highest Level of Developmental Math Based on Initial Placement Level by Age Group Fall 2009-10 Cohort Tracked Through Summer 2011-12

	<u>Lower</u>	<u>Middle</u>	<u>Upper</u>	<u>Overall</u>
Less than 20	46.1%	42.8%	71.2%	60.0%
20-24 years	35.2%	34.9%	66.5%	51.3%
Greater than 24	37.3%	44.3%	76.4%	55.1%
Total	39.4%	39.5%	69.7%	55.1%

Source: CCTCMIS and FCS Research & Analytics

sequence compared to 4 out of 10 who passed the sequence among individuals placed in Lower or Middle level developmental Math. CCRC’s examination of multi-state AtD data show similar results – students placed into Upper level developmental Math were substantially more successful in completing the sequence. Florida and CCRC cross-state results show that students in Middle and Lower developmental Math are substantially challenged to complete the developmental sequence within 3 years. Piloting new approaches to the delivery of developmental Math could be beneficial in helping move additional students into college credit courses.

More mature students (> 24 years of age) had the best results among individuals testing into Middle and Upper developmental Math. Students who were < 20 years of age demonstrated the best performance among individuals testing into Lower level developmental Math.

Table 3 provides a different look at the data and shows that students placed in Upper level developmental Math accounted for two-thirds of the highest level developmental Math sequence completers. Middle level developmental Math students accounted for one-quarter of the individuals who passed the highest level developmental Math course. Students placed in lower level Math accounted for 1 in 10 individuals who successfully emerged from developmental Math. Upper level developmental Math-placed students were over represented among the individuals who passed the highest level developmental Math course.

Table 3. Number of Students Passing Highest Level of Developmental Math, by Initial Placement Level

Lower Level	1,740	10.0%
Middle Level	4,282	24.6%
Upper Level	11,411	65.5%
Total	17,433	100.0%

Source: CCTCMIS and FCS Research & Analytics

Math Takeaways. The largest number of students were underprepared in Math. The count of students enrolling in Upper level developmental Math was 3.7 times greater than those enrolling in Lower level developmental Math. While underparedness in Math was not as deep as was evident in some other academic areas; **the prospects for success among individuals testing below Upper level Math were least promising.** There was a substantial 30.3 percent performance gap between students testing into Upper level Math over those testing into Lower level Math as measured by their ability to complete the developmental Math sequence within 3 years (Table 2). Across age groups, students placed in Upper level developmental Math performed best by a wide margin. More mature students (> 24 years of age) achieved better results among individuals testing into Middle and Upper developmental Math. Students who were < 20 years of age performed better among those testing into Lower level Math. Overall Math sequence completion results were better for Florida students than those evident in a similar multi-state analysis of AtD data and they still need to improve.

Writing

Weak Writing skills were identified for 21,217 entering students. Writing accounted for the lowest number of students in an academic area who required remediation. Eight out of 10 (81.3 percent, N = 17,243) took courses to address their Writing deficiencies. Writing data were not a part of the CCRC (2009) analysis. **In Florida, over two-thirds of the students needing assistance succeeded in completing the developmental Writing sequence within 3 years (68.2 percent).** Writing students were the second most successful in completing the developmental sequence within 3 years.

Table 4. Passed Highest Level of Developmental Writing Based on Initial Placement Level by Age Group Fall 2009-10 Cohort Tracked Through Summer 2011-12

	<u>Lower</u>	<u>Middle</u>	<u>Upper</u>	<u>Experimental</u>
Less than 20	68.8%	87.7%	81.6%	70.0%
20-24 years	61.3%	75.4%	74.6%	61.9%
Greater than 24	61.6%	80.8%	75.7%	69.8%
Total	63.9%	80.1%	77.6%	65.7%

Source: CCTCMIS and FCS Research & Analytics

Writing Level and Age. Placement into Lower level developmental Writing was common. **Over twice as many students tested into Lower level developmental Writing (N = 11,664) as Higher level Writing (N = 5,089).** Table 4 shows that overall, students placed into Upper (77.6%, 3,951/5,089) and Middle (80.1%, 201/251) Writing courses



performed similarly well in completing the developmental Writing sequence. Close to two-thirds of the students in Lower and Experimental Writing completed the developmental sequence within 3 years. Across developmental Writing levels, students who were < than 20 years of age performed best in completing the developmental Writing sequence.

Writing Takeaways. Smaller numbers of students had Writing deficiencies than were evident in other academic areas. However, twice as many individuals tested into Lower developmental Writing as Upper level developmental Writing. At the end of 3 years, there was a 13.7% performance gap between students enrolling in Upper level Writing over those enrolling in Lower level Writing in their ability to complete the developmental Writing sequence. Students < 20 years consistently performed best in completing the developmental Writing sequence.

Reading Reading had the 2nd highest count of students needing to complete developmental coursework (N = 24,699). **Upper (N = 8,106) and Lower (N = 7,427) level placements in Reading were equally common.** Each occurred over three times more often than Middle level (N = 2,302) developmental education Reading placements. [Adelman](#) (2005) identified reading as a particularly problematic core academic skill deficiency since reading is required in all subject matters to independently assimilate information (p. 190).

Reading Context. Florida students were slightly more likely to pursue needed developmental Reading within 3 years of initial enrollment – 8 out of 10 (N = 20,195) than in the cross state AtD data (7 out of 10).

Cross state CCRC AtD data on individuals enrolling in developmental Reading and completing the sequence within 3 years were recalculated to match Florida’s approach. Overall nearly two-thirds of the AtD cohort and three-quarters of the Florida cohort completed the developmental Writing sequence. Upper level results were similar in the CCRC and Florida studies. Florida results at the Lower (+25.0 percent) and Middle (+30.9 percent) levels were more positive and still need to improve.

Table 5. Passed Highest Level of Developmental Reading Based on Initial Placement Level of Individuals Who Enrolled in Developmental Sequence Entering Cohorts Tracked 3 Years

	<u>Lower</u>	<u>Middle</u>	<u>Upper</u>	<u>Overall</u>
CCRC Analysis of Achieving the Dream Data	39.7%	53.2%	74.6%	65.7%
Florida College System Overall	64.7%	84.1%	77.5%	73.5%

Source: CCTCMIS and FCS Research & Analytics. [Bailey, T.; Jeong, D.W.; & Cho, S.](#) (2009) Community College Research Center (CCRC) results reported here are based on students who enrolled in developmental education and calculated from data in CCRC Table 3.

Table 6. Passed Highest Level of Developmental Reading Based on Initial Placement Level by Age Group Fall 2009-10 Cohort Tracked Through Summer 2011-12

	<u>Lower</u>	<u>Middle</u>	<u>Upper</u>
Less than 20	70.6%	87.6%	80.1%
20-24 years	61.8%	81.3%	75.2%
Greater than 24	60.9%	84.7%	77.5%
Total	64.7%	84.1%	77.5%

Source: CCTCMIS and FCS Research & Analytics

Reading Level and Age. Approximately 8 out of 10 students placed into Middle (84.1 percent) and Upper (77.5 percent) developmental Reading completed the sequence. Results are similar to the outcomes achieved in developmental Writing. Almost two-thirds (64.7 percent) of the Lower level Reading students succeeded in emerging from developmental education Reading within 3 years. **Across developmental education Reading levels, students who were < 20 years of age consistently performed best in completing developmental Reading.**

Reading Takeaways. In Florida, Upper (N = 8,106) and Lower (N = 7,427) level placements in Reading were equally common. A 12.8% performance gap existed between Florida students testing into Upper level Reading over those taking Lower level Reading based on their ability to complete the developmental Reading sequence in 3 years. Overall nearly two-thirds of the AtD cohort and three-quarters of the Florida cohort completed the developmental Writing sequence. Students < 20 years of age consistently performed best in completing developmental Reading.

Selected National Perspectives on Strengthening Developmental Education. [Adelman](#) (2004) suggests that, “Increasingly, state and local policy seeks to constrict-if not eliminate-the amount of developmental work that takes place particularly in 4-year colleges. But there is a class of students whose deficiencies in preparation are minor and can be remediated quickly without excessive damage to degree completion rates” (p. 5). Relatedly, [Jenkins](#) (2009) recommends “mainstreaming” students testing into upper level developmental education and supplying extra support services (p.15). In [Core Principles for Transforming Remedial Education](#) (2012) a handful of national organizations support, “enrollment in a gateway college-level course as the default placement for many more students and additional academic support should be integrated with gateway course content . . . Additionally, students who are significantly underprepared for college-level academic work need accelerated routes into programs of study (Meta-majors)” (p. 6).