

Developmental Education in Utah

A Demographic Overview

Students who arrive on campuses unprepared for college-level work find that it costs them potentially extra time and money to complete developmental courses they would not have needed had they arrived fully prepared in all subjects. Institutions of higher education face their own costs and capacity challenges when trying to teach students the college preparation skills they need to master before being beginning college course work. This issue brief explores the scope of developmental education in Utah System of Higher Education (USHE) institutions, provides some insights into the types of students placed in developmental math and English courses, and describes what USHE is doing to help them. Data were taken from the 2016-2017 academic year end-of-term data extracts as reported and stored in the USHE database. For the purposes of this study, developmental math and English education are the focus, defined as courses with the prefixes: “MATH”, “MAT”, “ENGL”, “ENG”, “RDG”, and “WRTG” and a course number below 1000. USHE institutions use a common course numbering system among its eight institutions.

Overall, in the 2016-17 academic year, there were 18,679 students who enrolled in 24,086 sections of developmental education (table 1).

Table 1 - Course Registrations by Subject Area

	Subject				Grand Total
	ENGL	MATH	RDG	WRTG	
Course Registrations	3,213	20,180	327	366	24,086
	13%	84%	1%	2%	100%

The majority of those students, 84%, required remediation in mathematics, with English, Reading, or Writing accounting for 16% of enrollment in developmental courses.

Findings:

Gender of Developmental Students

Female students made up the majority of developmental enrollments at 53%; this slightly exceeds their 50% proportion of overall enrollments (table 2). Women and men enrolled in developmental English courses at the same rates, but more women than men enrolled in developmental math (table 3).

Table 2 - Gender of Developmental Students

Sex	School							Grand Total	
	USU	WSU	SUU	SNOW	DSU	UVU	SLCC		
FEMALE	1,501	1,798	231	797	305	1,396	3,869	9,897	53.0%
MALE	1,522	1,504	238	638	299	1,416	3,165	8,782	47.0%
Grand Total	3,023	3,302	469	1,435	604	2,812	7,034	18,679	100.0%

Table 3- Gender by Developmental Subject Area

Gender of Developmental Students by Subject	FEMALE	MALE	Grand Total
English/ Reading/ Writing	1,972 50%	1,934 50%	3,906
Math	10,673 53%	9,507 47%	20,180
Total	12,645 52%	11,441 48%	24,086

Age of Developmental Students

Students who delay enrolling in college for whatever reason—jobs, marriage, voluntary religious or military service—typically require more remediation than students fresh from high school, as they have had more time for their skills to erode. This was reflected in the 2016-2017 data, where the average age of a student enrolled in a developmental course at USHE institutions was 23, about four years after graduating from high school (tables 4, 5).

Table 4 - Average Age by Gender and Institution

Average of Age	School							Grand Total
	USU	WSU	SUU	SNOW	DSU	UVU	SLCC	
FEMALE	22.3	24.2	23.4	20.2	20.8	22.8	24.7	23.5
MALE	22.1	23.8	25.2	20.5	21.1	22.9	23.9	23.1
Grand Total	22.2	24.0	24.3	20.3	21.0	22.9	24.3	23.3

Table 5 - Average Age by Subject Area and Select Courses

Average of Age	Subject				Grand Total
	ENGL	MATH	RDG	WRTG	
Course Number					
0900	20.8	21.8	24.2	23.2	22.2
0950	18.2	24.5			24.5
0990	21.4	23.4			22.6
0995		21.9			21.9
Grand Total	21.3	23.3	24.2	23.2	23.0

Although time delays in enrolling in college are a critical factor in developmental enrollments, a significant number of students enroll in developmental courses directly after high school. ACT scores for the high school graduating class of 2016 indicate that a very slim majority, 59%, of Utah high school students were college ready in English but only 35% were college ready in mathematics.¹ Of freshmen who entered USHE institutions without delay after high school graduation, 7% enrolled in developmental English and 33% enrolled in developmental math (Figure 1).

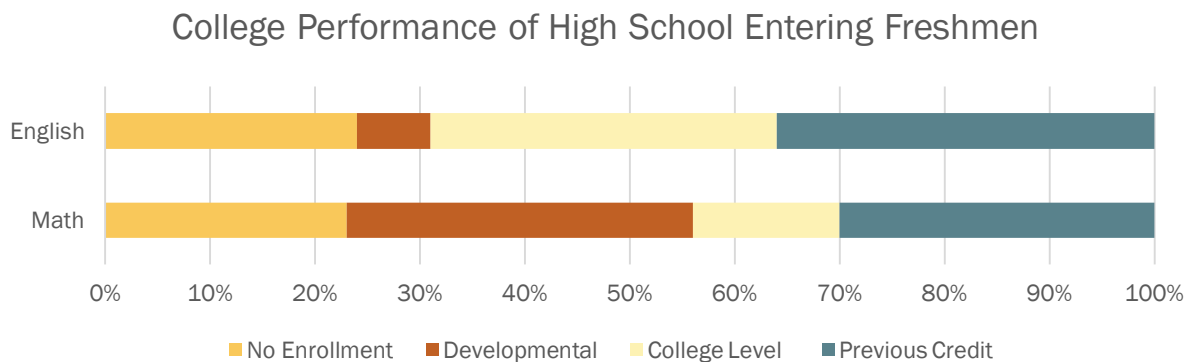


Figure 1 - High School Feedback Report 2016 - State Report on English & Math Enrollments

Race and Ethnicity

Certain ethnic groups are overrepresented in developmental courses when compared to the general student population. In 2016-1027, Native American, Black, and Pacific Islander students enrolled in developmental education at about double their proportion in the student body. Hispanics made up 18.4% of developmental enrollments although they comprised only 10.5% of total student enrollments (table 7).

Table 6 - Race, Ethnicity of Developmental Students

Race/Ethnicity	School							Developmental Grand Total	USHE Fall EOT Head Count
	USU	WSU	SUU	SNOW	DSU	UVU	SLCC		
American Indian	6.0%	0.8%	3.4%	1.3%	2.8%	1.3%	1.3%	2.1%	0.9%
Asian	0.9%	1.9%	0.6%	0.7%	1.7%	1.0%	5.2%	2.7%	2.4%
Black	1.2%	3.3%	4.7%	2.6%	7.3%	2.1%	4.3%	3.3%	1.3%
Pacific Islander	0.7%	1.3%	2.3%	5.1%	3.1%	1.6%	2.2%	2.0%	0.8%
Hispanic	8.7%	18.2%	6.6%	6.9%	20.7%	18.5%	25.7%	18.4%	10.5%
White	77.5%	65.1%	68.7%	79.4%	56.3%	66.3%	54.4%	64.1%	73.8%
Multiple	3.2%	4.3%	0.0%	0.8%	5.3%	3.9%	3.0%	3.2%	2.8%
Non-Resident Alien	0.9%	1.8%	6.4%	2.6%	1.5%	4.2%	2.9%	2.6%	3.1%
Unknown	1.0%	3.4%	7.2%	0.6%	1.3%	1.2%	1.1%	1.6%	4.4%
Grand Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Economic Status

A large number of students enrolling in developmental courses, 42%, were eligible for Pell Grants. These are students for whom the cost of extra time and courses might be especially burdensome. Although the majority of developmental students were not classified as low income, helping students avoid the need for extra courses just to become ready for college level work would save students and institutions money and may have a positive impact on students' ability to persist in and complete college (table 8).

Table 7- Percent of Developmental Students Pell Eligible

Pell Status	Class Standing				Grand Total
	Freshmen	Sophomore	Junior	Senior	
PELL	22.7%	16.2%	1.9%	1.1%	42.0%
No Pell	31.5%	22.9%	2.2%	1.4%	58.0%
Grand Total	54.2%	39.1%	4.1%	2.6%	100.0%

USHE Efforts to Address Developmental Education:

As mentioned earlier, the two biggest contributing factors to students' need for remediation are 1) under-preparation in high school and 2) the natural consequences of losing skills if there has been a time gap between high school graduation and the first year of college enrollment. The large number of Utah freshmen underprepared for college work is attributable in part to current high school graduation requirements that allow students to opt out of taking college preparatory math their senior year. Substantial numbers of Utah students also delay entry into college to fulfill religious service, to earn money, or to start their families.

To address both problems, USHE has begun intensive public messaging campaigns with students, parents, and high school counselors to help high school students understand the benefits of choosing to take the right senior year math class. The Utah State Core high school math curriculum is designed to prepare most students for college-level course work by the end of their junior year of high school. To build upon those skills, USHE institutions offer all high school students who have earned a C or higher in Secondary Math 1, 2, and 3 the opportunity to take a college-level math course while still in high school through concurrent enrollment. Concurrent enrollment allows them to complete their college general education math requirement before work, missions, or other delays in college enrollment erode their skills. USHE also allows students to complete the general education English courses required for college graduation through concurrent enrollment. In addition to saving students time by earning college credits while in high school, concurrent enrollment costs students only \$5 per credit, offering them substantial tuition savings as well. AP and IB coursework may also fulfill college level math credits for some students at some institutions of higher education.

Additional messaging and advising campaigns at USHE institutions strongly encourage students to start on their math pathway immediately upon enrolling in college if they have not completed college math requirements through concurrent enrollment or other means. In 2016-2017, the majority of students began their developmental coursework during their freshman (54%) or sophomore (39%) year, which put them on a pathway to college-level work early in their academic career (table 6).

Table 8 - Percent Developmental by Class Standing and Age Group

Age Group	Class Standing				Grand Total
	Freshmen	Sophomore	Junior	Senior	
14-17	0.9%	0.3%	0.0%	0.0%	1.1%
18-21	36.5%	18.8%	0.8%	0.1%	56.2%
22-25	8.6%	9.3%	1.3%	0.6%	19.8%
26-29	3.3%	4.2%	0.7%	0.6%	8.8%
30-33	1.7%	2.2%	0.4%	0.5%	4.7%
34-37	1.3%	1.6%	0.3%	0.2%	3.5%
38-41	0.8%	1.2%	0.2%	0.2%	2.4%
42-45	0.5%	0.7%	0.1%	0.1%	1.5%
46-50	0.3%	0.5%	0.2%	0.1%	1.1%
>50	0.3%	0.5%	0.1%	0.1%	0.9%
Grand Total	54.2%	39.1%	4.1%	2.6%	100.0%

Because mathematics is the subject in which students most frequently require remediation, USHE institutions have also redesigned the mathematics general education requirements for college graduation. In the past, most students were required to complete a pre-calculus mathematics pathway, even if their majors and future career plans did not require calculus. USHE institutions have made concerted efforts to examine math requirements by major and now offer two additional math general education pathways to students: Quantitative Literacy (Math 1030) and Statistics (Math 1040). Students whose majors do require calculus can still enroll in College Algebra (Math 1050) to fulfill their general education requirement. Often, students who would require remediation in order to succeed in Math 1050 are able to place directly into Math 1030 or Math 1040 without extra coursework if their majors allow. The math pathways redesign should eliminate the need for developmental coursework for many students.

Some USHE institutions are also helping students by-pass the need to enroll in a developmental course through computer-adapted tutor programs that help them to refresh their skills or learn materials they did not know prior to taking placement tests. Students who opt for those computerized programs practice and master mathematics competencies until they are assessed as ready for a college-level course.

Several USHE institutions have also designed co-requisite courses to embed the development of missing skills into college-level classes, essentially combining a developmental course with a college-level course to save students time and money.

ⁱ ACT (2016). The Condition of College and Career Readiness 2016, <http://www.act.org/content/act/en/research/condition-of-college-and-career-readiness-2016.html>.