

Examination of Developmental Education Corequisites in Math and English at Lake Land College

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INTRODUCTION

In FY 2024, Lake Land College received a Developmental Education Reform Act (DERA) grant from the Illinois Community College Board (ICCB). This grant supplied funding to examine the student outcomes related to Lake Land College's implementation of English and math corequisite courses as well as sponsoring a summit to convene multiple community colleges in Illinois to discuss the process and effectiveness of the implementation of multiple measures placement. This report will focus on the data analysis and student outcomes concerning the implementation of math and English corequisites.

The history of Lake Land College's developmental programs started in 1984, when the college offered two developmental English courses and three developmental reading courses. In 1987, it added two developmental math courses to its curriculum. Between 2000 and 2003, the college received a Title III grant that restructured developmental courses for math, English and reading. The results of the Title III study provided the foundation to restructure the developmental math sequence and provided an examination of best practices for English and reading. An additional success intervention began in 2018 when Lake Land College implemented four math pathways.

- Math Pathway 1 supports for associate in arts programs, including art, business education, criminal justice, earth science, English, health education, history, liberal arts, other, physical education, political science, pre-nursing, psychology, recreation, secondary education biology, sociology/social work, and speech communication.
- Math Pathway 2 supports early childhood, elementary, and special education majors.
- Math Pathway 3 supports agriculture transfer, business majors, and economics majors.
- Math Pathway 4 supports engineering, biology non-teaching, chemistry, clinical lab science, conservation/pre-wildlife, environmental science, mathematics, math education, pre-chiropractic, pre-dental, pre-engineering, physics, pre-med, pre-physical therapy, pre-vet, secondary education-chemistry, and secondary education-physics majors.

Around 10 years ago, Lake Land began to explore alternative versions of developmental education courses. Corequisite courses integrate developmental academic support coursework while a student is enrolled in a college-level class (United States, 2017). Math faculty examined corequisite courses for general education math and statistics, allowing students who were placed into developmental math courses to enroll in a college-level course. Corequisite courses have one additional credit hour (two lab hours) compared to the same college-level course, which provides more time in the

course to cover additional materials and provide more student support. The general education and statistics corequisite math courses were pilot-tested during the 2015 academic year and went to full implementation beginning in fall of 2016. The college algebra corequisite course was piloted in the 2022 academic year and began full implementation in the fall of 2023. At that time, beginning and intermediate math courses were removed from the schedule. Prior to spring 2019, the college did not code corequisite math courses with a unique course number. Instead, they coded corequisite math courses as the regular math courses and students in the corequisite courses added a two-hour tutorial course to their schedule to provide the time needed for additional help with math. In this report, corequisite math courses will be compared to regular college courses from spring 2019 to fall 2023. Since corequisite college algebra opened enrollment in fall 2023, students enrolled in corequisite college algebra will be compared to students in college algebra for the fall 2023 term only.

After the implementation and success of the general education and statistics corequisite courses, the Humanities division began to explore the development of a corequisite course for Composition I. English faculty piloted the corequisite composition course in the 2019 academic year and fully implemented the corequisite composition course in fall 2019. While the corequisite composition course has proven to be successful for students, Humanities is continuing to offer on a limited basis the two developmental writing courses. The college has recently shifted attention to reading, and the developmental education committee is looking at various ways to reduce the time and cost associated with the need to take multiple developmental education reading courses for students who assessed at the lower end of the reading spectrum. Discussions are focused on how to integrate reading skills into general education courses for transfer students and program-specific courses for CTE students. Table 1 provides a summary of the developmental and corequisite courses at Lake Land College.

Table 1: Developmental and Corequisite Courses at Lake Land College		
Course	Credit Hours	Implementation
<i>Math</i>		
MAT-005 Beginning Algebra	3.0	No Longer Offered Fall 2023
MAT-006 Intermediate Algebra	4.0	No Longer Offered Fall 2023
MAT-115 General Education Math Pathway	4.0	Fall 2016
MAT-124 Statistics Pathway	4.0	Fall 2016
MAT-129 College Algebra Pathway	4.0	Fall 2023
<i>Reading</i>		
RDG-007 Fundamentals of Reading	2.5	Ongoing
RDG-009 Essentials in Reading	2.5	Ongoing
RDG-050 Reading and Study Skills I	2.5	Ongoing
<i>English</i>		
ENG-005 Foundations in Composition	3.0	Limited Offerings
ENG-007 Composition Skills	3.0	Limited Offerings
ENG-119 Composition I Pathway	4.0	Fall 2019

STUDENT POPULATION

For the purposes of this study, Lake Land College pulled data for all first-time, degree-seeking students enrolled between spring 2019 and fall 2023. Demographic data, placement test results, English and math courses, and grades were included in the dataset. This resulted in a total sample size of 3,875 students. The English and math courses include the following courses:

- ENG-119 Composition I Pathway
- ENG-120 Composition I
- MAT-115 General Education Math Pathway
- MAT-116 General Education Math
- MAT-124 Statistics Pathway
- MAT-125 Statistics
- MAT-129 College Algebra Pathway
- MAT-130 College Algebra

Courses with a pathway indication are the corequisite courses and have additional time built into the credit hours to accommodate the extra instructional support and wraparound support students may need throughout the semester. In each corequisite pathway, the students take the courses in a cohort

model with a single instructor (Richardson & Dorsey, 2019). Corequisite students meet more frequently with their instructors than students in the college-level math and English courses.

Student Demographics

The student data analyzed in the study included 59% female and 41% male; 5% black, 4% Hispanic, 1% Asian, 88% white, and 2% unknown; 62% are first-generation college students¹; 4% of students have a documented disability at the college; and 50% are low-income (i.e., eligible for PELL grants). Table 2 provides a detailed summary of the demographic information of the student sample used for the study.

Table 2: Demographics of Student Sample		
Demographic	Number	Percent
Female	2,341	60%
Male	1,534	40%
Hispanic	143	4%
Black	196	5%
Asian	52	1%
White	3,404	88%
Unknown Race	80	2%
Traditional Age: Up to 24	3,093	80%
Nontraditional 25 and Older	782	20%
First-generation	2,359	61%
Disability ²	134	4%
Low-income ³	1,881	49%

Student Placement Results

Before starting their coursework at Lake Land College, degree-seeking students are encouraged to provide ACT, SAT, or GED results in math, reading, and English or take the ACCUPLACER NextGen assessment tests. Placement into developmental classes or college-level classes are based on the results of these assessments provided to the College. Of the 3,875 students in the sample, 2,530 submitted results for math placement tests, 3,634 submitted results for English placement tests, and 3,627

¹ Lake Land College did not begin consistently collecting first-generation status outside of the FAFSA until 2009. Many students do not complete this question on the college application. As a result, the percent of students who are first generation may be underreported.

² May be under-reported due to students not self-reporting disabilities to the accommodation office.

³ May be under-reported due to the number being based on FAFSA completion, and students are not required to complete the FAFSA.

submitted results for reading placement tests. Overall, 31% of students placed into developmental English, and 65% of students placed into developmental math. A summary of the placement results in all three areas is presented in Table 3.

Assessment Areas	College Ready	% College Ready	Developmental	% Developmental
English (n=3,634)	2,688	69%	1,187	31%
Reading (n=3,875)	2,607	67%	1,268	33%
Math (n=2,530)	1,372	35%	2,503	65%

Overall, 23% (891) of all students tested at the college level for English, math, and reading, and 231 (6%) students were waived⁴ into college-level math (74), English (83), or math and English (75). These 231 students did not test at the college level; however, with other factors considered, they were placed at the college level for math, English, or math and English. In general, 31% of students assessed into developmental English, 65% assessed into developmental math, and 33% assessed into developmental reading. When reviewing the data for students who assessed into multiple areas, almost 21% of degree-seeking students assessed into all three developmental areas. Approximately 36% tested into one developmental area (math, reading, or English), and 14% tested into two developmental areas. Table 4 provides a summary of the placement results by topic area.

Assessment Areas	Number Placed into Developmental Area(s)	% Placed into Developmental Area(s)
College Level All Areas No Waivers	891	23%
College Level with Waivers in One or More Areas	231	6%
English Only	53	1%
Math Only	1,259	32%
Reading Only	69	2%
English and Reading	128	3%
English and Math	173	4%
Math and Reading	238	6%
English, Math and Reading	833	21%

In fall 2016, Lake Land began placing students in corequisite general education math and corequisite statistics. Students who assessed at the basic or intermediate algebra level were allowed to

⁴ The college allows counselors, admissions, or the division chair to waive students' developmental class. Although admissions make notations regarding waivers through comments, the college CMS does not compile the reason a course was waived or note who completed the waiver.

take a corequisite math course if it was a program requirement. Students required to take college algebra as part of their program continued to take the basic and/or intermediate algebra based on their assessment scores. In 2018, multiple measures placement discussions associated with math and English began evolving around the state and at the college (Illinois Community College Board, 2020). These discussions focused on using more than simple placement testing or ACT/SAT scores to place students at appropriate levels for math and English. By fall of 2019, the college began implementing multiple measures (i.e., high school GPA, placement test scores, ACT/SAT scores, transitional math, etc.) to place students in developmental, corequisite, or college-level courses at the college.

Subject and Placement Status	Frequency	Percent
Waived into Higher Level Math/corequisite Math	278	7%
Waived into Higher Level English/corequisite English	454	12%
Waived into Higher Level Math and English	347	9%

RESEARCH QUESTIONS AND ANALYSIS

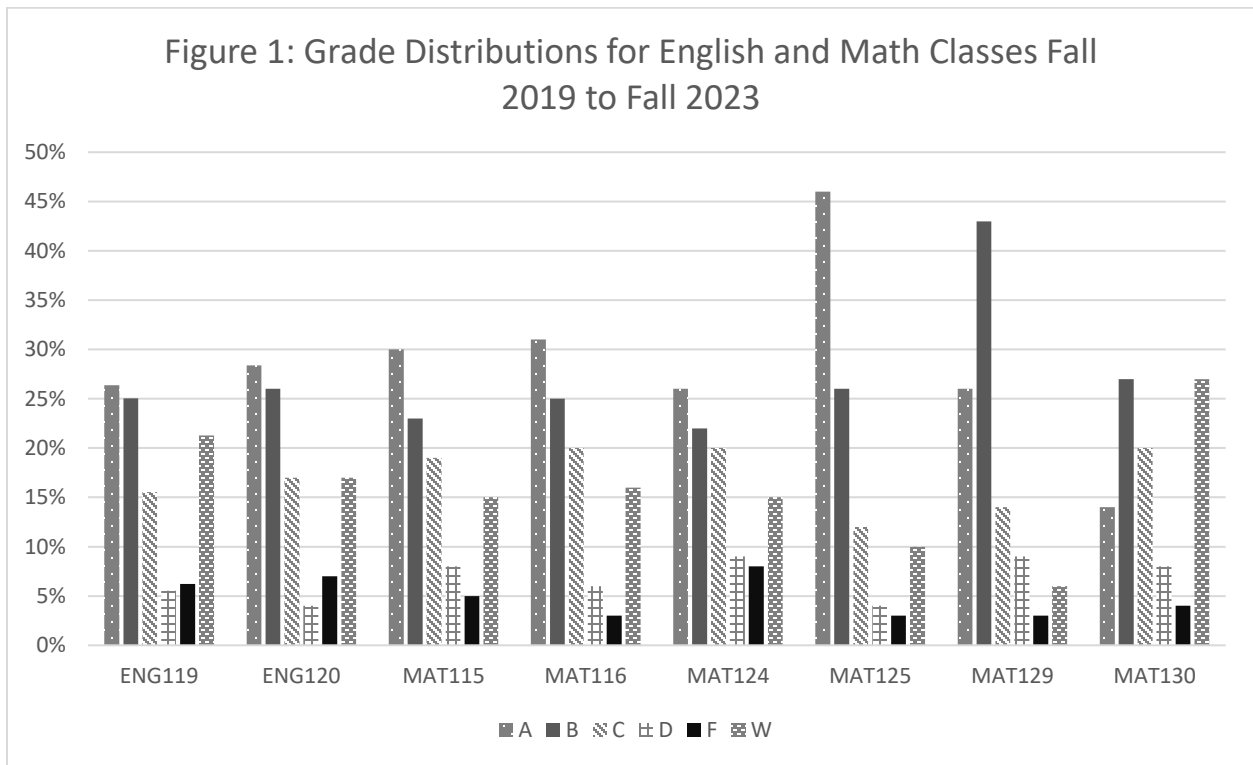
The following research questions were examined as part of this research and the analysis to explore these analyses are presented below.

1. Are students in corequisite courses as successful as those in college-level courses?
- 2a. Are students in online corequisite courses as successful as those in face-to-face corequisite courses?
- 2b. Are students in college-level online courses as successful as students in face-to-face college-level courses?
- 3a. What are the demographics of the students in corequisite and college-level courses?
- 3b. Are certain populations of students taking corequisites at a much higher rate than their counterparts (e.g., gender, age, race, low-income, etc.)?
4. What, if any, student demographics have an impact on the success of students in corequisite classes or in college-level courses?

Question 1. Are students in corequisite courses as successful as those in college-level courses?

Figure 1 presents the distribution of grades for all English and math courses included in the analysis. For the purpose of analysis involving two sample tests of proportions, grades were converted

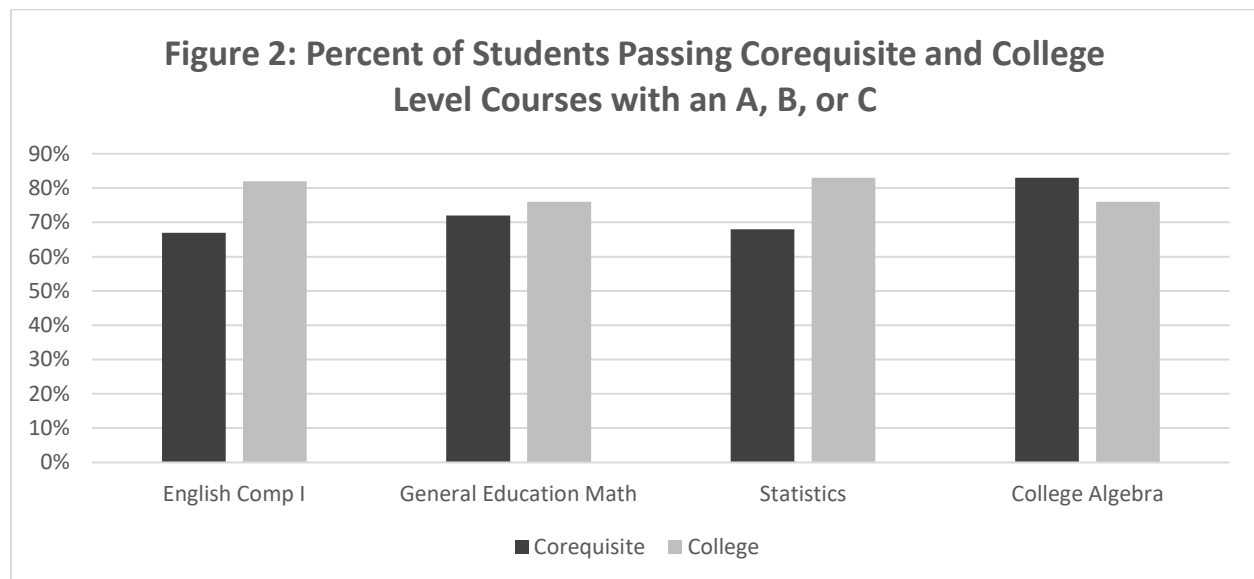
into a dichotomous variable of successfully passing the class with an A, B, or C grade or not passing, which included grades of D and F as well as withdrawals from the course.



Two sample tests of proportions were conducted to estimate the differences between students taking corequisite courses and the corresponding college course (i.e., Composition I Pathway ENG-119 and Composition I ENG-120, General Education Pathway MAT-115 and General Education Math MAT-116, Statistics Pathway MAT-124 and Statistics MAT-125, and College Algebra Pathway MAT-129 and College Algebra MAT-130). The proportion of students successfully passing the pathway class with an A, B, or C grade or not passing (D, F, and withdrawals) was compared to the proportion of students successfully passing or not passing the college-level course to determine if a statistically significant difference existed.

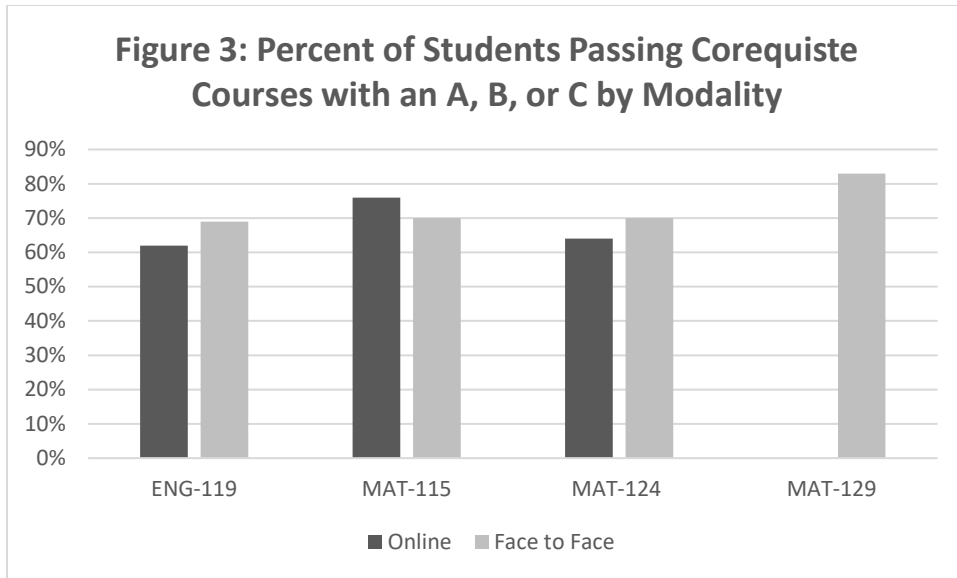
When comparing the proportion of students in General Education Math and College Algebra, no significant differences emerged between students passing the corequisite course and the corresponding college-level course. When examining the proportions of students completing Composition I Pathway with Composition I, results indicated a significant difference between the two groups. A statistically significant larger proportion of students in the college-level English (82%) course passed with a grade of C or higher than in the corequisite English course (67%) with a grade of C or higher ($p = .023$). Similar

results occurred between the statistics pathway course and college-level statistics course. A statistically significant larger proportion of students in the college-level statistics course (83%) passed statistics than in the corequisite statistics course (68%) with a C or higher ($p = .021$). In other words, although students in the pathways courses for English and statistics are doing well with over two-thirds of them passing with a C or higher, a statistically significant larger proportion of students in the corresponding college-level English and statistics courses are passing with a C or higher. Figure 2 provides a summary of the percent of students passing courses with a C or higher.



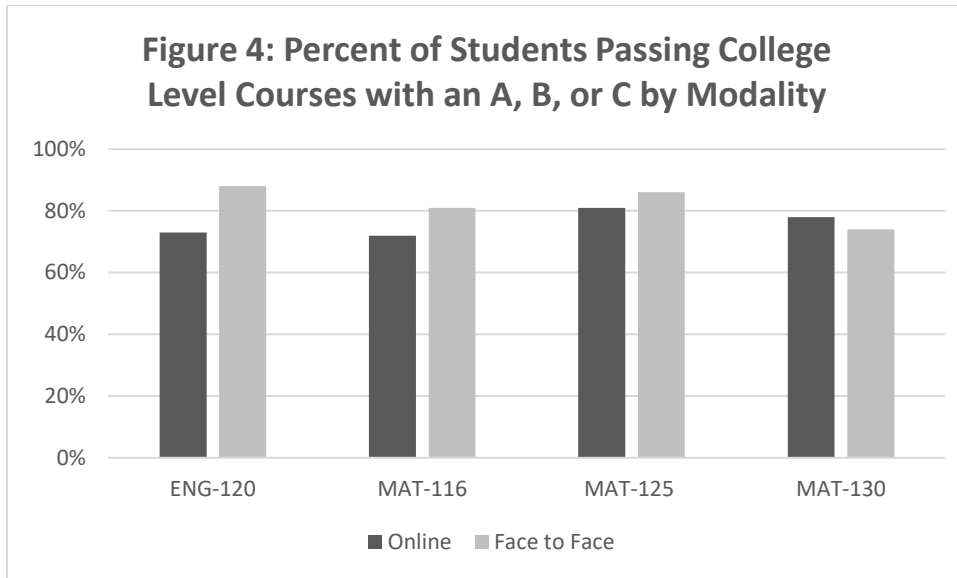
Question 2a. Are students in online corequisite courses as successful as those in face-to-face corequisite courses?

Two sample tests of proportions were conducted to estimate the differences for students successfully completing the corequisite courses (i.e., Composition I Pathways, General Education Math Pathway, Statistics Pathway, and College Algebra Pathway) with a C or higher by modalities (i.e., online or face-to-face). Results indicate that there were no statistically significant differences in the proportion of students passing the corequisite Composition I Pathway course online (62%) when compared to students taking corequisite Composition I Pathway course face-to-face (69%); corequisite General Education Math online (76%) compared to face-to-face (70%); or corequisite Statistics online (64%) compared to face-to-face (70%). The corequisite College Algebra course was not offered online in fall of 2023 because that is the first term when the course was offered at the College. These results suggest that students taking the online version of a corequisite course are likely to be as successful as those taking the course face-to-face.



Question 2b. Are students in college-level online courses as successful as students in face-to-face college-level courses?

Two sample tests of proportions were conducted to estimate if the proportion of students passing the online version of a college-level class showed a statistically significant difference from the proportion of students passing the face-to-face version of a college-level class. When comparing online to face-to-face modalities of the Composition I course, the results indicated that a statistically significant difference existed between the proportion of students passing college-level English online (73%) and face-to-face (88%) where $p=.012$. In other words, a statistically significant larger proportion of students passed Composition I when taking a face-to-face class compared to students in the online version of the class. When testing for differences in proportions of students passing college-level online to face-to-face courses, no statistically significant differences were observed for any of the math courses including General Education Math, Statistics, and College Algebra.



Question 3a. What are the demographics of the students in corequisite and college-level courses?

The following graphs provide summaries of the demographic characteristics of degree-seeking students enrolled at Lake Land College between fall 2019 and fall 2023. Each graph represents a separate characteristic and provides the percentage of students by demographic who enrolled in the corequisite and college-level courses being examined. The first set of bars represents the breakdown of this demographic for the whole sample of students included in the study. For example, when reviewing Figure 5 below, 60% of the entire sample of 3,875 students included in the study were female and 40% were male. These percentages are consistent for both Composition I and General Education Math but vary a little for Statistics and College Algebra.

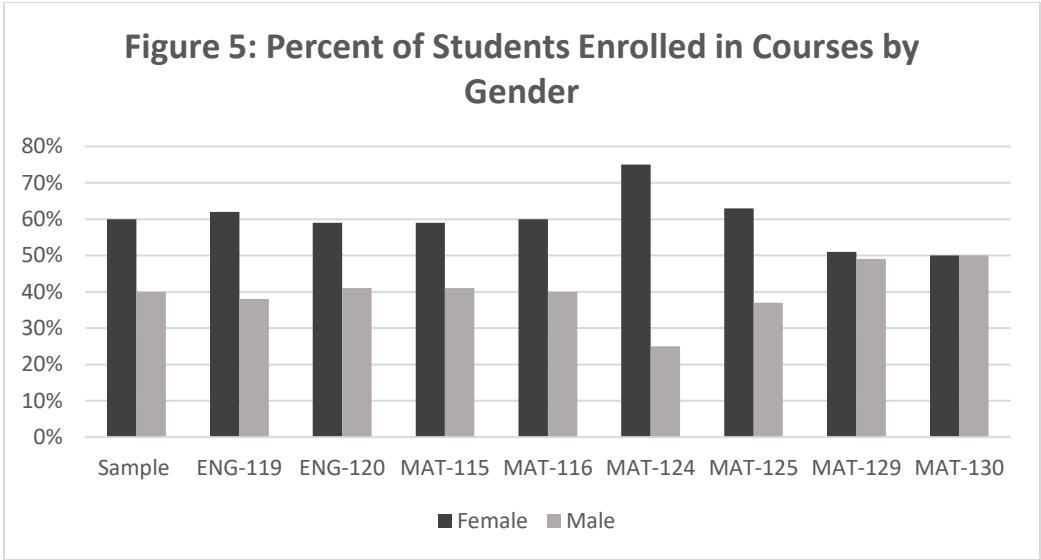


Figure 6 summarizes the percentage of students enrolled by age group. Traditional students are students aged 24 years and under while nontraditional students are classified as students aged 25 years and older. Of the 3,875 students included in the sample, 80% of students were traditional students and 20% were nontraditional students. These percentages were similar for Composition I, General Education Math, and Statistics but varied for College Algebra, with the corequisite having 94% traditional and 6% nontraditional.

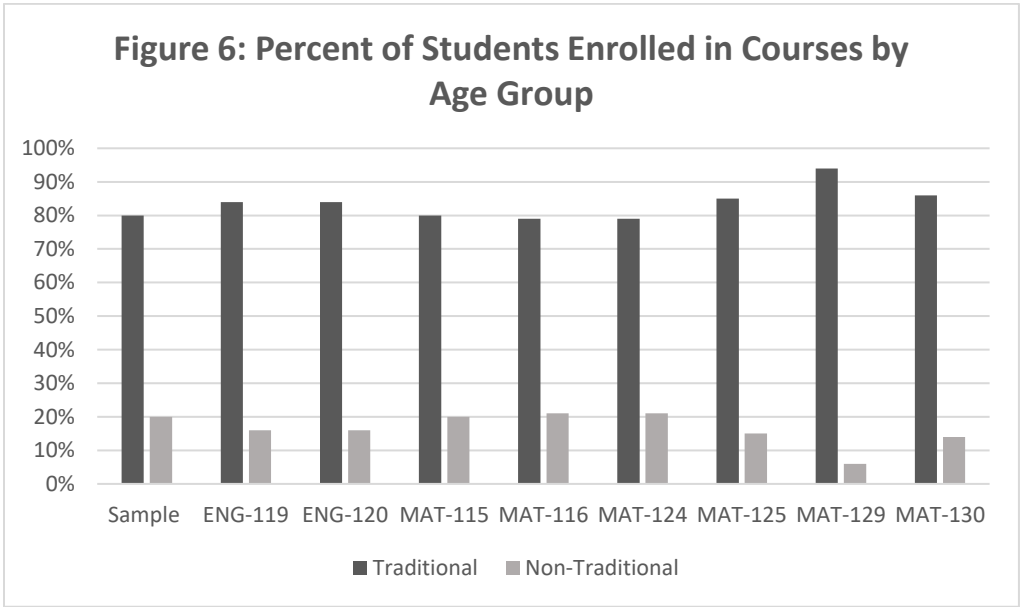


Figure 7 summarizes the percentage of students enrolled in the courses examined for this study by race/ethnicity. Since Lake Land College has such a small population of minority students, all students

self-reporting as a race other than white/Caucasian are classified as minority students. Students who did not self-report their race or ethnicity are classified as unknown. Of the 3,875 students included in the sample, 10% reported their race to be a racial minority, 88% reported their race to be white, and 2% reported unknown.

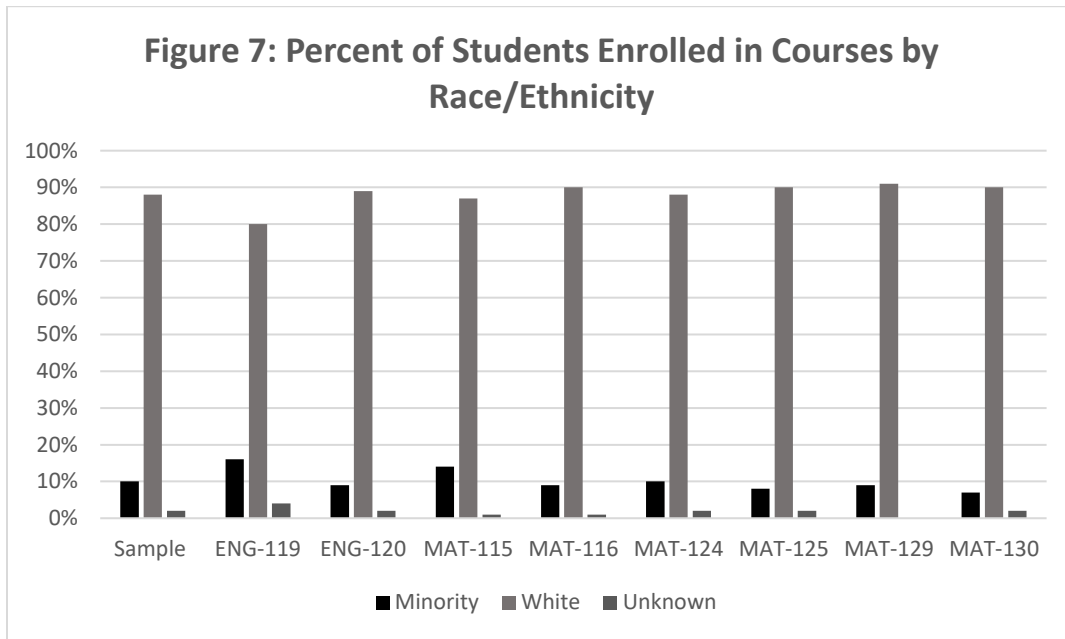


Figure 8 provides an overview of the percentage of students who were first-generation college students enrolled in the courses included in the study. First-generation college students are students whose parents/guardians do not have a bachelor’s degree. Students are considered first-generation college students if neither parent/guardian has a bachelor degree. If one or both of their parents/guardians have taken some college courses or have an associate degree, they are still considered first-generation college students. Sixty-one percent of the students in the sample were first-generation college students, and 39% were not first-generation college students.

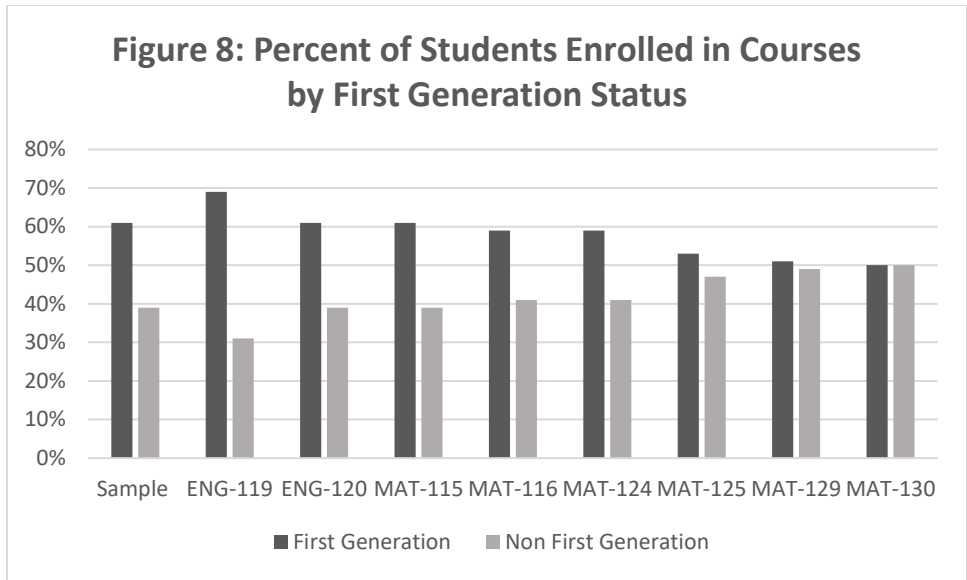


Figure 9 presents the percentage of students enrolled in courses by income status. Students are considered low-income if they are eligible for a PELL grant. In the sample for this study, 49% of students were PELL eligible, and 51% of the students were not PELL eligible. The percentage of low-income students may be under-reported. Students are only classified as low-income if they complete the FAFSA forms for federal financial aid, and these forms are not mandatory for students to complete.

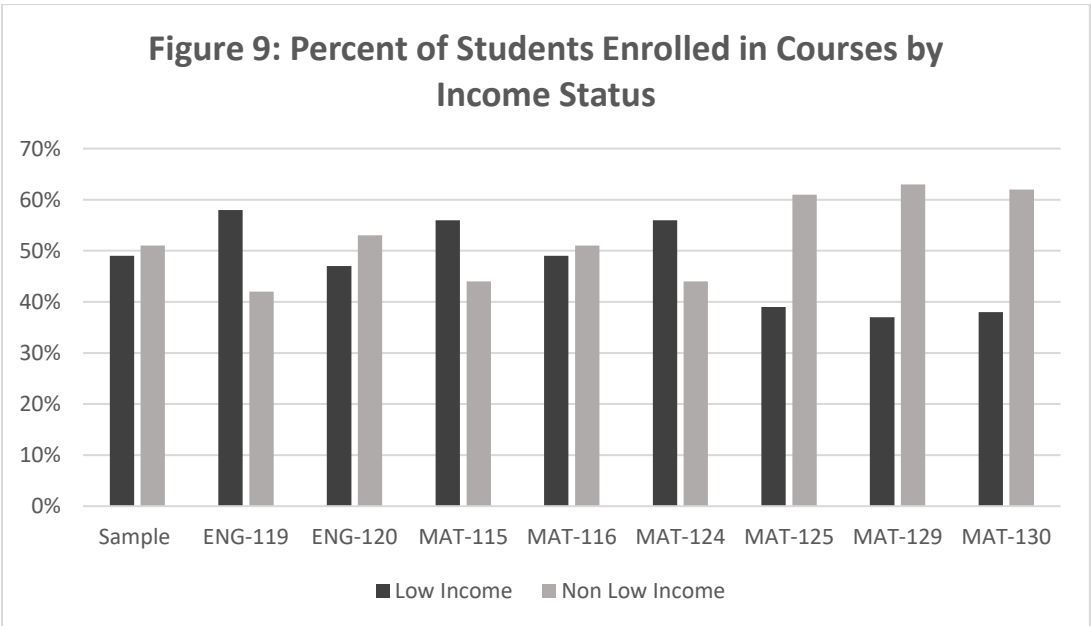
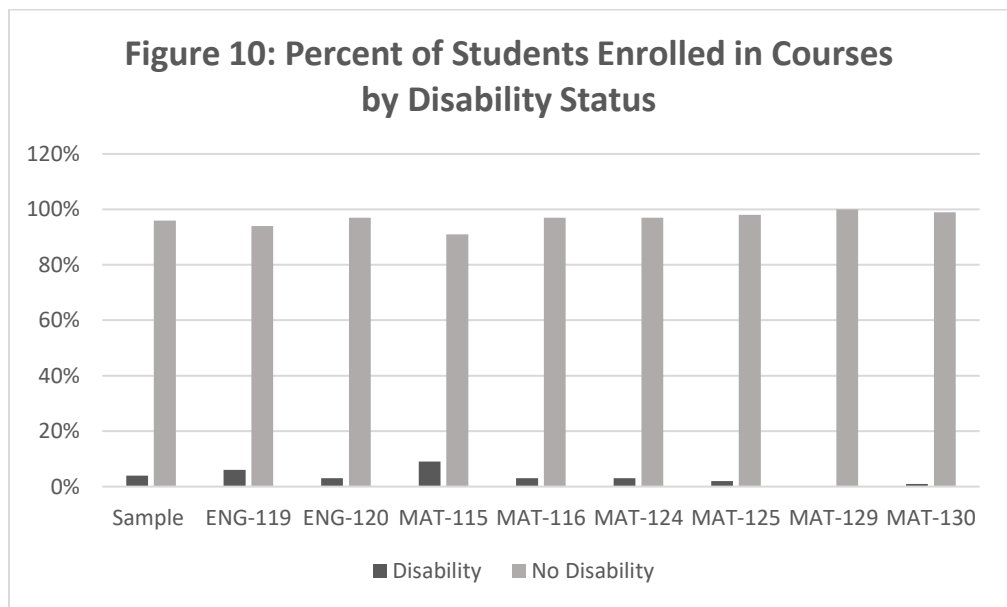


Figure 10 synthesizes the disability status of students enrolled in the courses in the study. Disability status is determined by students self-reporting their disability to the Counselor who oversees accommodations for students. Four percent of the students in the sample for this study self-reported at

least one disability. The percentage of students with disabilities may be under-reported. The only way for the college to document disabilities is for students to report their disabilities to the Office of Accommodations on campus. Some students may choose to forego reporting their learning disabilities.



Question 3b. Are certain populations of students taking corequisites at a much higher rate than their counterparts (e.g., gender, age, race, low-income, etc.)?

Demographic	Sample Population		ENG-119		ENG-120	
	N=3,875		N=452		N=2,903	
	Number	Percent	Number	Percent	Number	Percent
Female	2,341	60%	281	62%	1724	59%
Male	1,534	40%	17	38%	1179	41%
Minority	391	10%	73	16%	256	9%
White	3,404	88%	361	80%	2595	89%
Unknown Race	80	2%	18	4%	52	2%
Traditional Age: Up to 24	3,093	80%	378	84%	2429	84%
Nontraditional 25 and up	782	20%	74	16%	474	16%
First-generation	2,359	61%	310	69%	1762	61%
Disability	134	4%	26	6%	95	3%
Low-income	1,881	49%	262	58%	1361	47%

Chi-square tests of independence were performed to examine the relationship between gender, race, age group, first-generation status, disability, low-income, and placement in corequisite versus college-level English and math courses. Results indicated that there was no relationship between gender or age group and placement in corequisite versus college-level English courses. However, there

appeared to be a relationship between the student demographics of low-income, race, first-generation, and disability status and placement in remedial versus college-level English classes. Results of the chi-square analysis for demographics and English courses included:

- The relationship between low-income status and English placement was significant, $\chi^2(1, N=3,341) = 16.56, p = .000$. Low-income students were more likely to be placed in corequisite English courses than students with no economic disadvantage.
- The relationship between race and English placement was significant, $\chi^2(1, N=3,271) = 21.331, p = .000$. Minority students were more likely to be placed in corequisite English courses than white students.
- The relationship between first-generation and English placement was significant, $\chi^2(1, N=2,820) = 5.453, p = .020$. First-generation students were more likely to be placed in corequisite English courses than students who were not first-generation.
- The relationship between having a disability and English placement was significant, $\chi^2(1, N=3,340) = 6.510, p = .011$. Students with documented disabilities were more likely to be placed in corequisite English courses than students without disabilities.

Demographic	Sample Population		MAT-115		MAT-116	
	N=3875		N=429		N=465	
	Number	Percent	Number	Percent	Number	Percent
Female	2,341	60%	252	59%	278	60%
Male	1,534	40%	177	41%	187	40%
Minority	391	10%	49	14%	41	9%
White	3,404	88%	374	87%	418	90%
Unknown Race	80	2%	6	1%	6	1%
Traditional Age: Up to 24	3,093	80%	341	80%	366	79%
Nontraditional 25 and up	782	20%	88	20%	99	21%
First-generation	2,359	61%	262	61%	276	59%
Disability	134	4%	38	9%	15	3%
Low-income	1,881	49%	241	56%	227	49%

Chi-square tests of independence were performed to examine the relationship between gender, race, age group, first-generation status, disability, low-income status, and placement in corequisite versus college-level General Education Math, Statistics, and College Algebra courses. Results indicated that there was no relationship between gender, first-generation status, race, or age group and placement in corequisite versus college-level General Education Math courses. However, there appeared to be a relationship between the student demographics of low-income and disability status

and placement in corequisite versus college-level General Education Math classes. The results of the chi-square analysis for these demographics and General Education Math courses are as follows:

- The relationship between low-income and General Education Math placement was significant, $\chi^2(1, N=408) = 4.973, p = .026$. Low-income students were more likely to be placed in corequisite General Education Math courses than were students with no economic disadvantage.
- The relationship between having a disability and General Education Math placement was significant, $\chi^2(1, N=408) = 12.382, p = .000$. Students with documented disabilities were more likely to be placed in corequisite General Education math courses than students without disabilities.

Demographic	Sample Population		MAT-124		MAT-125	
	N=3875		N=422		N=981	
	Number	Percent	Number	Percent	Number	Percent
Female	2,341	60%	315	75%	562	63%
Male	1,534	40%	107	25%	329	37%
Minority	391	10%	41	10%	72	8%
White	3,404	88%	373	88%	804	90%
Unknown Race	80	2%	8	2%	15	2%
Traditional Age: Up to 24	3,093	80%	334	79%	761	85%
Nontraditional 25 and up	782	20%	88	21%	130	15%
First-generation	2,359	61%	249	59%	472	53%
Disability	134	4%	13	3%	19	2%
Low-income	1,881	49%	235	56%	346	39%

Results indicate that there was a significant relationship between gender, low-income status, age, and placement in corequisite Statistics courses. Women were placed into corequisite Statistics courses at a statistically significant higher rate than men $\chi^2(1, N=413) = 19.067, p = .000$. Low-income students were placed into corequisite Statistics courses at a statistically significant higher rate than students who were not economically disadvantaged $\chi^2(1, N=413) = 31.602, p = .000$. Nontraditional-aged students (i.e., 25 years and older) were placed into corequisite Statistics courses at a statistically significant higher rate than traditional-aged students $\chi^2(1, N=413) = 7.932, p = .005$.

Table 9: Demographics of College Algebra Enrollees						
Demographic	Sample Population		MAT-129		MAT-130	
	N=3875		N=35		N=833	
	Number	Percent	Number	Percent	Number	Percent
Female	2,341	60%	18	51%	416	50%
Male	1,534	40%	17	49%	417	50%
Minority	391	10%	3	9%	61	7%
White	3,404	88%	32	91%	753	90%
Unknown Race	80	2%	0	0%	19	2%
Traditional Age: Up to 24	3,093	80%	33	94%	714	86%
Nontraditional 25 and up	782	20%	2	6%	119	14%
First-generation	2,359	61%	18	51%	419	50%
Disability	134	4%	0	0%	12	1%
Low-income	1,881	49%	13	37%	319	38%

Results from the chi-square tests of independence examining potential differences between student demographics and placement into college-level or corequisite College Algebra classes revealed no statistically significant differences for any of the demographic groups. This could be due to the small number of students enrolled in the corequisite College Algebra course because fall 2023 was the first semester the class was offered. These data will need to be monitored after more time has passed to determine if the results remain the same.

Question 4. What, if any, student demographics impact the success of students in corequisite classes or in college-level courses?

Table 10: Demographics and Success of English Enrollees								
Demographic	ENG-119 n=451				ENG-120 N=2900			
	Successful		Unsuccessful		Successful		Unsuccessful	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	207	69%	73	49%	1,424	40%	298	44%
Male	95	32%	76	51%	945	60%	233	56%
Minority	45	16%	28	19%	178	8%	78	15%
White	241	84%	120	81%	2,151	92%	441	85%
Traditional Age: Up to 24	244	81%	133	89%	2022	85%	404	76%
Nontraditional 25 and up	58	19%	16	11%	347	15%	127	24%
First-generation	197	75%	113	87%	1,384	69%	377	86%
Not First Gen	67	25%	17	13%	616	31%	60	14%
Disability	21	93%	5	3%	70	3%	25	5%
No Disability	281	7%	144	97%	2,298	97%	506	95%
Low-income	172	57%	90	60%	1,069	45%	292	55%
Non-Low-income	130	43%	59	40%	1,300	55%	239	45%

Results from the chi-square tests of independence examining potential differences between student demographics and successful completion of college-level or corequisite English classes revealed the following:

- Women were statistically significantly more likely than men to complete the corequisite Composition I Pathway course successfully $\chi^2(1, N=451) = 16.199, p = .000$. However, no statistically significant gender differences in successful completion were identified for the college-level Composition I course.
- There were no statistically significant differences in the successful completion of Composition I Pathway between white and minority students; however, white students were statistically significantly more likely to complete college-level Composition I successfully than minority students $\chi^2(1, N=2848) = 28.303, p = .000$.
- Students 25 years and older were significantly more likely to pass Composition I Pathways than their traditional-aged counterparts $\chi^2(1, N=451) = 5.215, p = .022$. However, students who were 24 and under were statistically significantly more likely to complete college-level

Composition I successfully than students who were 25 years and older $\chi^2(1, N=2900) = 27.259, p = .000$.

- Non-first-generation students were statistically significantly more likely than first-generation students to complete the Composition I Pathway successfully $\chi^2(1, N=394) = 17.859, p = .005$ and to complete college-level Composition I successfully $\chi^2(1, N=2,437) = 52.135, p = .000$.
- There were no statistically significant differences between students with reported disabilities and students without disabilities.
- Income did not have an impact on the successful completion of the Composition I Pathway course; however, for college-level Composition I students, low-income students were statistically significantly less likely than their counterparts to pass Composition I successfully $\chi^2(1, N=2900) = 16.953, p = .000$.

Demographic	MAT-115				MAT-116			
	Successful		Unsuccessful		Successful		Unsuccessful	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	136	58%	56	60%	219	62%	59	52%
Male	99	42%	37	40%	132	38%	55	48%
Minority	28	12%	12	13%	24	7%	17	15%
White	204	88%	79	87%	323	93%	95	85%
Traditional Age: Up to 24	188	80%	69	74%	272	77%	94	83%
Nontraditional 25 and up	47	20%	24	26%	79	23%	20	17%
First-generation	137	69%	63	80%	203	73%	73	75%
Not First Gen	62	31%	16	20%	77	27%	24	25%
Disability	15	6%	13	14%	9	3%	6	5%
No Disability	220	94%	80	86%	342	97%	108	95%
Low-income	108	46%	29	31%	168	48%	59	52%
Non-Low-income	127	54%	64	69%	183	52%	55	48%

Results from the chi-square tests of independence examining potential differences between student demographics and successful completion of college-level or corequisite General Education Math classes revealed the following:

- There were no statistically significant differences between gender and successful completion of the corequisite or college-level General Education Math courses.
- While there were no statistically significant differences between race and successful completion of the General Education Math Pathway course, white students were more likely than minority

students to complete college-level General Education Math successfully $\chi^2(1, N=459) = 7.105, p = .008$.

- There were no statistically significant differences between age group and successful completion of the corequisite or college-level General Education Math courses.
- There were no statistically significant differences between first-generation and successful completion of the corequisite or college-level General Education Math courses.
- Students with a reported disability were statistically significantly less likely than students without a disability to complete General Education Math Pathway successfully $\chi^2(1, N=328) = 4.923, p = .026$. There were no significant differences regarding disability status and successful completion of the college-level General Education Math class.
- Non-low-income students were statistically significantly more likely than low-income students to complete General Education Math Pathway successfully $\chi^2(1, N=328) = 5.980, p = .014$. There were no statistically significant differences in income status and successful completion of the college-level General Education Math class.

Demographic	MAT-124				MAT-125			
	Successful		Unsuccessful		Successful		Unsuccessful	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	228	79%	87	64%	486	66%	75	50%
Male	59	21%	48	36%	255	34%	74	50%
Minority	24	9%	17	13%	51	7%	21	14%
White	256	91%	117	87%	678	93%	125	86%
Traditional Age: Up to 24	226	79%	108	80%	640	86%	120	81%
Nontraditional 25 and up	61	21%	27	20%	101	14%	29	19%
First-generation	165	69%	84	71%	375	64%	97	82%
Not First Gen	75	31%	35	29%	207	36%	21	18%
Disability	9	3%	4	3%	15	2%	4	3%
No Disability	278	97%	131	97%	726	98%	144	97%
Low-income	152	53%	83	62%	273	37%	73	49%
Non-Low-income	135	47%	52	38%	468	63%	76	51%

Results from the chi-square tests of independence examining potential differences between student demographics and successful completion of college-level or corequisite Statistics classes revealed the following:

- Women were statistically significantly more likely than men to complete the corequisite Statistics Pathway course successfully $\chi^2(1, N=422) = 10.912, p = .001$ and the college-level Statistics course successfully $\chi^2(1, N=890) = 12.384, p = .000$.
- While race did not have an impact on the successful completion of the Statistic Pathway course, white students were statistically significantly more likely to complete the college-level Statistics course successfully than minority students $\chi^2(1, N=875) = 8.791, p = .003$.
- There were no statistically significant differences between age groups and successful completion of either the Statistics Pathway course or the college-level Statistics course.
- There were no significant differences for first-generation status and successful completion of the Statistics Pathway course; however, non-low-income students were statistically significantly more likely than low-income students to complete the college-level Statistics course successfully $\chi^2(1, N=700) = 14.107, p = .000$.
- There were no statistically significant differences in disability status and the successful completion of the Statistics Pathway course and the college-level Statistics course.
- There were no statistically significant differences for income status and successful completion of the Statistics Pathway course; however, non-low-income students were statistically significantly more likely than low-income students to complete the college-level Statistics course successfully $\chi^2(1, N=890) = 7.708, p = .005$.

Demographic	MAT-129				MAT-130			
	Successful		Unsuccessful		Successful		Unsuccessful	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	15	52%	3	50%	332	53%	82	41%
Male	14	48%	3	50%	300	47%	116	59%
Minority	2	7%	1	17%	43	7%	18	9%
White	27	93%	5	83%	577	93%	173	91%
Traditional Age: Up to 24	28	97%	5	83%	542	86%	169	85%
Nontraditional 25 and up	1	3%	1	17%	90	14%	29	15%
First-generation	15	54%	3	50%	311	64%	107	64%
Not First Gen	13	46%	3	50%	177	36%	61	36%
Disability	0	0%	0	0%	7	1%	5	3%
No Disability	29	100%	6	100%	625	99%	192	97%
Low-income	9	31%	4	67%	234	37%	85	43%
Non-Low-income	20	69%	2	33%	398	63%	113	57%

Results from the chi-square tests of independence examining potential differences between student demographics and successful completion of corequisite or college-level College Algebra classes revealed the following:

- There were no statistically significant differences among men and women related to successful completion of the College Algebra Pathway course. However, women were revealed statistically significantly more likely than men to complete the college-level College Algebra course successfully $\chi^2(1, N=830) = 7.454, p = .006$.
- Racial group did not have an impact on the successful completion of either the corequisite College Algebra Pathway course or the college-level College Algebra course.
- There were no statistically significant differences between age groups and successful completion of either the College Algebra Pathway or the college-level College Algebra course.
- There were no statistically significant differences for first-generation status and successful completion of either the corequisite College Algebra Pathway course or the college-level College Algebra course.
- There were students who enrolled in the College Algebra Pathway course with a reported disability, and there were no statistically significant differences regarding disability status and the successful completion of the college-level College Algebra course.
- There were no statistically significant differences regarding income status and successful completion of the corequisite College Algebra Pathway course or college-level College Algebra course.

DISCUSSION

Overall, the results yielded from the study were not surprising, based on previous examinations of college data related to corequisite and college-level courses. However, the results provide some new insights for the college as well as directions for additional research and interventions. In general, the college needs to track and monitor College Algebra Pathway placement and student success over a much longer period to determine if students are being placed appropriately, if students are succeeding at equal rates to college-level courses, and if demographic characteristics have a significant impact on placement and success.

Composition I Pathway (ENG-119) and Composition I (ENG-120)

Placement

Overall, students who identified as a minority, first-generation, disabled, or low-income were more likely to be placed in the corequisite Composition I Pathways course. Further study not only of the advisement and enrollment process but also of student background needs further examination to understand these dynamics. This is consistent with the research on ethnicity, income, gender, disability, and first-generation status found in Andrews (2019), Bailey et al. (2016), Hayward and Willett (2014).

An examination of why minority students are being placed in Composition I Pathway courses at statistically significantly higher rates than white students is an important one. It would be worth considering multiple measures of placement guidelines and placement tests results to discover if more minority students are being guided toward the corequisite course, if they are asking to be placed in the corequisite course, or if they are being waived comparably to white students, which Andrews (2019) and Denley (2017) explored. Additionally, the minority group data needs to be disaggregated to discover whether specific minority groups are being placed in the corequisite Composition I Pathways course at higher rates than other minorities.

Successful Completion of English Courses

Overall, one concern regarding modality exists for the Composition I pass rates. The proportion of students passing college-level Composition I online was lower than the proportion of students passing the face-to-face sections. Although this difference was not found in the Composition I Pathways course, it would be worth studying which interventions at an instructional level made a difference in effectively supporting students in online and face-to-face courses. In a mixed-method study, Park-Gaghan et al. (2022) discussed the characteristics of corequisite models that included multiple delivery methods; placement; and surveying department chairs, faculty, and students regarding their beliefs about online corequisite learning. They identified the following promising practices: academic support through supplemental instruction and embedded tutoring, instructor autonomy balanced with continuity, team teaching, connection with student services, and frequent faculty-student contact (Park-Gaghan et al., 2022). Reviewing instructional and wraparound support that students experience online and face-to-face as well as studying promising practices in teaching composition at the college and corequisite level could help identify areas of success and improvement.

A second concern in this study relates to gender regarding men completing the corequisite Composition I Pathway course successfully. Women were statistically significantly more likely than men to complete the corequisite Composition I Pathway course successfully. Brathwaite and Edgecombe (2018) discovered that females were 8% more likely than males to complete the college-level course successfully after implementing the corequisite model. Discovering why this difference exists and what supports are needed to help men be more successful would be a valuable study. It would also be valuable to study specific interventions faculty are using in the Composition I Pathway course to learn which support and assessment practices might prove more helpful to male students.

Although no differences existed in the successful completion of Composition I Pathway between white and minority students, white students were more likely to complete college-level Composition I successfully than minority students, which is consistent with the research from Andrews (2019), Denley (2017), and Scott-Clayton (2018). Additionally, Hayward and Willett (2014) found that all minority students completed the college-level course at higher rates in the corequisite model than prerequisite model. Our study's data needs further examination as well. It would be worth disaggregating the data by minority group to learn which groups succeeded and which groups faced more challenges. It would also be valuable to study specific interventions faculty are using in the Composition I Pathway course to learn what support and assessment practices might prove more helpful to each ethnic group in the college-level Composition I course.

Students 25 years and older were statistically significantly more likely to pass Composition I Pathways than traditional-aged students. However, traditional-aged students were statistically significantly more likely to complete college-level Composition I successfully than students who were 25 years and older which was also found in Denley (2017), Edgecombe et al. (2014), Hayward and Willett (2014). These differences need to be examined in more detail and with developmental and transfer faculty discussing the differences in instruction and support.

The fifth concern for further study relates to first-generation status and passing rates. Although income did not appear to impact the successful completion of the Composition I Pathway course, low-income students were less likely than their counterparts to pass Composition I successfully. Additionally, first-generation students were less likely to complete the Composition I Pathway and the college-level Composition I successfully. Andrews (2019) and Brathwaite and Edgecombe (2018) found that low-income students and first-generation students were less likely than students from higher income brackets to complete a corequisite course successfully. Denley (2017) found that low-income students were nearly as likely to pass the corequisite and college-level courses (80%) as well as the next level of

college courses (83%). Further study regarding why low-income students and first-generation students are not as successful as students who are not low-income or first-generation students is necessary.

The final concern for further study relating to English relates how the college can improve support for students belonging to multiple high-risk groups. For example, how many of the students who struggled with college-level Composition I were male, minority, and first-generation students? Another factor to consider that has not been examined or discussed is a student's future plans. How many of the struggling students plan to transfer to obtain a bachelor's degree compared to an associate degree or certificate? Transfer students will need to complete Composition I as well as Composition II successfully. However, based on their programs or majors, do the students planning on stopping with a two-year degree need Composition I, or would these students benefit more from an applied written communication class that would address and build the types of written communication skills needed in industry, technology, manufacturing, and other applied fields?

Corequisite and College-Level Math

Placement

Over time, the college has changed the math placement process based on feedback and input from math faculty as well as data analysis. College math faculty developed, tested, and implemented corequisite courses for General Education Math and Statistics. In recent years, Lake Land College implemented multiple measures and assisted multiple in-district high schools with developing transitional math courses. After utilizing multiple measures and corequisite math courses for several semesters, math faculty reviewed data related to the successful completion of college-level math courses and determined that multiple measures, especially transitional math in high school, were not effective predictors of success for college-level math. At this point, the math department returned to using placement tests to determine if students would be placed at the college level or in corequisite math courses.

Even with these efforts in the past, findings from the current study indicate continued potential problems with math placement based on demographic characteristics. For example, a significantly higher proportion of low-income students are placed into corequisite math courses (i.e., General Education Math and Statistics) than students with no economic disadvantage. Students with documented disabilities are more likely to be placed in corequisite General Education Math than

students without disabilities. In addition, women are placed into Statistics Pathway courses at higher rates than men as are nontraditional students when compared to traditional-aged students.

Some of these results are not completely unexpected. For example, students with learning disabilities may struggle with testing and analytical thinking. The gap in time between high school and returning to college could potentially cause issues with college readiness for nontraditional-aged students. As a result, these students are often placed into developmental courses (Paape, 2022). Nontraditional students already face multiple other barriers (i.e., first-generation status, child care, lack of flexible course schedules, work schedules, established pathway for part-time students, and access to college resources such as financial aid, academic advising, and scholarships) with attending college (Chen, 2017). Women were more likely than men to be placed into the Statistics Pathway courses, which is consistent with findings from Brathwaite and Edgecombe (2018) that demonstrated that placement gaps still existed by race, PELL grant status, and gender post-corequisite reform. For each of these groups, it would be safe to state that more research is needed to examine placement practices. Another factor that has not been considered or discussed is high school attended. It would be interesting to identify potential relationships between high school attended and student success in high school.

Successful Completion of Math Courses

Results indicate that modality (i.e., face-to-face or online) does not seem to have an impact on students in corequisite or college-level math courses. Students in online and face-to-face courses for General Education Math and Statistics pass at the same rate in both the corequisite and college-level courses. This is a little surprising since recent analysis at the college level for online versus face-to-face courses revealed that higher percentages of students in face-to-face are successful. However, these differences have not been tested for statistical significance, and these results often combine success in all online courses and all face-to-face courses.

When examining the success of students in Statistics Pathway and the college-level Statistics course, it appears that students are successfully completing both courses. In fact, 68% of students pass Statistics Pathway and 83% pass college-level Statistics. However, the difference in pass rates for these courses is statistically significant. Perhaps some examination of the Statistics Pathway course should occur to determine if there are specific topics with which Pathway students struggle the most? Studying which interventions regarding wraparound support, instructional support, and motivational factors would be worthy of further study to address the gap.

Demographics seem to have an impact on success in math courses when comparing specific populations in corequisite and college-level math courses. Race seems to have an impact on the successful completion of college-level General Education Math and Statistics. Although no statistically significant differences evolved based on race for the math pathway courses, college-level courses had statistically significant differences in success for General Education Math and Statistics. (College Algebra results will need to be reexamined over time.) White students are succeeding at higher rates than minority students at the college level in both General Education Math and Statistics. Matz and Tunstall (2019) found that demographic factors such as race, socioeconomic status, prior math GPA, and ACT scores were predictors of math success. According to Chiles (2017), encouraging students to work in groups can have a tremendous impact on student success, especially for black and Latinx populations. In fact, research conducted by Uri Treisman based on black and Latinx students working together in groups resulted in these students performing better than their white and Asian classmates (Chiles, 2017). Additional factors that can impact the success for students of color include building and maintaining strong faculty-student relationships (Colin, Lopez, & Spaulding, 2023). Students who receive personal attention from faculty and advisors tend to experience more academic success. According to Colin et al. (2023), the impact of this relationship can increase even more if faculty and students share the same ethnic/racial background.

Low-income students are less likely than their counterparts to complete General Education Math Pathway and college-level Statistics successfully. This is also consistent with the literature, as differences in completion and persistence rates in the college-level math course still existed postreform for minority students and students from low-income households (Brathwaite & Edgcombe, 2018).

Although women are placed into the corequisite courses more often than men, women were more likely than men to complete Statistics Pathway and college-level Statistics successfully. Additionally, women were more likely than men to complete college-level College Algebra course successfully.

Students with disabilities or who are first-generation college students may need additional resources in corequisite and college-level math courses to be successful. The current study found that first-generation students were less likely than their counterparts to complete college-level statistics successfully. Students with disabilities are less likely to complete the General Education Pathway successfully than students without disabilities. Lake Land College has a very small population of students with documented disabilities, and a larger sample of students with disabilities may reveal different outcomes. In addition, the type of disability a student has may have also have an impact on success.

Overall, more research is needed to understand what equity gaps remain present and which interventions best support students in taking math courses (Miller & Martorell, 2022). Anderson, Pribesh, and Williams (2020) found that students were 3.6 times more likely to pass the mathematics course if they were enrolled in a corequisite mathematics course. Fair (2017) examined differences across gender, ethnicity, income, and first-generation status along with other variables, finding no significant difference among the corequisite and college-level courses. These results indicate that students are getting the support they need in corequisite courses to be successful. What needs further follow-up is examining interventions and supports provided in corequisite courses that enhance student success. Additionally, it would be advantageous to learn which of these interventions could be translated into college-level courses to provide the support needed for students who struggle.

Next Steps

Placement Concerns

Lake Land College needs to dig deeper into how placement through waivers impacts the success of students. In other words, are the criteria used to waive students into corequisite or college-level courses effective placement decisions? In addition, a more in-depth examination of placement testing scores could be utilized to determine placement. For example, Logue, Douglas, & Watanabe-Rose (2019) found that students within five points of a placement cutoff score were just as successful as students meeting or exceeding the placement test cutoff score in their chosen math course. Studying resources such as Bailey et al. (2016) and Andrews and Tolman (2021) would help solidify the placement variables and identify issues with the current process. Should the college use an additional cut score range as another criterion for determining placement and waive students within five points of the cutoff into a college-level math course?

To determine the most effective criteria for waiving students into the appropriate math and English courses, the college needs to track consistently what criteria are being used for students. Faculty, counselors, and admissions need to track the criteria used to place and/or waive students into math and English courses. This will also allow the college to review the placement practices across multiple departments and ensure these criteria are being utilized consistently.

Finally, the college also needs to examine how a combination of demographic characteristics impacts placement and success. For example, are first-generation and low-income students more likely or less likely to be placed into corequisite courses, and how successful are they in those courses? Are

students with multiple demographic characteristics presented in the study at even higher risk for placement and success?

How Successful Are Students in the Next Level of Course?

Examining success rates in the pathway and college-level courses is a good first step in evaluating the effectiveness of corequisite offerings. However, an additional examination regarding success rates in the next level of courses should be completed. In a 2010-2016 study of 13 community colleges in Tennessee, Ran and Lin (2019) set the baseline for college-level and developmental research in tracking first-time students on the cusp of placing in college-level courses. Students placed in corequisite math performed 15% higher and corequisite English placed 13% higher than students who completed prerequisite courses. They also found that corequisite support was not a predictor of persistence, transfer, or completion. In a recent follow-up study, Ran and Lee (2024) continued this study, examining data from 2010 through 2020 with students of all academic skill ranges rather than only students near the placement range. College-level math success was higher for students who placed closer to college-level cut ranges than for students with lower placement test scores, and college-level English success was the reverse – higher for students at the lower placement range. They also found that students who placed into developmental courses were more likely to drop out of college and were unlikely to complete short-term certificates (Ran & Lee, 2024). These results are not what was hoped for in the long-term with corequisite support goals, but the reasons for that are larger than the scope of most corequisite studies. Corequisite support is intended to support students with academic and noncognitive skills while providing wraparound support while the students are taking the course. It would be valuable to study to what extent students are using that support beyond the semester in which they were enrolled in a corequisite course and what successes and barriers the students who did and did not complete college faced as they progressed.

To continue this study, LLC will need to complete a follow-up course study.

- For the English courses, which require Composition I Pathway (ENG-119) and Composition I (ENG-120), the successive course to study is Composition II (ENG-121). For programs that do not require Composition II, an alternative writing-intensive course would need to be examined.
- For Math Pathways 1, there is no successive course to study.
- For Math Pathway 2, which requires either General Education Math Pathway (MAT-115) or Statistics Pathway (MAT-124), the successive courses to study include Math for Elementary Teachers (MAT-118) and Math for Elementary Teachers II (MAT-218)

- For Math Pathway 3, which requires either General Education Math Pathway (MAT-115) or Statistics Pathway (MAT-124), the successive courses to study include College Algebra Pathway (MAT-129), Finite Math (MAT-210), and Math Analysis (MAT-211).
- For Math Pathway 4, which requires either General Education Math Pathway (MAT-115) or Statistics Pathway (MAT-124), the successive courses include College Algebra Pathways (MAT-129), Trigonometry (MAT-132), and Analytical Geometry/Calculus I (MAT-241).

A further study to examine how a combination of demographic characteristics impacts success in math and English courses. The college can identify the combination of characteristics that put its students most at risk of failure or dropping out. Based on these findings, the college will need to determine what type of success interventions should be implemented. Finally, these results could lead us to study other features of corequisite support, including case studies or focus groups with students who participated in a corequisite and a college-level course.

This study did not focus on corequisite reading because Lake Land College offers reading only in the prerequisite format. As mentioned earlier in the report, the college is considering the next move regarding creating a corequisite reading course or an integrated reading and writing corequisite course. Thirty-three percent of students in this study's sample assessed at the developmental reading level. Nearly 21% of degree-seeking students assessed into all three developmental areas, and 14% tested into two developmental areas. (Review Table 4 for placement results by topic area.) Ran, Bickerstaff, and Edgecomb (2022) found that "students assigned to developmental reading were more likely than students assigned to developmental writing and math to be required to take remediation in all three subjects" (p .19). They also recognized how integral reading skills are to college success across the curriculum (Ran et al., 2022). It is an area of student success that the developmental education committee will prioritize.

Best practices in corequisite teaching and learning need to be a professional development priority. Ran and Lee's (2024) study emphasized the importance of departments focusing on curriculum design and instructional methods. One can assume that they did not mean that developmental instructors alone should gain better training but departments as a whole across the college must improve with promising practices at the forefront of the learning process. Groups such as the American Mathematical Association of Two-year Colleges (AMATYC), the Charles A. Dana Center, National Conference on Acceleration in Developmental Education (CADE), Community College of Baltimore County (CCBC)'s Accelerated Learning Program (ALP) training, and National Organization for Student

Success (NOSS) provide math and English corequisite research and training that would help instructors understand which instruction methods are high impact. These training opportunities would also help instructors understand which approaches they could adopt to improve support across corequisite and college-level instruction. Adams (2020), Adams et al. (2009), Andrews (2019), Barhoum (2018), Bailey et al. (2016), Boylan (2022), and Boylan & Saxon (2012) advocate for targeted professional development such as this. Further, Pepin (2022), Adams et al. (2009), and Barhoum (2018) recommend establishing communities of practice intradepartmentally and interdepartmentally that integrate Student Support Services, including testing, tutoring, counseling, and advising services. Bailey et al. (2016) and Boylan & Saxon (2012) also advocate that strong programming includes a combination of assessment and instruction of cognitive and noncognitive skills. A focus on self-regulation and self-efficacy (Adams et al., 2009; Bailey et al., 2016; Bandura, 1997; Pajares, 2002, 2003) motivation theory and growth mindset (Baldwin et al., 2020; Borocho et al., 2010), and wraparound support (Bailey et al., 2016; Barhoum 2018; Borocho et al., 2010). Finally, the importance of integrating explicit instruction and frequent feedback is paramount in developmental and college-level instruction (Bailey et al., 2016; Pajares, 2003). Inviting instructional faculty and counselors to study these areas and implement them in the classroom would support student success in each level of instruction.

Several researchers allude to the impact of a less-than-vigorous high school education on student success. Students from institutions with fewer resources tend to face bigger academic challenges. While the college has shared placement results with K-12 during the past eight to ten years, conversations related to the impact of these results has not been held. The college should examine the impact of the high school attended on student success and collaborate with the high schools to enhance student preparation at all levels. High school and college instructors and administrators must discuss and create an action plan to improve student success, especially in math and English. Intentional collaboration with training and best practices in instructional methods among the school districts and the college could enhance student preparation and success.

A final recommendation involves efforts toward greater collaboration with K-12 and higher education. The federal government, state governments, K-12, and postsecondary districts are advocating to streamline the educational pathways and improve access to education and the workforce. In 2020, the Community College Research Center (CCRC) developed *The Dual Enrollment Playbook*, which offered recommendations for aligning vision and goals throughout the educational system; improving equitable access; connecting advising and guidance efforts; offering quality instruction with

an understanding of students' cognitive and noncognitive needs; and developing faculty, guidance, and administrative relationships from kindergarten through postsecondary levels (Mehl et al., 2020). Jenkins (2022) is the project lead for a long-term, multiple-state initiative called dual enrollment equity pathways (DEEP) that continued Mehl et al.'s (2020) work. The State Higher Education Executive Officers Association sponsored research that outlined K-12 postsecondary alignments and "cradle-to-career" concepts (Colorado et al., 2022). Further, the Illinois State Board of Education (n.d.) has mandated College and Career Pathway Endorsements to help high schools target college and career programming that serves their students' interests and needs. Lake Land College's director of dual credit and honors experience has been working actively with schools to help with this alignment. However, high school and college administration, instructors, counselors, and admissions representatives could also open discussions regarding how the pathways can operate with programs of study at the college as well as connect and coordinate the programs to meet high school students' interests. Each of these efforts would have the potential to discuss how to improve students' college readiness through education and potentially improve student outcomes across the board. It could provide an opportunity for full-time high school staff as well as full-time and adjunct faculty to create meetings, conferences, and work groups that help each other align curriculum and assessment, study skills, and socio-behavioral supports across all levels of education.

This report identifies several benchmarks and needs for additional study and collaboration to ensure students are as well supported as they can possibly be. The decision to move toward corequisite instruction was an excellent move on Lake Land's part, and it is working for the students. However, improvements can be made in student placement processes, methods of instruction, professional development, and student support from K-12 through postsecondary education. This report serves as an important first step in accounting for these successes and gaps and planning for the future success of our students.

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