

A DEVELOPMENTAL ENGLISH SHUFFLE: ANALYZING THE IMPACT OF ONE TEXAS
COMMUNITY COLLEGE'S SHIFT FROM MULTI-LEVEL STAND-ALONE
OFFERINGS TO COREQUISITE COURSES

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BY

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DEDICATION

To the core influencers in my life:
my beloved wife whose faith encourages and inspires
my dear daughters who watch and know the secret to a goal
my determined mom who planted a seed years ago
my supportive dad who started a path for me to follow
Thank you for your confidence, trust, and love

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ABSTRACT

IVAN DOLE

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Developmental English (DE) has been under fire from critics who think it acts as a barrier rather than as a support to the success of students placing into DE. In Texas, such pressures led to a wave of reforms and changes affecting delivery and structure of DE instruction. This dissertation draws on years of internal data at one community college to explore the impacts of these changes on student success. Overall, DE students found success (68.5%) at the same rate as their college-ready counterparts (64.7%). There was a significant difference between Prerequisite support and Corequisite support ($p < .001$) with Prerequisite having the greater effect on success. There was also significant difference between Hybrid, Lecture, and Online offerings. Hybrid was found to be the most effective Modality and Online the least effective. Additionally, a multiple linear regression predicted a success rate of 93.5% if a DE student took a 16-week, Fall-term, Hybrid freshman composition course with Prerequisite support. While there are limitations and more questions to consider, the study's exploratory and quantitative findings offer direct implications for DE faculty, programs, and administrators.

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CHAPTER I

INTRODUCTION

“We make decisions based on what we *think* we know.” ~ Simon Sinek

Introduction to the Problem

According to the National Center for Educational Statistics (NCES), about 19.9 million students attended college in the fall of 2019 (“Fast Facts: Back to School Statistics”). Around 6 million of those students entered an open enrollment campus of a community college (Duffin). An exciting time for those entering a new chapter in their life. For all, the journey will present challenges, both expected and unexpected. However, if the numbers are consistent with those of years past, at least one-third will take a developmental course of some sort (Chen and Simone i). These students need additional support, but despite what seems to be the assumption of many politicians and the general public about the decline of our educational systems, this need for extra support is not a recent phenomenon, and if anything, when looked through a historical lens, the numbers of students placing into Developmental Education (DE) are down.

Background

Educational support in America has been around since Harvard, the first American college, opened its doors in 1636 and found the need to remediate its primarily upper-class, male colonial students through Latin tutoring (Brubacher and Rudy 11). As colleges opened their doors across the United States with a practically minded “if-you-

can-pay-you-can-attend” admission policy, these fledgling educational institutions found most students needed extra preparation in order to meet expectations for college-level work. This makes sense historically, as a new nation was still evolving and elementary and secondary education systems were not yet in place. To deal with these students, underprepared in the academic subjects of the day, most higher education schools found it necessary to support their paying students with tutoring. However, with many campuses being primarily funded by donations and student fees and grappling with a greater number of students who needed tutoring than who were prepared to enter college-level courses, it became financially impossible to maintain an individual tutoring model, so institutional strategies changed (Boylan and White 4).

In 1849, the University of Wisconsin established what scholars considered the first DE program (Arendale “Then and Now: The Early Years of Developmental Education” 63). Brubacher and Rudy reveal the overwhelming preparatory need at the University of Wisconsin by documenting that in 1865 a staggering 290 students were academically underprepared out of the 331 total student enrollment (156). Said another way, almost 88% of the students that year needed extra academic support. Facing similar levels of underprepared student populations, more college and university campuses followed suit, and by 1889, more than 80% offered preparatory programs (Canfield 5). Levine estimates that by 1897, 40% of all college students were registered in some kind of preparatory course (57). To give recent national figures, NCES data from the 2011-2012 school year shows that approximately 33% of college students reported taking a DE course, 29% at four-year schools and 41% at two-year schools (Skomsvold 140). The

Texas Higher Education Coordinating Board (THECB) launched its “2020 Texas Public Higher Education Almanac” in the summer of 2020, and it states that “38.4% of first-time students entering higher education [in Texas] are NOT college ready” (17). The number of students not college ready at community colleges, which have open enrollment and typically house DE programs, was 57.7% (17).

The reality of DE in America is that it was birthed, if you will, as the “red-headed stepchild” of higher education, and while often villainized, DE continues to be available as academic tutoring, enrollment in a variety of formal courses, or access to fully developed departments offering a variety of support resources. It is fitting to note that Harvard, America’s flagship campus, first offered preparatory services in the United States its opening year (1636) and continues to offer courses and resources through their “Academic Resource Center” (found at <https://academicresourcecenter.harvard.edu/>). Brier unequivocally states, "It can be asserted accurately that bridging the academic preparation gap has been a constant in the history of American higher education and that the controversy surrounding it is an American educational tradition" (2). Regardless of one’s view of DE, it is clear that since the inception of Higher Education in America, additional support has been and remains a necessary and integral part of student’s needs. In his article “A Memory Sometimes Ignored: The History of Developmental Education,” David Arendale points out that

There are several general historical observations that can be made about developmental education: (1) developmental education is not some phenomena of the second half of the twentieth century; (2) associating

developmental education with a decline in academic standards is false; and
(3) developmental education is a factor helping more students to earn
higher grades and to complete college. (2)

While the perceptions of DE is that it has an illegitimate beginning, its pedigree is parallel to that of posh Harvard. It is important to recognize that an “inequality between academic preparation and academic aspiration nearly guarantees the continual need for developmental education programs at the collegiate level” (Arendale, “A Memory” 5-6). Therefore, the question should not be how do we get rid of DE; rather, it should be how do we do DE more effectively?

Efforts to Solve the Problem

Nationally, different states have taken a variety of approaches to solve what Mark Heinrich, a former chancellor of Alabama’s community college system, calls “The Developmental Education Dilemma.” In 2011, the THECB proposed a plan called the “2012-2017 Developmental Education Plan.” This plan was passed by the legislature, and for all DE educators in Texas, this began a shift in the landscape of the DE disciplines. It was common for DE programs to have three or four levels in both reading and writing that students needed to work through before they were considered college ready (*Expectations Meet Reality* 1). Often, reading and writing classes were parallel, creating a need for up to eight DE courses for students with low scores on college entrance exams. The Texas testing instrument for college entrance or readiness is called the TSI or TSIA, which stands for Texas Success Initiative Assessment. The testing instrument has a math,

reading, and writing section. A student's score on the TSI determined whether he or she would be placed into a college-level course or into a DE level.

After this new DE Plan, programs were limited to two levels and given a timeline to integrate reading and writing at the higher level. In 2015, Texas launched the 60x30TX initiative, bringing more intense scrutiny to the effectiveness of DE practices and their alignment with the state's goal of having 60% of the workforce possess a certificate or college degree by 2030. To ensure Texas would meet its 60x30 goal, in 2017, a new mandate for DE educators came from the 85th Texas Legislature, Regular Session, in the form of HB 2223:

HB 2223 requires that a certain percentage of underprepared students enrolled in developmental education be reported as enrolled in a Corequisite model, which allows the student to enroll in the entry-level college course but requires co-enrollment in a developmental education course/intervention designed to support the student's successful completion of the college-level course. ("FAQs HB 2223 Implementation")

The House Bill offered a stair-step approach to integrating Corequisite courses: 25% of all DE courses were to be offered in a Corequisite format by the 2018-2019 academic year, 50% by the 2019-2020 academic year, and 75% by the 2020-2021 academic year.

The required changes that came down from legislative decisions created mixed reactions from DE educators. During this time of transition, the writer of this dissertation attended many DE meetings around the state and local college campuses. Some voices

heard were resistant, protesting the required change within the classroom by forces without. Other voices were quiet with minds contemplative on how to implement the required changes. Still, others dutifully stepped into the stream of change, pondering the potential results with mixed feelings of what might be called skeptical optimism. By and large, DE faculty were student and learning focused and remained hopeful that students could get the academic foundation needed to be successful with a redesigned approach, but they were also concerned that misplaced priorities were putting dollars before students and that speed would replace support. Faster does not necessarily mean better. Would compression truly lead to greater student success of students through the DE pipeline into core courses, or was compression a shell game, shuffling DE off of the “bridge to nowhere” into a “one-size-fits-all” strategy? Whatever the case, DE faculty rolled up their sleeves and worked to create innovative strategies to align with expectations and meet the hope of increased student success. With changes being implemented, what remained was to look at the data of change to see if success rates were positively impacted as touted.

Purpose of the Study

The purpose of this study is to analyze student success rates for each program change from 2011-2019, comparing their impacts. This data looks at program effectiveness related to curriculum changes over the last nine years. The changes center around five differently structured curriculum and program reorganizations:

1. 2011 – 2012 Academic Year: a multi-level (3) DE approach for both Reading and Writing. This was a “traditional” stand-alone DE course model. This meant the

student was only registered in a DE course and had to pass it in one semester to move forward into the next DE level or freshman composition in a subsequent semester. Table 1.1 shows the three levels of progression.

Table 1.1.

Three Separate DE Levels for Both Reading and Writing

DE Reading	DE Writing
DREA 0090 – low level	DWRI 0090– low level
DREA 0091 – mid level	DWRI 0091– mid level
DREA 0093 – upper level	DWRI 0093– upper level

2. 2012 – 2013 Academic Year: Three changes occurred:
 - a. integration of reading and writing at the upper level; course prefix changed from DREA (Developmental Reading) and DWRI (Developmental Writing) to DIRW (Developmental Integrated Reading and Writing).
 - b. combining the mid and high DE level reading courses (DREA 0091 and DREA 0093) into a new integrated reading and writing course (DIRW 0310);
 - c. and pairing a support course with the DE reading and integrated courses. DREA 0090 was paired with HDEV 0090, a lower-level human

development course; DIRW 0310 is paired with EDUC 1300, a credit level learning frameworks course.

These changes represented a shift to a paired DE course model, as shown in Table 1.2, where a student was enrolled in a DE course and a paired course intended to support success in the DE course.

Table 1.2.

Two Levels of DE. The Lower Level Remains Separate; The Upper Level is Integrated

DE Reading (paired)	DE Writing (stand-alone)
DREA 0090 – low level	DWRI 0090– low level
Paired with HDEV 0092 – Human Development	Stand alone
Integrated Reading and Writing at the Upper level (paired)	
DIRW 0310 – developmental integrated reading and writing	
Paired with EDUC 1300 - Learning Frameworks	

3. 2015 – 2016 Academic Year: integration of reading and writing at both upper and lower levels with a support course. This academic year continued the paired DE course model, in which a student enrolled in both an integrated DE course and a paired course intended to support success in the DE course. Table 1.3 shows the two paired and integrated levels.

Table 1.3.

Two Levels of DE. Both Levels are Integrated and Paired with a Support Course

Developmental Integrated Reading and Writing (paired)
DIRW 0305 – Developmental Integrated Reading and Writing
Paired with HDEV 0092 – Human Development
DIRW 0310 – Developmental Integrated Reading and Writing
Paired with EDUC 1300 - Learning Frameworks

4. 2016 - 2017 Academic Year: 8-week pre-requisite model. The Prerequisite model meant that a student enrolled in an 8-week Prerequisite DE course followed by an 8-week freshman composition course in the same semester. The DE course must be passed in order to continue into the second 8-week composition course. Table 1.4 shows the two 8-week sequential courses in a single semester.

Table 1.4.

8x8 is an 8-week DE followed by 8-week Freshman Composition Course (in the same semester)

A 16 week Semester (8x8)	
First 8-weeks (DE course)	→ Second 8-weeks (Core course)
DIRW 0310 - Developmental Integrated Reading and Writing (must be passed in	→ ENGL 1301 – Freshman Composition

order to enter into the freshman

composition course)

5. 2018 - 2019 Academic Year: 16-week Corequisite model. A Corequisite model meant that a 16-week freshman composition course was paired with a 16-week DE course. Both courses were taken in back-to-back time slots and in the same semester. For example, the freshman composition might be offered at 8 am and the DIRW would follow at 9:30 am. Table 1.5 shows the Corequisite model.

Table 1.5.

16-week Corequisite Model

16-week Corequisite model (students concurrently enroll in DIRW and ENGL)

DIRW 0315 - Developmental Integrated Reading and Writing

Concurrently enrolled in ENGL 1301 - Freshman Composition

Research Questions

Four specific Research Questions guided this study. All of them fall under a broader concern of whether changes made to DE courses were helping, hindering, or neutral to student success. The broad question asked was, “What, if any, structural support factors impact the success rate of DE students in the freshman composition course?”

The hope was that the support course would increase the DE student’s success to show no statistically significant difference between a DE student with support and a

freshman English student who is considered college ready. In other words, the DE student needing academic support should do just as well in the English course as a TSI-met student. The four specific Research Questions are

1. Does student success in the freshman composition course with support show higher, lower, or no significant difference than the Stand-Alone course?
2. Do differently structured DE support formats impact student success differently in the freshman composition course? In addition to the Stand-Alone composition course, There were three DE support formats included:
 - a. Corequisite
 - b. Prerequisite
 - c. Prerequisite Plus
3. Do different course lengths impact student success rates? There were several course lengths offered:
 - a. 8-week
 - b. 12-week
 - c. 14-week
 - d. 15-week
 - e. 16-week
4. Do student success rates differ based on the course Modality? There were four modalities:
 - a. Dual Credit
 - b. Traditional Lecture

- c. Hybrid
- d. Online

Organization of the Dissertation

Chapter 2 takes an in-depth look at the history of DE at the community college-level, the typical students who find themselves needing a DE course, and the evolution of DE programs intended to meet the needs of these at-risk students. Chapter 3 goes into an in-depth look at the evolution of DE from the 1990s into the changes wrought in the early 2000s, and the forces within and without DE demanding at minimum revolution but perhaps even eradication of DE courses and programs. Chapter 4 describes the research methodology of this dissertation. First, the chapter frames the demographic context by looking at the county and city and the larger district and specific school where this study took place. Next, this chapter explains how this campus addressed changes in its DE courses and program. Finally, the chapter presents and explains of the original and final data set used for the analysis. Chapter 5 addresses the results of the four guiding Research Questions, analyzing and interpreting the data results to determine if DE success was improved through intentional change. Chapter 6 shares data findings and implications for the future of DE and its programs at community colleges across the state of Texas and beyond to the nation. This last chapter will end with a reflection of the study, its intent, and its results.

Definitions

Completion indicates students who finished a course without withdrawing.

Success means the student passed the course with a grade of C or higher

Corequisite explains the condition where a student is taking both a DE course (DIRW 0315) and a freshman core course (ENGL 1301) concurrently within the same semester. The learning outcomes of the DE course align with those of the core course. The purpose of the DE course is to provide direct and intentional support with the goal of the student earning a C or better in the core composition course.

Dual Credit refers to current high school students who are taking a college credit course. These classes can be offered in lecture, Online, or Hybrid formats. They can also be an 8-week fast track or a traditional 16-week offering.

Hybrid is the condition where 50% of the course is completed Online; 50% of the class time is face-to-face in a classroom. Typically, a 3-credit hour Hybrid course meets once per week in the classroom for lecture and group activities. The rest of the course content is found on a learning management system for students to complete Online.

INET or Online is a class contained on a learning management system with no physical meetings. All work and interaction is digital.

Lecture is a traditional face-to-face course, where students and instructor meeting in a classroom for the required class times (a 3-credit hour course would meet 2 days a week for one hour and twenty minutes).

Prerequisite explains the condition where a student is taking and must pass a DE course in one semester before taking the freshman composition course in a subsequent semester.

Prerequisite Plus explains the same condition as “Prerequisite” except the student has

additional support in same semester for the DE course (HDEV 0092 or EDUC 1300).

TSI is a Texas testing instrument for college entrance or readiness. *TSI* (or *TSIA*) stands for Texas Success Initiative Assessment. The testing instrument has a math, reading, and writing section.

TSI-Met indicates a student who has met the minimum score requirement for one or more of the sections. To be *TSI-met* in freshman composition, a student must pass both the reading and the writing sections. A DE student could not be *TSI-met* in either reading, writing, or both, requiring them to take a stand-alone DE course or a DE course paired with freshman composition.

CHAPTER II

LITERATURE REVIEW (HISTORICAL)

“Begin at the beginning...and go on till you come to the end: then stop.” ~ Lewis Carroll

Historical Overview

The beginning seems a sensible place to start. However, which beginning? Whose beginning? The story, the history of DE is complex, its different chapters and members inextricably tied to racial minorities, gender stereotypes, economic status, historical context, and higher education. In his article “Then and Now: The Early Years of Developmental Education,” David Arendale categorizes several early eras of DE. Prior to World War II, DE was primarily limited to the privileged, often white males, attending institutions of higher education:

- Between the 1600s and the 1820s, tutoring was offered primarily in Latin and Greek.
- From the 1820s to the 1860s, tutoring continued to be offered, as well as preparatory academies were established.
- The 1860s to the mid 1940s saw tutoring continue and remedial courses developed within preparatory academies (58)

This literature review explores the context and some significant contributing factors and influences of DE in the modern American education system. For the purposes of this study, two key influences ground that beginning and overlap in their timeline to

culminate in the shaping of the modern DE landscape.

The First Influence: Creation of the Community College

The first influence of modern DE was the creation of the junior college, now commonly called a community college. In his book *Gateway to Opportunity: A History of the Community College in the United States*, Josh Beach references a Stanford University president:

Ray Lyman Wilbur, president of Stanford University in 1927, justif[ies] the junior college as an open institution that would allow new generations of students to ‘try out’ higher education ‘without great economic disadvantage and without leaving home after high school graduation.’ (5)

While the idea of the junior college can be traced to the two Morrill Acts (1862 and 1890), the first official public junior college was established in 1901 (Drury 1). Joliet Junior college was created as an annex to Joliet high school and the collaborative brainchild of William Rainey Harper, the president of The University of Chicago, and the principle of Joliet High School, J. Stanley Brown (Beach 5). The junior college mission has evolved since inception. Currently, according to the Community College Research Center (CCRC) website, “Community colleges serve multiple missions—from workforce training, to remediating students in preparation for higher education, to community enrichment” (“Community College History, Mission, and Challenges”). The recognition of the need for some students to have remediation, and a place to remediate them, created an expectation. The four-year universities would focus on academics and research, and the two-year colleges would focus on academic support and general education. This

bifurcated approach to solving the issue of DE was agreeable to the four-year schools, as Arendale explains:

Many four-year institutions were eager to transfer their academic preparatory programs to community colleges in geographic proximity to them in the early half of the twentieth century...college academic preparatory programs dropped in number at four-year institutions as a direct result of less academically prepared students enrolling in the new junior colleges that excelled in providing a more comprehensive suite of academic support activities and remedial courses. A concurrent reason for enrollment at community colleges was that the lower tuition costs were more attractive to the developmental education students who often came from economically disadvantaged backgrounds. ("Then and Now: The Early Years of Developmental Education" 67)

In many cases, this convenient yet unspoken agreement allowed universities to maintain an academic elitism while community colleges took on the role of providing open access on the road to social equity through education. If community college education is personified, whatever the identifying pronoun, the voice echoes Lady Liberty:

*"Keep, ancient [academic] lands, your storied pomp!" cries she
With silent lips. "Give me your tired, your poor,
Your huddled [diverse] masses yearning [to learn] to breathe free,
The wretched refuse of your teeming shore.
Send these [on the fringe], the homeless, tempest-tost to me,
I lift my lamp beside the golden door [of college education]!" (Lazarus)*

This juxtaposition illustrates a conflicted mindset that one side says higher education is limited to only those worthy enough, a “survival of the fittest” academically speaking, and the other side promotes an egalitarian outlook that education is for all, so open the doors wide. Send the cream of the crop—those who look right and have the proper heritage—to the universities; the rest of the riff-raff can go to junior college, crumbs from the master’s table. However, the data tell a different story. Numbers from a longitudinal study of a national representative sample of students who took at least one remedial course in college from 2003-2009 published by Chen and Simone show that 78% of Black students, 75% of Hispanic students, and 64% of White students took DE at community colleges. Additionally, 76% are from lower-income families; however, 59% come from upper-income brackets. The reality is that students from affluence or poverty, from advantaged or disadvantaged homes, from the right or wrong side of the track, all have a need for some type of academic support.

The idea of an elite meritocracy in post-secondary education is a persisting misnomer. From the beginning of higher education in America, its students—from the over-privileged to the under-privileged—have needed support, whether funded privately or sponsored by the government.

The Second Influence: The G.I. Bill

The second factor influencing modern DE was the approval of what is commonly called “The G.I. Bill (of Rights)” and more formally known as “The Serviceman’s Readjustment Act of 1944.” President Roosevelt’s statement accompanying this bill included this sentiment:

With the signing of this bill a well-rounded program of special veterans' benefits is nearly completed. It gives emphatic notice to the men and women in our armed forces that the American people do not intend to let them down. ("GI Bill: History and Timeline")

With these words, an intention for change and opportunity was set into motion.

At this point, at least compared to historical norms, American higher education inched toward becoming more available for the average American and inclusive for non-traditional student groups.

Only belatedly in the second half of the 20th century did the most disadvantaged Americans gain access to some form of higher education: nonwhite ethnic and racialized minorities, the working class and poor, and the physically and learning disabled. Up through the first half of the 20th century, higher education was too expensive for most American families, and the typical college student was often an upper-class white man between the ages of 17 and 21. (Beach 4)

Certainly, equality and equity continue to be a struggle for the United States culturally and educationally, and in 1944, the military remained segregated, the *Brown v. the Board of Education* ruling would not happen for 10 years, and The Civil Rights Act of 1964 was still two decades away! However, more than any previous era, the students who began to trickle into higher education after World War II are representative of the population who continue to enroll in colleges today: female, first generation, economically disadvantaged, and ethnically diverse.

To give some context of the increase in the traditionally under-trodden student, in 1947, according to The Truman Commission's data, women comprised 32% of college enrollments (Gilbert and Heller 5). To compare, in 2018, women represented around 56% of enrolled college students. The overall college enrollment rate for African Americans was 37% and Hispanics were at 36 % in 2018, both groups increasing from earlier measured enrollment rates ("Total Undergraduate Fall Enrollment...1970 through 2028").

Milton Greenberg gives an overview of the impact of the G.I. Bill: "2.2 million veterans attended two-and four-year colleges and universities. Even more veterans—3.5 million—used opportunities at vocational schools. An additional 1.5 million were involved in on-the-job training, and about 700,000 used their benefits for farm training" (B9). By the time the original G.I. Bill expired in 1956, almost half of the 16 million World War II veterans had participated in its educational benefits ("GI Bill: History and Timeline"). Setting context for the impact of pre to post G.I. Bill, Greenberg gives some data comparing enrollments in 1940 to 1950: For example, there were about one and a half million enrolled college and university students in 1940; whereas, in 1950, there were more than two and a half million enrollments. Similarly, in 1940, there were only about 200,000 earned degrees. This number more than doubled to 500,000 in 1950 (B10). By 1947, veterans comprised almost 50% of the college enrollment population ("GI Bill: History and Timeline").

Despite the enthusiastic and unexpected veteran response to the G.I. Bill, not all were in favor of this Bill and its extended educational benefit package. For example,

Keith Olson records the negative views of a couple of university presidents who opposed the G.I. Bill. One such president, James B. Conant, the president of Harvard from 1933-1953, feared that because of the G.I. Bill "we may find the least capable among the war generation ... flooding the facilities for advanced education" (603). Robert M. Hutchins, the president of The University of Chicago had an even stronger opinion. He wrote an article with the ominous title of "The Threat to American Education" declaring that the practical application of the G.I. Bill's educational provisions were untenable. He felt that for financial gain, colleges would enroll poor students and then despite poor performances, keep them in order to retain the money they represented (604).

These fears were largely unfounded, as many of the veteran students turned out to be mature, motivated, ambitious, and ultimately an asset to higher education. As McCabe and Day explain, "These students...systematically outperformed their younger, selectively admitted classmates, and demonstrated a model of educational success that could come with greater maturity and a second chance" (10). As is sometimes the case, those in a position of privilege or power are concerned when the dynamics shift and the boundary of opportunity expands. Similarly though, there are those who view change through a sympathetic and more optimistic lens. This was no less true of the G.I. Bill and its effects on higher education; it had powerful voices supporting it.

In his college report on May 20 1945, James Bryant Conant shared some insight into what seems to be not only a change in his initial negative opinion, but also his impression of resolving these concerns of who was worthy or would be successful, and the concerns shared by many in government and education during this unprecedented

time. His thoughts and words addressed the enrollment of around 9,000 veterans, which he says increased the student body by about 50%. He acknowledged how the G.I. Bill helped remove barriers, at least for males of a certain age group, essentially doubling higher education enrollment and handing educational realities out to those previously barred due to financial inability. The G.I Bill subsidized this opportunity through federal funding and scholarships opening up access to veterans from lower income families in a way never before possible simply because of an individual inability to finance higher education. Conant commented, “We are now witnessing what happens when for a large fraction of one age group these barriers are removed” (8).

Conant went on to acknowledge that the gain was significant, not only in the numbers presently enrolled, but in the trickle-down effect. He recognized the impact open access would have on future thinking “by the present demonstration of the advantages of a more nearly equalizing educational opportunity” (8). It was this very equality of education that was awakening a hunger to sit at the table of higher learning and sparking a change for the possibility to do so. “Education is contagious,” Conant said, and “one of the consequences of the present influx of veterans into our colleges and universities will be a demand for the younger brothers and relatives to have similar opportunities” (9).

The success of this new student and the ripple it was causing within the zeitgeist of education led Conant to warn that caution was needed in considering expansion of federal scholarship and loans. He wondered where the money would come from to sustain open access education and felt that while the immediate success was worthy of

praise, that perhaps a more cautious and limiting solution would be better for all involved:

Quite apart from the expense and the difficulties of administration, the criteria for admission to college are still far too uncertain and ill defined. For many types of students, a terminal two-year education beyond the high school, provided locally, seems better adapted to their needs than that offered by a traditional four-year residential college. The difference in cost between the two, of course, is very large. Many who have studied the problem intensively feel that the further demands for advanced education should be met largely by the rapid expansion and development of such terminal two-year colleges. There seems general agreement throughout the country that education through the high school years should be a responsibility of each of the forty-eight sovereign states. Local control of public education is one of the fundamental doctrines of this nation. (9)

Conant went on to suggest that perhaps an amount of around 10,000 national students who showed aptitude could be sponsored by federal scholarship to attend universities like Harvard, but the rest should be encouraged to take a path of “professional scholarship” at a trade school or community college (10).

It is profound for a mind out of context with this period of time to be transported back to read, hear, and understand the context influencing the thinking behind Harvard’s president and many other educational leaders in this time that affected the decision and demand to expand the two-year college system in America. Community colleges and,

ultimately, modern DE developed from the post-World War II optimistic caution for open access germinated in the unexpected successes of students previously deemed inadmissible.

Historical Overview: Conclusion

The Truman Commission Report in 1947 made a call to provide “equality of opportunity for all and for a massive expansion of higher education in America” through community-based colleges (Drury 5). While it took almost a decade for practical movement to occur on the federal level after the Commission, the increased numbers of physical campuses soon reflected the increased demand (Gilbert and Heller 1). In 1947, there were fewer than 300 two-year public colleges, but by 1970, the number had more than doubled (“Total Undergraduate Fall Enrollment...1970 through 2028”). Currently, there are over 1,000 public community colleges in all 50 states of the US and within the territories of American Samoa, Puerto Rico, Northern Marianas, and Guam (“U.S. Community Colleges by State”). “With an open admission policy, lower tuition, close proximity to homes and communities, and programs designed to encourage the success of nontraditional learners, community colleges were deluged with students.” (Forbess 26). While many students were ready to roll the dice of their future in the game of higher education, this “deluge” of students also increased the need for DE to help close the gap in educational equity. The modern era of DE can trace its evolution to the expansion of the community college due to an increased demand and the cracking of the door, allowing open access to educational opportunities.

While the end of the DE story has not yet been written, this review investigates the situational details of the solutions intended to help the struggling students from the minority, poor, and working class groups, unintended consequences, and then intentional responses and solutions—some mindful, some reactionary. The review brings the reader to the current undertakings in the DE discipline based on responses to changes in national priorities and state laws, research, and frontline interventions.

Addressing the Needs from Open Access

Due to the dramatic strides America made in open access for higher education, all college campuses, especially the community colleges, received an influx of students, some of whom were unable to meet the rigor of college-level academics. McCabe and Day reiterate, “Developmental education programs - designed to prepare students to enter college courses - have been central, if controversial, components of open-access two-year colleges since these institutions swept the country during the community college movement following World War II” (3). The Truman Commission offer a lens through which higher education can be viewed and the rhetoric through which educational philosophies, pedagogy, and policy from World War II until now can be understood.

Gilbert and Heller emphasize the sense of perspective the Commission lends to open access:

The Commission’s recommendations about increasing access were...tied to its concern over making public education equally available to all students regardless of their race, creed, sex, or national origin...and based its recommendation on the determination that at least 49 percent of the

population had “the mental ability to complete 14 years of schooling with a curriculum of general and vocational studies that should lead either to gainful employment or to further study at a more advanced level” (Vol. I, p. 41). In addition, 32 percent of the population was determined to have had the talents to be able to attain a baccalaureate degree or advanced degree. (2)

While time moves slowly, and equality is easier to speak of than attain, today there is direct proof of the success of the Commission’s mission for open access to all students. The percentage of the US population of African Americans compared to African Americans in college is a good comparison to look at to see the progress of equality, at least within the classrooms of higher education.

In 1947, according to the Commission’s data, African Americans comprised around 10% of the US population; however, only 3.1% were enrolled in higher education. Today, African Americans make up about 13.4% of the US population according to Census estimates from July 2019 (“Quick Facts United States”). Data posted in January 2019 on the American Association of Community Colleges website gives an overview of those enrolled in higher education. In the fall 2017 semester, 7 million students enrolled in credit courses across the 1,051 community colleges in the United States, and another 5 million enrolled in non-credit courses. Of the credit courses, 63% attended part-time and women made up 56% of the student body. The self-identified ethnic groups of credit students ranging from highest to lowest are as follows:

- White – 46%
- Hispanic – 25%
- Black – 13%
- Asian/Pacific Islander – 6%
- Unknown – 4%
- 2 or more races – 3%
- Nonresident – 2%
- Native American – 1% (“Fast Facts”)

In addition to the 12 million students enrolled in community colleges, data from a NCES report indicates that the number of students enrolled in four-year colleges and universities in 2017 totals a little over 13 million (“Current Term Enrollment – Fall 2017”). In the NCES’s 2018 annual report for the *Digest of Education Statistics*, the third chapter on postsecondary education, which included information for both two and four-year enrollment trends, states that “[t]he percentage of Black students increased from 10 percent in 1976 to 14 percent in 2017, but the 2017 percentage reflects a decrease since 2011, when Black students made up 15 percent of all enrolled U.S. residents” (Snyder 209). Regardless of the fluctuations from 2011 to 2017, the overall percent of African Americans attending postsecondary institutions reflects a similar percentage to the larger American population. The same report states that Hispanic percentage in college rose from 4 to 19%; conversely White enrollment dropped from 84% to 56%. To put this in the context of the current population ratios, Hispanics make up 18.5% of the American

population, and White people make up 76% (“Quick Facts United States”). It took 70 years, but diversity is being reflected in its college classrooms.

So, now the equity question shifts to how many of these students having equal access to higher education are needing to take a DE course? According to data presented by The Center for the Analysis of Postsecondary Readiness, 60% of students enrolled in community colleges in 2016 took one or more developmental courses (“Developmental Education FAQs”). The enrollment number for developmental courses at four-year institutions was 32% (“Developmental Education FAQs”). In a study that reviewed transcripts of students who attended both two and four-year institutions between 2003 and 2009, Chen and Simone found that 68% and 40% respectively required at least one developmental course. Moreover, while the need for DE did affect students from both the advantaged and disadvantaged families, it was more likely that DE students were from African American, Hispanic, first-generation, and low-income families. For example, at two-year schools, about 64% of White people needed DE, whereas 78% of Black people and 75% of Hispanics needed DE. At four-year schools, the rates for White people taking DE was 36%, whereas the amount of Black people taking DE was 66%, and Hispanics were around 53%. At two-year schools, students labeled as the lowest income bracket were taking DE at a rate of 76% compared to 59% of students in the highest income bracket. The percentage at four-year schools was 52% for low-income students compared to 33% for high-income students (19).

To help these students requiring DE, a sequence of developmental courses were created. These pre-college-level skill subjects consisted of the three Rs – reading, writing,

and arithmetic. Each subject area could have multiple levels. According to a 2016 national report from The University of Texas at Austin, College of Education, DE has worn multiple labels: “remedial, foundational, transitional, guided, basic skills, and developmental studies” (*Expectations Meet Reality* 1). The typical pattern for most colleges would be to create a multi-level, usually three, progression that students have to navigate through before they could even take a single college-level course. As one DE scholar puts it, “It was assumed that the way to correct for ‘not enough’ skill development was to provide ‘more’” (Cross 28).

The typical sequence leading to DE enrollment and the idea of “more” can be described in the following broad overview:

1. Pre-college preparation
2. A standardized test
3. Placement
4. Remediation
5. College Readiness

A student’s preparedness usually consists of high school graduation or earning a GED; however, community colleges are open access, so some students may not have a high school diploma or its equivalent, and very little academic preparation as a result. Some of these students want to go to college, so they walk into the building on a whim, fill out numerous admission forms, and then are sent to advising where they find out about the need to take a little test before they can choose their courses. Students are required to take a “quick” assessment to see if he or she is indeed prepared for college-level work. This

test has writing and grammar, reading comprehension, and math components. The test often takes much longer than an unsuspecting student realizes, leading them to rush through in order to get on with their day, get to work on time, or pick up kids from school. Based on the score of the assessment tool, which may or may not be accurate, students can be placed into a developmental course sequence for one or more courses in math, and/or writing, and/or reading. Students must take, complete, and pass the developmental course or courses and theoretically improve skills and close academic gaps. Only once the DE sequence is accomplished are students deemed ready to take core college-level courses.

DE started with the best of intentions. In her book *Accent on Learning*, Patricia Cross points out that our perception of where poor academic performance came from and how to deal with it has gone through several phases. The first appearance of support would be tied to an assumption of poor study habits. This makes sense given that most university students in the 1600 to the early 1900s were mostly from upper echelon families. Naturally, these sons and daughters of aristocracy were smart, so the ones needing tutoring support must be lacking in maturity, educational experience, and academic discipline. The logical conclusion is that they only needed help in learning how to study. The second phase coincided with WWII and added deficiencies of basic academic skills to poor study skills. These students were often identified with low test scores on entrance exams. In addition to study skills, students were given mechanistic drills intent on improving abilities in skimming, scanning, vocabulary, and reading comprehension of simpler texts. The post WWII open enrollment policies led to wide

proliferation of remedial courses ensuring that lower performing students traditionally excluded from higher education were making the best use of this opportunity given to them. Students often had to show satisfactory progress before being allowed into regular college courses. The third phase introduced the psychological aspect: students were not using their academic abilities effectively and required motivation. There was an effort to cull the underachiever from those with low cognitive ability. Finally, the equity piece entered the fray. Poor performing students often came from families impacted by “sociocultural factors relating to deprived family and school backgrounds” (Cross 27). Because of this scaffolded view of the underperforming student, DE courses became hierarchical whole programs and focused on “cognitive, social, and emotional components” (27).

Additionally, Martha Casazza and Sharon Silverman posit that three common questions dominated each historical phase of American education: “What is the purpose of postsecondary education? Who should attend college? What should the curriculum look like?” (3). It is the assumptions of the public and the biases of the involved educators and administrators participating in the progressive historical contexts that have brought a struggle for clarity and understanding of effectiveness regarding the discipline of DE. However, after years of effort and sometimes with little to show for it, questions were asked, programs were scrutinized, and accountability for DE was demanded. The lingering concern: perhaps DE was undermining the very support it was supposed to be offering, damaging rather than helping those in critical need of support.

Responses to “Fixing” DE

For much of its history, the community college and its shouldering of the DE responsibility has been lauded by many as functionalist in facilitating social mobility through access to technical skills and higher education (Dougherty 4). In certain times, the fervor has been more intense. For example, in the wake of the racial turmoil of the 60s, criticizing the effectiveness DE courses was tantamount to criticizing the students within them. The perception was that these courses were a response to more disadvantaged students, specifically African American, gaining access to college. While this is historically and factually inaccurate, the emotionally defensive response focused more on the ability of the students rather than the effectiveness of the DE programs. Anyone criticizing “remedial” programs could be considered “racist” for questioning a student’s ability to learn rather than a college’s capacity to teach (Cross 35).

Still constructive educators persisted and raised concerns of “remedial” programs and their inconsistencies as individual campuses struggled to prepare students for higher learning. Beach discusses Leland Medsker’s concerns about the system itself:

If junior college administrators were truly interested in expanding access to higher education then they could have invested sufficient resources in student services and academic counseling to help less-prepared students more fully realize their aspirations and succeed in higher education.

Instead, junior college officials took a laissez-faire approach, which Medsker aptly called “survival of the fittest.” This institution did not invest much time, money, or energy in actually guiding or mentoring

disadvantaged students drawn “heavily from the lower half of the socioeconomic distribution.” Because this growing institution did not seem concerned with preparing disadvantaged students, Medsker questioned whether junior colleges should become the new foundation for American higher education. Before New Left critics uttered such a claim, Medsker suggested that junior colleges seemed to be structuring the failure of many academically unprepared and economically disadvantaged students. (19)

The accusation of “structuring the failure” of the very students the system were to help was a thread picked up on by other researchers. In 1968, John Roueche published *Salvage, Redirection, or Custody -- Remedial Education in the Community Junior College*. In it, he makes the claim that DE programs were not that effective:

There is a paucity of research on the efficacy of remedial programs in the junior college. Indeed, with few exceptions, community colleges neither describe nor evaluate their endeavors in this critical area. Available research will not support the contention that junior colleges offer programs that in fact remedy student deficiencies. Programs are certainly offered, but the entire issue of remedying deficiencies has not been sufficiently researched to date. Those few junior colleges that have evaluated the success of their remedial programs found that their programs were not remedying student deficiencies to a point where remedial students could

enter regular college credit courses upon completion of the remedial course. (47)

Research and conscientious concerns such as this led to persistent questions regarding the efficacy of what was often interchangeably called “remedial” or “developmental” education.

In light of this obfuscation of the terms, a moment should be taken to clarify the difference between the terms *remedial* and *developmental*. Many conversations in the public forum and within education halls use the terms interchangeably. However, Cross offers a succinct distinction between the two terms. She says the difference is found within the “purpose or goal of the program.”

If the purpose of the program is to overcome academic deficiencies, I would term the program remedial in the standard dictionary sense in which remediation is concerned with correcting weaknesses. If, however, the purpose of the program is to develop the diverse talents of students, whether academic or not, I would term the program developmental. (31)

Similarly, Hunter Boylan, Director of the National Center for Developmental Education, has clarified an important distinction between *remedial* and *developmental*. In the article “Making the Case for Developmental Education,” he explains that the term remedial was attached to skill-based classes “designed specifically to compensate for deficiencies in prior learning” (1). He emphasizes, “Developmental education is not a euphemism for remediation. It is a far more sophisticated concept involving a combination of theoretical approaches drawn from cognitive and developmental psychology” (2). To remove any

doubt of the difference between these terms, in the article “Developmental and Remedial Education in Postsecondary Education,” the authors spell out that developmental education “reflects an emphasis on the holistic development of the individual student” (Boylan et al. 87). Therefore, while many may casually use these terms interchangeably, the difference between the two terms is important to understand: remedial focuses on the deficit of material and is often pejorative, whereas, developmental focuses on the potential of the student and is considered supportive. Regardless of the technical distinction between these two terms, the concerns about the effectiveness of DE was growing.

Understanding that these terms are not interchangeable remains critical to the continued debate about DE. Many critics of DE view the field as the limited remedial version—stuck in the past, impotent, wasteful, and stigmatic. It is not that remedial did not exist in the history of DE, and may still be taught by misinformed fossilized school programs in a limited capacity. However, this blanket view of what DE does is outdated and damaging to the nuanced implementation of DE in practice in the many classrooms across American campuses. DE works to build bridges of transference of academic skills from development within the student and in the DE course to application in the college-level course. DE works to integrate the affective skills of motivation, time-management, and study skills within the framework of its classes. Overall, DE faculty are passionate and caring, who take satisfaction “working with those students who have never done well before” (Roueche and Kirk 63). This quote comes from a 1973 publication, but the sentiment remains a central part of the DE faculty psyche. This researcher and most DE

faculty he has interacted with work with a passion to connect struggling students with the strength and thrill of academic success. Our worth as faculty comes with connecting to students who have found little meaning and less satisfaction in school and helping them plug into their own academic goals and dreams in a way they doubted possible. As Boylan points out in the opening paragraph of his article “Making the Case for Developmental Education,”

The debate over where to do developmental education or whether to do it at all is fraught with misunderstandings, oversimplifications, half-truths, and some outright lies. Many educators and legislators simply do not understand the issue in all of its complexity. Many university faculty and administrators harbor distorted notions of what developmental education is, what it does, and what its true role should be in academe. (1)

So, to clarify any misunderstandings, are remediation and developmental interchangeable? The answer is an emphatic “No!” Remedial focuses on the isolated skill, but developmental focuses on the holistic student. Not without failure but certainly with humanity.

Wrap-Up

The subsequent chapters in this study look at an ever-evolving attempt to meet the needs of students enrolled in DE courses where they are and help them be successful in moving through DE and into core courses. Specifically, Chapter 3 continues a review of the discipline’s literature and discuss the modern attack against the way DE was designed and strategies suggested and implemented to improve success rates. Chapter 4 frames the

student population within the campus and geographic boundaries as well as explain the methodology of the data analyzed. Chapter 5 gives detailed statistical analysis, interpreting the results of the efforts undertaken at the campus level. Chapter 6 explains opportunities for moving forward with recommendations for future study or suggestions of more specific analysis of collected data.

CHAPTER III

LITERATURE REVIEW CONTINUED (90S TO NOW)

“...Your old road is rapidly agin'

Please get out of the new one

If you can't lend your hand

For the times they are a-changin'”

~Bob Dylan

Introduction: Transitions

The purpose of education is to elevate all people, their conditions and their culture, rather than ensuring status quo secure position and title for those already in power. Less attention needs to be placed on the lever of the gate of the gateway courses and more on the students who are trying to move through the gate. As David Arendale states

The historical record is clear that developmental education and learning assistance programs have been integral and widespread to American higher education since its inception. Since the expectation levels continue to rise both regarding admissions preparation and graduation skill, the need for developmental education and learning assistance programs at all levels of postsecondary education will increase. However, the form of such services may change to meet the political and practical needs of the

institution and the student. Rather than continuing its earlier tradition of commonly existing at the peripheral outskirts of the academy, developmental education will become more "mainstreamed." ("Then and Now: The Early Years of Developmental Education" 71)

The story of DE is an ethical tale involving the journey of pushing the need, the content, the support, and most importantly the student from the marginalized periphery into the embrace of the mainstream. As Amanda Nix says, DE "in colleges and universities is not an appendage with little connection to the mission of the institution but represents a core function of the **higher education** community that it has performed for hundreds of years" (emphasis added).

In the forward to the book *Developmental Education: A Twenty-First Century Social and Economic Imperative*, Donald Cho a New York College Board President for more than 12 years, frames the concern connected to DE this way:

...a false dichotomy often creeps into our discussions of postsecondary education: Are we for or against developmental education, are we for or against high standards? The real world of our republic, dedicated to an expansive vision of democracy, does not allow any such trade-offs.

(McCabe and Day vii)

The issue of good intention regarding equity is too complicated to reduce to a binary view. While it is accurate to say that "the value and effectiveness of these programs remain politically sensitive and emotionally charged" one cannot ignore the reality that

...every social, demographic, and economic factor points to the need for further broadening of educational access and an even greater need for effective preparation of students for college-level work. Successful developmental education assures continuation of 50 years of progress toward greater equality and a better-educated, more productive American people. (3)

Sung-Woo Cho and Bailey reinforce this idea by asserting that “[a]ddressing the needs of developmental students is perhaps the most difficult and most important problem facing community colleges” (1). Whether the superlatives ring true or seem aggrandized, the reality is that policy makers, administrators, and educators need to be careful that concrete realities do not inadvertently use quickset cement, which, instead of building a solid foundation, solidifies and traps at-risk students in a repetitive sequence, trading forward momentum for circular motion. The struggles and concerns are real and the question remains: what should be done with DE?

Growing Concerns Re: DE

While the opportunity gap has narrowed for students seeking admission to higher education, the equity gap between those who succeed and those who do not remains wide perpetuating a Matthew effect of accumulated advantage in higher education, with those on the wrong side of the advantage disproportionately African American, immigrant, first-generation, and of lower socioeconomic status. Data from the NCES show that six-year graduation rates for Hispanic, Indigenous, and Black students are often 10 to 25 percentage points lower than they are for White students (“Indicator 23: Postsecondary

Graduation Rates”).

Another issue regarding who is taking DE courses is the extended length of time to move through them and reach not only credit courses but also a degree. The graduation rates for two-year degree-granting institutions are represented in the following chart adapted from The NCES website. Figure 3.1 gives the graduation rate of full-time students at community colleges within the space of a 3-year period. The student cohort reviewed was from 2013.

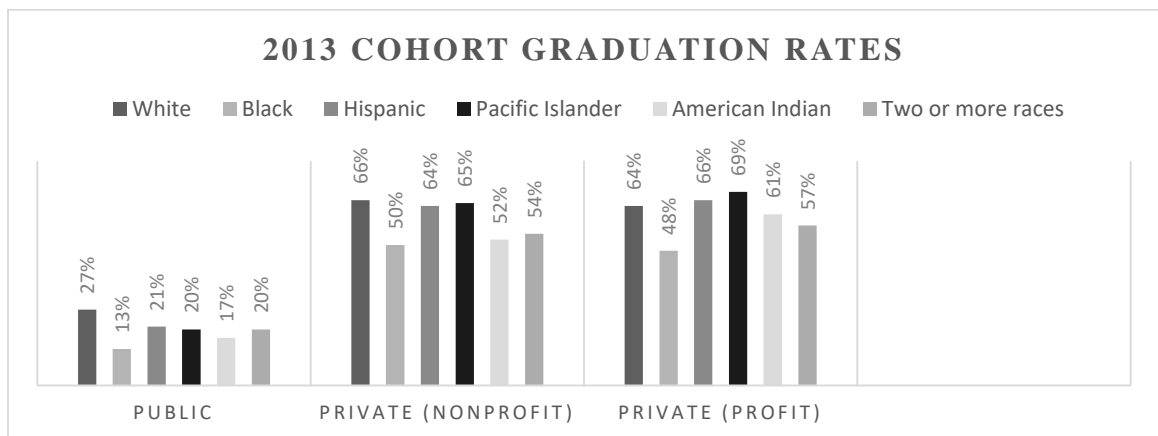


Fig. 3.1. 2013 Cohort Graduation Rates

Source: “Indicator 23: Postsecondary Graduation Rates.” *National Center for Education Statistics*, February 2019, https://nces.ed.gov/programs/raceindicators/indicator_red.asp. Accessed 26 February 2020.

This figure shows that White people have a graduation rate more than twice that of Black people at public community colleges (“Indicator 23: Postsecondary Graduation Rates”). While specifically closing the ethnicity gap is not the focus of this study, this broader issue does speak to one of the particular concerns within DE: disproportionate numbers

of ethnic groups require DE courses and fewer of them are reaching the goal of graduation.

Kevin Carey, speaking about African American and Latino ethnicities says, “These are the most academically prepared minority students our education system produces, and yet when they go to college, they are not likely to get their degree on time” (2). Carey gives some encouraging reminders on how to bridge the graduation rate gap based on an analysis of schools that are graduating higher numbers of minority students. He reminds us, based on data analysis of college and university graduation rates, that “institutions that have lots of well-prepared students, ample institutional budgets and few students with unmet financial aid do in fact have higher graduation rates than those that don’t” (19). This simple reminder encourages institutions to be intentional with the help and support already provided to their students. The simple act of building community through mindful teaching, learning, and support can and has made a difference in the graduation rates at schools like St. Mary’s University in San Antonio; their White and Latino graduation rates, for example, are almost identical. Looking at such institutions—those who have essentially eliminated the graduation gap—should become standard practice for all higher education institutions: two-year and four-year, private and public. Making success an institutional priority and analyzing internal data to ensure implementation of truly effective strategies must become the norm. Carey optimistically suggests that reforming the graduation gaps of minorities nationally can be achieved by replicating effective reforms, better preparing high school students for college academics,

and ensuring that educational policy at the state and federal level do not limit low-income students.

The students enrolled in the DE courses themselves voiced additional concerns in a 2019 report of the top 10 self-reported barriers to success by the American Association of Community Colleges. Seventeen percent of community college students viewed the DE course itself as a challenge to their academic success; 15% expressed concern about an insecurity that they might not be able to do college-level academic work; 21% reported Online Modality as a barrier. The top three barriers included work commitments, financial obligations, and family responsibilities (“Datapoints: Challenges to Success”). These barriers make sense for most students who come from lower economic levels or are the first in their family to attend college. Work for survival is required and family demands are a reality; a balance is hard to find and juggling so many core responsibilities feels overwhelming. In 2014, about 60% of part and full-time community college students reported working more than 30 hours per week and spending 11 or more hours per week caring for dependents (“Characteristics of Community College Students”). There are only so many hours in the week, and school is demanding in a way these underprepared students are indeed unprepared to handle effectively on their own.

Some of this self-reporting does seem to be tied to practical, day-to-day reality, and others seem to be generated from a deep-seated, internalized insecurity or a highly developed stigma consciousness. In fact, it is quite common for the term *stigmatized* to be thrown around in company with DE, whether coming internally from the student in DE or externally from the institution placing students into DE. However, Boylan and Barbara S.

Bonham take a different view in their article “Seven Myths about Developmental Education.” They write,

A classic argument of those opposed to developmental education is that it "stigmatizes" students by placing them in low level, non-credit courses. As a result, such students lose their motivation and drop out of college. No research evidence is available to indicate that such a "stigmatization affect" actually takes place. Students may, indeed, complain about being assigned to a non-credit or lower level course. No research-based justification supports the assumption that this causes them to drop out. In fact, the reverse is true. Students who participate in developmental programs are more likely to be retained. Research conclusively indicates that special intervention for underprepared students increases their chances for success. (31)

Despite Boylan and Bonham’s strong oppositional voice, the evidence they cite for this last specific point is thin. First, they cite Boylan himself from a 1983 study saying, “...those who participate in developmental programs are retained at rates considerably higher than would be expected based on their entry credentials” (31). However, he does not provide any specific data to back up this claim or to give context for the vague phrase “considerably higher.” Secondly, and more impactful to their claim, Boylan and Bonham also compare a 1986 Tinto study that showed only a 25% retention and four-year graduation rate of all community college students to an earlier 1992 study also by Boylan and Bonham which showed a 28% retention and four-year graduation rate

of students who took a DE course. While it is unclear whether the 3% difference is significant or generalizable, their comparison casts doubt on arguments that DE students suffer relative to those their better-prepared classmates, particularly in light of the poverty of studies showing the contrary. The graduation rates they cite may be low, but they are low for both prepared and underprepared students. Moreover, the goal for DE has always been to raise the skills of the DE student to be able to succeed at the same level as the non-remedial student. The goal has never been for the DE student to outperform, merely to be able to compete at the same skill level (Boylan and Goudas).

Additionally, when one looks at retention rates, data from a 2008 study shows that successful completion of a DE course correlates with retention: “The strongest positive correlate with retention was successful completion of a developmental reading course. Other positive correlates of retention included successful completion of a developmental mathematics course...” (Fike and Fike 75). Finally, Boylan and Bonham’s claim that there is no evidence of a “stigmatization affect” holds credibility. This claim is echoed in a 2017 dissertation by Schwartz who explains that even though there is a clear understanding of the concept of stigmatization in academics, no studies linking academic performance in a DE course to a student’s stigma consciousness have been identified (24). He points out that further study into this topic could potentially help efforts to improve DE.

When one looks at how few DE students reach college-level courses, however, the evidence seems to support that there is a problem with DE. One example from Cho and Bailey, who report student data for math from Achieving the Dream members, shows

the hemorrhaging that can happen: 10% disappeared; 30% withdrew or failed; 28% never enrolled. So, only 32% completed the DE math course. The even harsher data point is that within 3 years, only 16% had actually completed a college-level math course. Reading courses had a rate of 25%, and the report did not share writing course data (2). Regardless, this data and similar data like it pointed to opportunities for improving DE by simplifying the process and eliminating the multiple points of sequence.

Both concerned individuals within education and those critical of DE outside and looking in question the validity by which students enter into a DE course—through a flat entrance exam. The assessment test given can vary greatly between state or school system. There is limited agreement from institutions on what the cut-scores should be for placing a student into a DE course. Additionally, a student's issue, like a disability, a language barrier, or a time gap since a topic was learned and used, may not be reflected in the standardized test, masking what help they truly need (Cho and Bailey).

Anecdotally, students in my classroom over the years have shared a number of reasons that contributed to placement into DE: they had to rush through the placement test to get to work on time; they had to pick up kids from school; they are poor test takers; they did not take the test seriously because an advisor downplayed the importance of the test results. For these reasons and more, a single, one-dimensional test may not be the best comprehensive assessment for placement into a DE course. Placement processes can be tweaked, though. For example, Bridget Long suggests that one tweak to implement is to rely on more than one data point: "Rather than a single remediation placement exam, one alternative for determining a student's college readiness is to use multiple measures,

including information about a student's high school GPA, courses taken, and/or years since high school graduation" (4). Due to placement concerns, many institutions and states have begun to investigate opportunities to refine and implement more holistic assessment processes and measurements, like those suggested by Long, for a more accurate placement into DE courses.

Individualized pathways, holistic advising, and differentiated instruction are buzzwords and a priority. Patricia Cross cleverly states it this way in the opening paragraph of her book *Accent on Learning*: "American higher education has worked hard for the past quarter of a century to achieve educational opportunity for *all*. It looks very much as though we shall spend the remaining years of this century working to achieve education for *each*" (3). She was not wrong about the focus on the individual, especially those in DE, but the timeframe has extended into the 2000s.

National Efforts to Improve DE

There are several organizations working to bring about educational reform whose influence on the national level should be recognized. The first is the Lumina Foundation, whose goal is to see 60% of Americans hold a certification or degree that will provide economic benefit to the individual who earned it. They have a vision of academic equity in higher education that is funded through grants. The Lumina Foundation is a private foundation that has an endowment of more than \$1 billion. Each year they give at least 5% of the value of their endowment in the form of grants to educational ventures that will help them reach their goal of reducing racial inequity in American education and society ("Lumina Foundation FAQ"). One of the early initiatives they are responsible for is

funding Achieving the Dream, a national non-profit that works to improve institutions of higher education through evidence based practices and processes. The second organization is the Community College Research Center at Columbia University. This group focuses on research to improve success for every community college student. Research from this organization prompted effectiveness questions about the length and sequence of DE courses (Cho and Bailey), about placement testing practices (Scott-Clayton, “Do High Stakes Placements Exams Live up to the Hype?”), and have led to the creation of *Guided Pathways* (Bailey et al., *Redesigning America's Community Colleges: A Clearer Path to Student Success*), a streamlined path for students to follow to earn their college degree. The third organization is the Bill & Melinda Gates Foundation, which strives to make high quality education a reality for all students, has tremendous liquidity to put behind the initiatives and organizations it values, such as the Common Core State Standards and Complete College America.

Even though the Bill & Melinda Gates Foundation may be the wealthiest private foundation, one of the loudest and most influential voices demanding change in education and specifically of remedial education is Complete College America (CCA). Founded in 2009, CCA’s mission is to be an advocate for closing equity gaps and improving college completion rates. This crisis in completion that CCA wants to eliminate harkens back to Cross’s claim from 1976 for “all” to be reached, the focus must turn to the “each” (3). CCA has made it their mission to bring a spotlight to the “each” who make up the “all.”

In 2011, CCA published a report entitled *Time is the Enemy* in which they outlined several urgent points and important findings. One of the first points emphasized

in the document is that the minority is now the majority: “75% of students are college commuters, often juggling families, jobs, and school” (6). Only 25% of students are traditional full-time students at residential colleges (6). Their point was that the government only measures full-time students to see how they perform academically and their graduation rates; part-time students were ignored. That is a large percentage of students excluded from data collection. A second point is that this new majority was not completing college, even with more than double the traditional time to do so. CCA’s cited data showed only 7.8% of part-time students earning a two-year degree in four years, and only 24.3% earning a four-year degree in eight years (8). These numbers dropped if the population was “African American, Hispanic, older, or poor” (10). One reason given for the delayed graduation was too many needless credits taken. As a result, changes made to state laws regarding community colleges began to require a 60-hour limit for an Associate of Arts degree. For example, HB 833 or the College Readiness and Completion Act of 2013 in Maryland standardized Associate degrees at 60 hours (Kaiser and Bohanan). Similarly in 2013, Texas passed SB 497, which barred colleges from requiring more than 60 hours to earn an Associates degree unless there was a “compelling academic reason” (Zaffirini). These changes illustrate the power and momentum behind the voice that CCA was wielding.

Additionally, CCA added urgency to influence. The *Time is the Enemy* document reported that “Remedial classes have become the Bermuda Triangle of higher education” (14). CCA gave seven recommendations:

1. Divert students from traditional remedial programs

2. Mainstream as many students as possible into college-level courses.
3. Intensify instruction and minimize the time necessary to prepare students
4. Eliminate the many exit points
5. Provide alternative pathways
6. Answer the fundamental question — is what’s being taught in developmental education what students really need?
7. Overhaul the current placement system. (14)

The report goes on to give a comprehensive overview of enrollment, completion, and graduate rates of each state. For example, the Texas data points to a reality of 51% of all students enrolling in two-year schools required remediation. Of the 51%, only 30% completed remediation, 14.3% completed remediation and a college-level course within two years, and only 5.8% were projected to graduate within three years. This reported data is from fall 2006. However, by the time this report was published (2011), Texas had already won a Completion Innovation Challenge grant from CCA and was working to reform remediation. (More details of the changes begun in Texas will be looked at in the subsequent two sections of this chapter.) With 33 states on board with their recommendations at the time of the publication of *Time is the Enemy*, the influence and urgency of change was far reaching at the national level (7).

In 2012, CCA published a follow-up report focusing on DE, cleverly named *Remediation: Higher Education’s Bridge to Nowhere*. This report gave more extensive details about its seven recommendations for remedial education from *Time is the Enemy*. The report claimed that a staggering \$3 billion was spent on remediation nationally “the

previous year” and that around 1.7 million students entered remediation (2). While the specific year was not given in the CCA report, since the report was published in 2012, one might assume that the data is from 2011. The source the CCA report cites is a brief titled *Saving Now and Saving Later* by Alliance for Excellent Education. The brief claims “\$3.6 billion in direct remedial education costs” for the 2007-2008 school year (1). So, the reader is left with two uncertainties: First, is the CCA report correct with its claim of \$3 billion spent on DE or is the source that the CCA cites correct with its claim of a \$3.6 billion price tag spent on DE education? Second, which year does CCA’s number cover, the “previous” year, or an academic year five years before that? CCA was not the first or only source to report a cost for DE. The oft-cited study by David Breneman and William Haarlow estimated that the cost of DE was near \$1 billion in 1996, but these authors also point out that this figure amounts to less than 1% of the annual budget of public institutions (1). Joshua Pretlow and Heather Wathington update the figure from Breneman and Haarlow with a 13% increase spent for DE in 2004-2005 at \$1.13 billion (8). For 2011-2012, Mary Barry and Michael Dannenberg put the DE cost at \$1.5 billion rather than the \$3 billion seemingly asserted by CCA (4). Additionally, they layer in an additional detail of the individual cost of an extra \$3,000 for academic skills students should have learned in high school, and that \$750 of that \$3000 was financed or added to student debt.

Of course, not everyone thinks the cost of DE is out of line or redundant.

According to the 2019 State Higher Education Finance Report, funding for all higher education reached \$100 billion for the first time in 2019 (“Executive Summary”). If

Barry and Dannenberg's figure of \$1.5 billion is reasonably accurate, DE costs less than 2% of the entire budget. Even if spending for DE is \$3 billion, this is only 3% of the total spending in higher education. If 76% of college freshman were required to take at least one DE course in 2000, then it seems like the percentage is smaller than the need ("Remedial Education at Degree-Granting Postsecondary Institutions in Fall 2000" iii). Breneman and Haarlow point out that "the fact that remedial education draws political fire far in excess of any reasonable view of its budgetary costs suggests that other factors are driving the criticism" (20). Similarly, claims of money being wasted on redundant skills has met opposition. One point brought up is that remedial education is different for a 19-year-old coming out of high school and a 38-year-old returning to school. Perhaps, the 38-year-old is rusty and needs a quick polish. Perhaps the recent graduate was never taught the level of tiered skills required for collegiate success. For that matter, maybe the returning student was not taught these skills either. DE is offering these students a better alternative to a dead-end job, unemployment, welfare, or being trapped in a cycle of poverty. Though not perfect, when seen through this lens, perhaps DE is not a bad societal investment after all.

Though more questions are raised than answered regarding the cost of DE, billion is a big dollar amount to throw around, especially on something perceived to have little to no value. It is this follow-up report from CCA that pushed two main options for bringing some value to the current state of remediation. The first suggested opportunity is the 2007 faculty-led initiative Accelerated Learning Pathways (ALP) helmed by Peter Adams at the Community College of Baltimore County. ALP is a form of *mainstreaming*, or

placing a DE student into a core course. ALP typically placed the higher-level DE students into two courses. The first is a freshman English course, with 10 spots designated for the DE students, and students who scored directly into freshman composition fill the other 10 spots. So, this English course was half DE students and half students who had met the Prerequisites for taking English. The idea is that the 10 strong writers would help elevate the writing and academic behavior of the DE students. The second class that the DE students enrolled in was a support course for the English. This course would give extra time on writing tasks, writing process, mechanics and grammar, and other affective barriers as needed. The Corequisite format of the ALP courses is reported to double completion compared to Prerequisite, stand-alone DE offerings, according to the ALP website (“About ALP”).

The second option is what CCA recommended as “the default” approach and what quickly became the DE model du jour: Corequisite courses (12). Goudas and Boylan suggest that, “Essentially, CCA has taken a premise about remediation that is based on flawed research conclusions and has then proposed an alternative for all developmental courses that is not supported by any research.” Regardless of the caution, the Corequisite model has gained popularity across the nation, with some states mandating this model through legislative actions. A few examples of recent state adoptions of Corequisite models include Tennessee in 2015 (TN Board of Regents A-100 Guideline), Texas in 2017 (HB 2223), California in 2017 (Assembly Bill No. 705), and Idaho in 2019 (III.S. - Remedial Education 10-2019; Logue; Scott-Clayton, “Evidence-Based Reforms in College Remediation are Gaining Steam – And So Far Living up To the Hype”;

Whinnery and Pompelia). Many states are moving to minimize remediation through a variety of strategies often including or led by a Corequisite model.

Despite the growth in popularity and offering of Corequisite courses, there are a few voices cautioning against a watered down “one-size-fits-all approach.” For example, Alexandros Goudas in his article “The Corequisite Reform Movement: An Education Bait And Switch” explains that Corequisite models are based on the ALP model, but often do not contain the specific ingredient that make this model successful, primarily the smaller-sized English course with half DE and half college ready students. Arguing that states adopting Corequisite models are doing little more than jumping on a bandwagon headed in the wrong direction, he says,

...it is very likely that some organizations and institutions are using the Corequisite reform movement as a means by which to eliminate or severely restrict remediation and instead put as many students into college-level courses as possible. Either way, what results is a misapplication of good research.

Goudas’s article “The Corequisite Reform Movement: An Education Bait And Switch” is an in-depth analysis about the realities of the ALP Corequisite’s strengths and weaknesses. He admits that there is research to show the effectiveness of the ALP model of Corequisite. For example, this style of offering essentially doubles the time on task in the gateway course, which can result in 50% or more success rates in the gateway course. However, Goudas says that benefits need to be compared to drawbacks, including double the cost, no increase in graduation rate of the remedial student, and a negative impact on

the non-remedial student in both pass and graduation rates. As a result, the approach needs more rigorous study before it is seen as a panacea. He facetiously imagines asking administration to implement this form of study:

In spite of the lack of rigorous research into the ALP reform specifically, and despite the fact that many negative outcomes accompany the few positive results, institutions and entire states are moving forward with the implementation of several variations of this reform, almost none of which have any basis in research. What are your thoughts about going along with this? (“The Corequisite Reform Movement: An Education Bait And Switch”)

His serious answer is to caution that any implementation of Corequisite model courses should be followed up by a “rigorous study with a larger number of students” rather than jumping into a blind, faulty, and wide implementation. Additionally, Boylan, collaborating with Goudas, offered caution in the opening paragraph of their article “Knee-Jerk Reforms on Remediation”:

The author and philosopher, Thomas Merton, once said that “the self-fulfilling prophecy perpetuates a reign of error.” The self-fulfilling prophecy that remedial education has failed now leads us to such a reign of error. The news media, policy makers and various higher education agencies are using flawed interpretations of data about remediation to make unsupported assertions and repeat them frequently, thus leading to erroneous policy decisions.

The problem with interpreting the old DE as an utter failure and the new Corequisite DE as more successful is that it leads to an all-or-nothing binary approach without accurate data or informed research proving either one. It might sound good in reports and in papers, but what does the data show?

Some of the negative data about DE can be traced to a 2007 report from Paco Martorell and Isaac McFarlin. They looked at the effect of remediation on the academics of students who had “barely failed” the college cut scores in Texas (2). Their study reviewed the credits attempted, years completed, or degrees attained by a large number of DE students in Texas two and four-year schools. Their conclusion was that remediation did little to improve DE student outcomes compared to those students who did not require remediation. As a result, they recommended that Texas should limit funding for DE and lower the passing score. The underlying assumption that comes from this interpretation is that DE students should do *better than* those students who initially met a college entrance exams minimum score. However, not all researchers agree with this underlying view of the effect of DE. Responding to Martorell and McFarlin, Boylan and Goudas point out what they believe is a logical flaw in thinking that students who have taken a remedial course should outperform ones who have not. They claim that if the two groups performed equally, then the DE course succeeded rather than failed. The historical definition of success in DE has always been about the opportunity to “level the academic playing field for underprepared students, not to enable them to outperform prepared students” (Boylan and Goudas). This misinterpretation of data that has led to poorly informed policy decisions about DE.

Additionally, Boylan and Goudas reference the CCA report *Remediation: Higher Education's Bridge to Nowhere* as a prime example of a "reign of error." First, they say CCA does not cite references for their sources, and secondly, if their sources were authors like Martorell and McFarlin, then the data is misinterpreted due to their error of interpreting remediation as doing anything other than providing equity. Boylan and Goudas also accuse the CCA authors of confusing correlation with causation when they argue that enrollment in remediation is the cause of the failure to graduate. This research fallacy fails to consider other risk factors of this student population, such as being underprepared, from first generation or minority families, and poor, as factors more likely to contribute to failure.

However, this different interpretation of what success in DE means had taken hold and was picked up by other organizations and researchers. Around 2008, CCRC changed the definition of remediation to make it more challenging. The revised definition expected students in DE to surpass the performance of college-ready students and came from a study by Juan Carlos Calcagno and Bridget Long. In their study they say, "It would be expected that after successfully learning the skills needed for college-level work, a remedial student would be more likely than an academically-equivalent non-remedial student to complete these courses" (21). In his own response to the Martorell and McFarlin interpretation, Alexandros Goudas counters that DE has been wrongly labeled a barrier ("The Goal of Remediation"). His first point is to remind what the goal of remediation is. The goal of DE, he says, has always been to prepare students with knowledge and process for college-level work, so they can pass with the same success

rates as students who did not require a DE course. This goal of a leveled playing field was based on theory and application of the experts in the field, such as Cross, Boylan, and Bahr. Goudas asserts that this definition upgrade to “more likely” by Calcagno and Long has shaped the view that DE is ineffective because findings show the two groups perform about the same. However, Boylan and Goudas emphasize that if the historically accurate definition is used, then DE is doing its job to “level the academic playing field for underprepared students.” In other words, DE is not the problem it has been made out to be. Rather the misinterpretation comes from faulty and biased research repeating the same mantra and the public hearing the same inaccurate message repeatedly until they do not question its validity.

A final caution is that CCA recommends a one-size-fits-all approach, with Corequisite support. This approach may work well for some types of students, especially those testing at the top level of DE, but Boylan and Goudas warn “there is no single solution for all underprepared college students. There are many tools validated by varying amounts of research available to address the needs of underprepared college students through improved remedial courses and a variety of separate or embedded support services.” These two DE researchers wrap up their concerns with the CCA’s recommendation by agreeing that, “We need to reform remediation and guide our reform efforts with accurate data and sound research. We need to explore various alternatives, including some of those proposed by Complete College America and others. Nonetheless, we disagree that eliminating all remedial courses [or having one solution] is a wise course of action.” Goudas, in his article “Remediation is Not a Barrier” goes on to say that DE

“should be a system of support, well-funded and thoughtful, which includes remediation, especially Prerequisite, traditional remediation for those students who are underprepared.”

The differing views created a polarized mindset. One side saying: DE is a failure and must be thrown out. The other side saying: do not throw our DE students out with the bathwater. Those on the outside looking at cost and poor graduation rates. Those on the inside claiming that the students needed extra help, support, and time, and that the DE failure rate was correlation and not causation. However, the tide of popular opinion was coming in, and it was hard to hold back the ocean.

State Level Efforts in Improving DE

Soon states began implementing changes in DE, including Texas. To bring into context Texas’s response to this national agitation toward DE, it is helpful to review the timeline presented in the introduction chapter. In 2011, the THECB proposed a plan called the 2012-2017 Developmental Education Plan. The Texas Legislature passed this plan in January of 2013, and for DE educators in Texas, this began a shift in the landscape of the DE discipline. As mentioned earlier, a 2016 national report from The University of Texas at Austin, College of Education noted that it was common for DE programs to have three or four separate levels that students needed to work through before they could be college ready. Texas was no exception. Often reading and writing classes were taken in conjunction with each other, creating a need for up to eight DE courses for students with low scores on college entrance exams. For example, the common DE course offerings at Dallas County Community College campuses included

four possible levels—0300, 0090, 0091, and 0093—before a student even entered a core course. After this new DE Plan, programs within the DE discipline were limited to two levels and given a year to integrate reading and writing at the higher level. In 2015, Texas launched the 60x30TX initiative, bringing more intense scrutiny from the THECB to the effectiveness of DE practices and their alignment with the state’s goal of having 60% of the workforce possess a certificate or college degree by 2030. The Corequisite format is what CCA’s movement championed, and Texas agreed, mandating its deployment on all of its college campuses. In 2017, the new mandate for DE educators came in the form of HB 2223, which requires 25% of all DE courses to be offered in a Corequisite format by the 2018-2019 academic year. The House Bill offered a stair-step approach to meeting the mandate of integrating Corequisite courses. After the 25% goal of the first year was met, then the expectation was 50% of DE courses would be Corequisite by the 2019-2020 academic year, and 75% by the 2020-2021 academic year. The law was passed. The stage was set. Change was underway. The year it all began was 2011.

One Local Community College’s Efforts in Improving DE

The relative calm, consistency, and status quo within DE across the state and at Dallas County Community College and its seven campuses was about to be revolutionized through the external influence of this aggressive change, a transformation that would affect a system in place for decades. Dallas County Junior College District began in 1965 with a \$41.5 million bond. Its first campus, El Centro, opened in 1966. Six more campuses quickly followed. Eastfield and Mountain View opened in 1970. Richland opened in 1972, and the district changed its name to Dallas County Community

College District. In 1977, Cedar Valley and North Lake opened, and one year later, the final campus, Brookhaven opened its doors (“History of Dallas College”).

When I joined the faculty ranks at North Lake College in 2003, many of the faculty on each campus and in each division had been a part of the District family since its inception or had followed soon after. It was these veteran developmental faculty who nurtured the culture of the DE discipline. As a new faculty member, I stepped into the status quo of multiple levels and exit tests. When I questioned why something was done a certain way or why we did not try something new, the answer was often, “We tried that in the 70s and it did not work then. This is the approach that works best.” Young and enthusiastic, I had doubts, but I also was a novice, respectful of the experience and wisdom of the faculty mentors I had the privilege to work with. The way they patiently explained pedagogy or approach always seemed to make sense and quell my questions for a while. The concern I could never quite get my head around though was the exit exam. Granted, having a Masters in Linguistics, I knew next to nothing about the field of developmental education and its history, but I could never quite understand such a high stakes test for a population often struggling with academic confidence.

District rules required students to pass an exit test with a minimum score. If they did not meet the minimum score, they failed the DE course and had to repeat, regardless of the grade they had earned in the course. The exit test was all or nothing. I kept questioning this practice, and through my own persistence, by fall 2008, a compromise had been worked out, at least within the Developmental Reading discipline, that was more moderate than an all-or-nothing exit, but which still required some tricky math to

determine whether a student could move out of DE or into the next DE level. Figure 3.2 shows the complexity and caveats of the grading table based on which exit test the student took:

- Accuplacer, administered in the Testing Center
- Or the Pre-TASP Test (PTT) a retired paper version of the TASP, administered in the classroom by DE faculty, and taken within a four-hour period with a Scantron.

Accuplacer 58+ = 40 pts *50-57 = 15 pts 49 or below = 0 pts	DREA 0090 Students must have a 70% to take the EXIT	PTT 14+ = 40 pts *12-13 = 15 pts 11 or below = 0 pts
Accuplacer 70+ = 40 pts *62-69 = 15 pts 61 or below = 0 pts	DREA 0091 Students must have a 70% to take the EXIT	PTT 16+ = 40 pts *14-15 = 15 pts 13 or below = 0 pts
Accuplacer 78+ = 40 pts *70-77 = 15 pts 69 or below = 0 pts	DREA 0093 Students must have a 70% to take the EXIT	PTT 18+ = 40 pts *16-17 = 15 pts 15 or below = 0 pts

*This option only for students with an average of 90% or higher

Fig. 3.2. Progression and Exit Chart for DE Reading Levels

The way the chart worked in practical application was that students who were passing the DREA course with a 70% or higher had a chance to take and pass the exit exam, which was worth 30% of the course grade. Students who passed the exit exam had no worries for progression. Students who scored at the level they were on kept 15 points toward their course grade. For students who had an 85% or higher average, they could still pass to the

next level or exit the highest level. Students who had an average below 85% or did not pass the exit exam needed to repeat the DE course. To be fair, while efforts had been made regarding the do-or-die exit test, DE processes often were complicated and prohibitive to advancement through or out of the course sequence.

By the 2011-2012 academic year, the exit test had gone away (at least on my campus), but North Lake was still much like those around the nation and state — there were three levels of DREA courses and three levels of DWRI courses. The students within these courses, like those around the nation, were struggling to succeed. The DREA student count and success rates for the fall 2011 semester are in Table 3.1 below. The freshman composition (ENGL 1301) success rate is included as well.

Table 3.1.

Developmental Reading and Freshman Composition Success Rates for Fall 2011

Semester	Course	# of Students	Success %
2011 FA	DREA 0090	280	41.4%
2011 FA	DREA 0091	181	57.1%
2011 FA	DREA 0093	188	55.9%
2011 FA	DWRI 0090	146	65.9%
2011 FA	DWRI 0091	219	58.9%
2011 FA	DWRI 0093	411	63.4%
2011 FA	ENGL 1301	1243	63.4%
Overall:		2668	59.4%

The reality of this data was hard to ignore as this campus faced the stark reality of the poor success rates the DE discipline was having, and how the multi-tiered process seemed to be a barrier to its DE population taking math, reading, and/or writing courses.

Each DE discipline was separate and did their own thing, but the DREA faculty at this campus were actively discussing how they could intentionally improve the success rates of the DREA students.

The DREA faculty had been struggling with the low success rates for a number of years, but many times their options were limited by district or state policy. Fortunately, North Lake College joined the Achieving the Dream initiative (ATD) in 2010. As a result, the campus became more familiar and intentional with data collection, analysis, and applied strategic planning. The college began collecting both quantitative and qualitative data to make a decision for how to improve student success and retention. Surveys, focus groups, and institutional performance indicators narrowed the target to DE as a whole. Institutional data showed that 70% of the school's incoming students tested into at least one developmental course: 29% in writing, 38% in reading, and 68% in math (*iRead 5*).

Math had the highest percent of enrollment and the lowest success rate (35%). Initially, math seemed like the target to focus on, but the district had already begun a major revision of the math curriculum. DWRI had the smallest enrollment and the highest success rate (61%). This left the roving eyes of improvement to rest on DREA, which had a 38% enrollment rate and only a 56% success rate (6). More core courses required a passing score in reading on the state entrance exam (TSI) making it a high stakes Prerequisite skill, so the institution chose the reading discipline to reform.

The low DREA success numbers were clear, and now all players were on board, from faculty to upper administration, to develop and implement a plan to help the DE

students find more success and higher retention. In think-tank style, participating administrators, DREA, ESOL (English to Speakers of Other Languages), and College Success faculty, support staff, and institutional research members collaborated in creating a plan of action. In preparation for a 2012 campus visit from the *Southern Association of Colleges and Schools* (SACS), the campus developed and proposed “a Quality Enhancement Plan (QEP) that is focused on student success, learning and engagement in Developmental Reading” (*iRead 1*). In 2011, SACS conditionally approved the QEP entitled *iRead: A World of Possibilities*. The goal of *iRead* was to increase the success and completion rates of first-year students testing into developmental reading and their subsequent success and completion of college-level courses. One of the initiatives was the “redesign and acceleration of the developmental reading curriculum to pair developmental reading courses with corresponding student success courses” (*iRead 1*).

This college priority aligned with the National ATD initiative. The Lumina Foundation founded ATD in 2004. According to their website, ATD is “Evidence-based, student-centered, and built on the values of equity and excellence” (“History”). The ATD “History” page goes on to say that ATD is “closing achievement gaps and accelerating student success nationwide.” ATD works to make these changes at the national level by shaping educational policy, at the institutional level by helping direct institutional decisions informed through evidence, and in the public conscious by funding and publishing research related to the need for changes within education. The acting college president recognized an alignment between college and ATD priorities. Specifically, five

interrelated measures of student success recognized and focused on by ATD were included in the QEP:

1. Completing developmental courses and advancing to curriculum-level courses;
2. Completion of introductory-level, or “gatekeeper,” college courses;
3. Completion of courses with a C or higher;
4. Persistence from term to term and year to year;
5. Attainment of a degree or certificate (*iRead 3*)

As a result, work began on creating a project that would not only improve the success of DE students within the DREA courses, but also increase entry into core, college-level courses like freshman composition, which currently required a minimum score on standardized college entrance exams or completion of the DREA sequence (and the full DWRI sequence). The project also needed to include measures to increase success of the DREA student in the core course itself. The campus team worked together to create a five-year plan.

The first year began in the fall of 2013. The initial plan was to pair four sections of the upper level, redesigned DREA 0093 with a student success course, EDUC 1300. Based on the similar success rates of the middle level (DREA 0091) and the upper level (DREA 0093), the discipline decided to compress the DREA offering into two levels. The upper DREA level would now include both the DREA 0091 and the DREA 0093 students. The four pilot sections of this newly combined level course would be paired with a college success course, EDUC 1300, which was built around theories of learning,

critical thinking, and types of motivation. Additionally, the pilot would pair two lower level, redesigned sections of DREA 0090 with HDEV 0092, a college success course focusing on time and stress management, classroom strategies, and processes of learning and critical thinking. These upper and lower pairings would be repeated in the spring, then the team would evaluate completion, success, and retention of the students enrolled in these pilot courses.

Year two covered the 2014-2015 Academic Year. The plan was to expand the pairing of DREA 0093 with EDUC 1300 to all offered sections, and to expand the pairing of DREA 0090 with HDEV 0092 to four sections. Again, the upper and lower pairings would be repeated in the spring, then the team would evaluate and compare completion, success, and retention of the students enrolled in these pilot courses with the previous year. Faculty would tweak course material and processes as needed.

The third year included Academic Year 2015-2016. The upper levels of DREA 0093 and EDUC 1300 would still include a pairing of all sections offered. The pairing of the lower DE level of DREA 0090 with HDEV 0092 would be expanded to all sections. Similar to the second year, the team would evaluate completion, success, and retention rates from the previous two year's efforts and make recommendations for improvement as needed.

Year four, which covered the 2016-2017 Academic Year, would remain with the full pairing of both levels of DE and the student success courses. Any recommended changes from the previous year for improvement would have been implemented.

Similarly, completion, success, and retention rates from the previous year's efforts would be evaluated and recommendations for changes made as needed.

Finally, year five—Academic Year 2017-2018—would continue with implementation for improvement based on previous year's results and recommendations. Both the upper and lower levels would remain paired with their student success course for all sections offered. Once this year finished, then the team would review the five-year results and consider pairing DE courses with reading-heavy freshman courses, such as English, History, Government, or Psychology.

This was the initial plan devised on paper, but the reality played out somewhat differently as national and state pressures intensified to improve success, retention, and completion of the DE sequence concurrently with the local institutional plans for change.

Year one of the QEP began as planned. Influenced by research from Nikki Edgecombe, Elizabeth Rutschow, and Emily Schnieder, as well as internal success data from several pilot sections run in the spring 2013 semester, the DE discipline implemented the decision to compress the separate DREA 0091 and DREA 0093 levels into one level and class, limiting the DE sequence to only two levels compared to three. Additionally, the compressed course was paired with a college success course (EDUC 1300) and included the support of a dedicated tutor and advisor. The initial compressed pilot sections showed a combined success rate of 77% compared to a separate and stand-alone DREA 0091 success rate of 57.1% and a stand-alone DREA 0093 success rate of 55.9%.

The first big adjustment to the QEP happened in year two and was required as the State of Texas passed Senate Bill 162 in the 82nd legislature. With the intent of shortening the path to college-level courses, Texas mandated changes to DE by combining the highest level DE reading and writing courses into one course called Developmental Integrated Reading and Writing (DIRW). Since the campus had already eliminated the middle DREA level, the team involved decided to combine both the upper and middle levels of reading and writing into one DIRW level, as well as integrate the lower level of reading and writing. The 2014 fall semester began with two new courses: DIRW 0310 (for the upper level) and DIRW 0305 (for the lower level). These courses were developed by both DE and English faculty, aligning the DIRW work with freshman composition student learning objectives (SLOs). In addition, the DIRW 0310 was paired with the EDUC 1300 as a support course. The DIRW 0305 was paired with an HDEV 0092 as a support course. The first semester, the DIRW 0310 success rate was 68.81%, and the DIRW 0305 success rate was 58.52%.

The next influence requiring change to the QEP was Texas lowering the freshman composition writing score. In the fall of 2017, due to this raise and the state's policy to place the student to the level of their higher score in reading or writing, all DE reading and writing students were placed into the upper DE course, DIRW 0310. So, effective fall 2017, the campus had one DIRW Prerequisite level. Additionally, in spring 2018, the campus began offering a pilot of DIRW 0315, which was a Corequisite pairing of the DE course DIRW 0315 and the freshman composition course (ENGL 1301). Even before the time HB 2223 was requiring a 25% Corequisite offering, the DE and English faculty had

Corequisite curriculum up and running, and so in the fall 2018 semester, 100% of DE students were enrolled in a Corequisite course model. The paired courses were DIRW 0315 and ENGL 1301 or freshman composition. The EDUC 1300 student success course was no longer a paired offering with the DIRW course. All DE students had the opportunity to take and complete not only the DE course, but also the freshman composition “gatekeeper” course within a single semester.

While the opportunity was provided, not all students were successful. So what now? Certainly, the assumption was not that all students would be successful, but the hope was that the numbers would be higher. In our first semester of fully functioning Corequisite courses, the success rate was only 59.5%, not really any better than before all the innovative, touted changes were made. While these results can be interpreted as frustrating, Sue Desmond-Hellmann reminds that, “Progress happens when smart, dedicated people translate good intentions into concrete realities.” While this is an easy quote to reply positively to, what are concrete realities? What do these realities look like when it comes to the world of DE? Data needed to be gathered; analysis needed to be run and evaluated. As Alexandros Goudas had recommended in his article “The Corequisite Reform Movement: An Education Bait And Switch,” it was time to do some rigorous research.

Wrap-Up

Donald Stewart in the forward to *Developmental Education: A Twenty-First Century Social and Economic Imperative* echoes sentiments of rigorous research when he says,

Such a flexible, democratic, and demanding system will require a constantly evolving set of programs, new institutional adaptations, innovative curricula, sophisticated professional development support, well-articulated academic standards, and dynamic, reliable assessments. New educational players, new partnerships among existing players, and new applications of emerging technologies will enrich the mix. No one element, no single panacea will suffice. Within this flexible educational configuration, developmental education will certainly continue to play an important role, and so merits our concerted attention. We must learn from exemplary programs, and we must refine our practical judgment about what student success will require in the future. (McCabe and Day vii)

Doyle adds that eliminating DE is not a good option. He explains this idea with the following analogy:

Eliminating **remediation** because many students don't succeed is similar to not performing CPR because so few people are successfully revived. The solution to this problem won't come from a blanket solution like eliminating all developmental coursework. While research is needed to understand the best way to provide students who arrive at college with the skills they need to succeed, simply eliminating **remediation** because many students don't succeed is likely to result in a further reduction in both access and success. (63)

This idea makes sense. Logically, you cannot tell a person who is sick with an infection “to just get over it.” He or she needs the help and support of medicine to have a chance to fight and beat the infection. You cannot tell someone who is struggling with weight loss “to just lose it.” They need to be given strategies and support to help change assumptions, habits, mindsets, behavior, and develop new patterns for success. This journey is never easy, and some people are not successful in their goals. Comparing DE students with prepared students is like complaining that an average person who trains for a few months does not do as well as an athlete who has conditioned and trained years for a marathon. This a question of equity and not equality. Prepared students do not need support to be successful; some students have narrow gaps and need just in time support in an entry-level core course; other students need more support and time to develop their academic muscles. Similarly, developmental classes should take a student with a need and target his or her need with intention, authenticity, and cheerleading to lead that student to a place of confidence, accountability, and academic success. We cannot throw underprepared students into a battle with no weapons or without clearly explaining the rules of engagement. Developmental courses should equip academic warriors to run the gauntlet, to critically think, to apply hard-earned skills and strategies, and to leverage college and community resources to overcome challenges and become fluid citizens in an idea economy.

Whatever we as institutions do, it seems reasonable that higher education should never stop investing in the success of their students through improved data collection, which informs progressions and setbacks. Institutions and the administrators, faculty,

advisors, and support staff need to remain vigilant because it is the vision for a culture of success that will foster success.

This should be the goal of institutions and DE programs and courses: to put the success of students first. Distinguished Professor and Senior Scientist Patrick Terenzini reminds us, “Do not zero in on finding the silver bullet. There aren’t any. The effects of college are cumulative across a range of activities” (3). With the intent to put students first and checking the efficacy of our cumulative college efforts, the next chapter will work to explain the methodology of the data collected and analyzed.

CHAPTER IV

METHODOLOGY

“...tomorrow’s research will be informed by yesterday’s efforts.” ~ James R. Squire

Introduction

There have been many changes in the discipline of DE over the last decade. Some of the changes are faculty led—the never-ending pursuit to create, adapt, and apply best practices for teaching and learning in an effective manner within the classroom. Some of the changes have come from outside sources, often through legislative action. For example, as of December 2018, 21 states had implemented innovative instructional methods, such as compression, concurrent or Corequisite enrollment, and bridge programs (“Are Instructional Methods Addressed?”). Specifically, DE courses have evolved considerably in Texas since 2011, thanks mostly to a series of policy changes by the THECB, originating through the 60x30TX initiative, and required by the Texas Legislature. The purpose of this exploratory research is to assess the impacts of those changes on the success of DE students at one community college campus, North Lake. We hypothesize these changes will have positively affected DE student success.

In Texas, there had been three specific legislative mandates spurring change at the college-level. The first was in 2011 when the State of Texas passed Senate Bill 162 in the 82nd legislature, which mandated a plan from the THECB to make changes to DE. One change that came about was combining the upper level developmental reading and

writing courses into one class called DIRW. The second was a change in the TSI writing cut-scores for the fall 2017 semester, effectively eliminating the lower level of DE at North Lake. The third was when HB 2223 introduced a three-year phased implementation of Corequisite classes for DE beginning at 25% the 2018-2019 academic year and reaching 75% for the 2020-2021 academic year.

Due to both internally and externally imposed changes, it makes sense to analyze and evaluate the data through a quantitative lens to see whether the local program changes inspired by state changes are indeed resulting in increased student success. The purpose of this chapter is to explain the quantitative approach chosen to analyze the data from this Texas community college.

I plan to use the data sources to analyze the effects of reform during the THECB DE overhaul from 2012-2017, the effects of reform from heightened 60x30TX scrutiny, and then the impact of HB 2223. The dependent variable will be student success in the core composition course, defined as a grade of “C” or higher. There are four independent variables: the course type, support type, length of term, and Modality. The course formats include a 16-week Stand-Alone reading (DREA) and writing (DWRI) course, a 16-week integrated DE course (DIRW), an 8-week consecutive Prerequisite course sequence (DIRW followed by freshman composition), and 16-week Corequisite courses (DIRW as a support course for freshman composition). The null hypothesis is that there is no difference in success for the DE and non-remedial student in the freshman composition course.

This chapter starts by explaining the data sources, the confidentiality measures taken, and reviewing the research questions. Next, a framing of the demographics from

the larger to the specific context is presented. The county demographics are compared to the demographics of the seven-campus district as a whole, and then the city is compared to the specific community college campus. The larger context is established to get a sense of how the individual school population sits within it. Finally, an explanation of how the data set was narrowed down for the final analysis is presented.

Data Sources and Tools

The data for this study came from several sources. The first data source accessed is called Data Depot. This is a research and analytics tool that I have access to as a Dallas College faculty member. I used this resource to pull anonymized aggregate data for the entire Dallas College district student population as well as the overview of student demographics from North Lake campus. A second source of data accessed was an Excel spreadsheet with compiled semester program and course data for the DE and freshman composition courses involved in this study. This data was shared by the Institutional Research office from the campus of study. A second Excel sheet contained individual section level data normally collected and compiled from each instructor after each semester and academic year for discipline evaluation, as well as for the college's QEP.

Confidentiality Measures

This research was conducted in accordance with Institutional Review Board protocols at Texas Woman's University, under an exemption protocol recorded as #20309. Although any study, particularly one involving electronically transmitted data, carries a risk of loss of confidentiality, this study did not create any new or unique risks for the data resources accessed, as this data is routinely looked at for in-house discipline and

program reviews. Additionally, these risks were minimized through specific security protocols and procedures, such as firewalls and password protected documents and devices. There was limited risk to individual participants, as the data pulled, reviewed, and analyzed is anonymized aggregate or summary data. Additionally, all data was pulled from semesters and academic years that were already completed.

Research Questions

As noted in Chapter 1, there are several Research Questions that guided this study. All of the questions were concerned with whether changes made in DE were having a positive, negative, or no impact on the success of DE students in a composition course. The framing question inquired: Do structural support factors influence the success rate of DE students in freshman composition? For this study, success is defined as a “C” or higher grade in the freshman English course.

The first goal of this study was to explore whether DE students from each treatment do as well in freshman composition as mainstreamed students. If the differences between mainstream and DE-completing students are statistically significant in favor of success for the college-ready student, that might suggest that the DE support is not working or that there is room for improvement in the support being offered to non-college-ready students. If differences were not statistically significant, then this would suggest that the DE courses are working well to support DE student success and progression into college-level courses. To summarize, the first Research Question was this:

1. Is student success in freshman composition higher or lower with support than it is without it or is there no discernable difference?

The second Research Question looked at the influence of course support format upon DE success in the freshman composition course:

2. Do differently structured DE support formats impact student success differently in the freshman composition course?

In addition to the Stand-Alone composition courses with college-ready students, our campus implemented three different DE support formats:

- Corequisite – 16 week concurrent and paired offerings of a DE integrated reading and writing course with a freshman composition course
- Prerequisite – a first 8-week Prerequisite DE course followed by a second 8-week freshman composition course
- Prerequisite Plus – a first 8-week Prerequisite DE course followed by a second 8-week core composition course plus a 16-week learning framework course designed to address affective concerns, learning processes, motivation, navigation of school resources, with a built-in advisor

In addition to different support formats, there were also a variety of class lengths that both DE and college-ready students took. The third Research Question asked the following:

3. Do different course lengths affect the DE student's success rates in the freshman composition course? Our campus offered several different course lengths:

- 8-week
- 12-week
- 14-week
- 15-week
- 16-week

The fourth and final Research Question sought to know whether different modalities influenced success rates of the DE student in the freshman composition course. It asked the following:

4. Do DE student success rates in the freshman composition course differ based on

Modality? Our campus provided four different modalities:

- Dual Credit
- Traditional Lecture
- Hybrid
- Online

With these four Research Questions in play, it is helpful to establish the context of the demographics from large to small: from Dallas county to Dallas College and from the specific city to the local campus. This chapter also explains why certain data was removed for the final analysis that takes place in the next chapter.

The County and the District

The community college campus where this study was conducted is located in North Texas, within Dallas County and is part of a larger area commonly referred to as the Dallas/Fort Worth Metroplex. Dallas County has seven main community college

campuses that belong to the newly renamed Dallas College. It is important to get a sense of the larger county demographics, and then see how the specific District reflects the larger county that it serves. According to the Census Bureau's "Quick Facts United States" table, specifically within Dallas County, the population estimate from July 1, 2019 is 2,635,516 individuals. From this population, 31.5% of residents 25 or older report earning a bachelor's degree or higher (2015-2019). During the same period, almost 79.3 percent report earning a high school diploma or higher. The medium income is reported as \$59,607, and 14% of residence are reported to be living in poverty. The top four reported races are White (66.6%), Hispanic (40.8%), Black or African American (23.6%), and Asian (6.7%; "Quick Facts. United States"). The county served by this community college district is generally better educated and more affluent than the student population is.

The participants in this study were students within the Dallas County Community College District (renamed Dallas College in 2020). To compare population data between county and district, Figure 4.1 shows student profile specifics from all of the district's campuses in the 2019 fall semester taken from the district's Data Depot. Take note of the higher percentages of Hispanic and African American students, of first generation college students, and of students living in poverty.

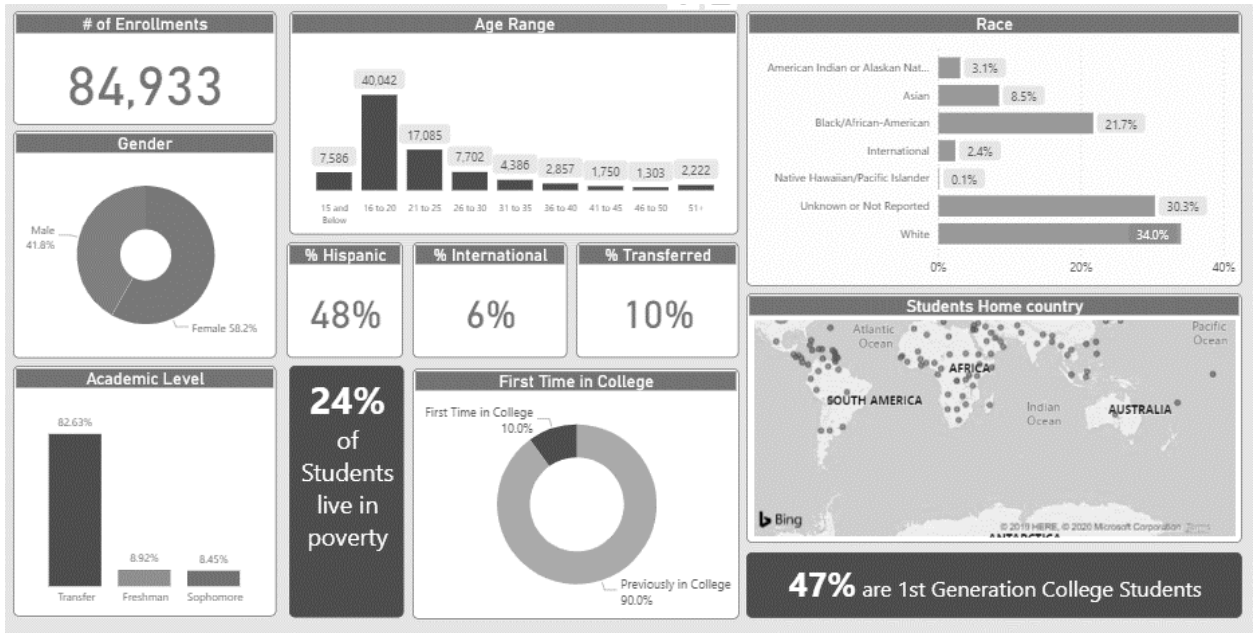


Fig. 4.1. Student Population for the Dallas Community College District: Fall 2019;

https://dcccd.sharepoint.com/sites/Data_Depot

The City and the Campus

The city where this community college campus is located has approximately 239,798 individuals living within its boundaries. From these individuals, 37.7% have earned a bachelor’s degree or higher, and the percentage of high school diploma or higher would round up to 81%. The medium income for the city is \$64,868, with 12.2% living under the poverty level. The top four reported races for the city would be White (47.9%), Hispanic (42.3%), Asian (19.7%), and Black or African American (14.2%; “Quick Facts. Irving, Texas, Dallas County, Texas”). The city served by this community college is generally better educated and more affluent than the student population is.

This study was conducted on one specific campus, North Lake. Figure 4.2 shows the student profile specifics from that campus in the 2019 fall semester taken from the District’s Data Depot. Again, take note of the higher percentages of Hispanic and African American students, of first generation college students, and of students living in poverty.

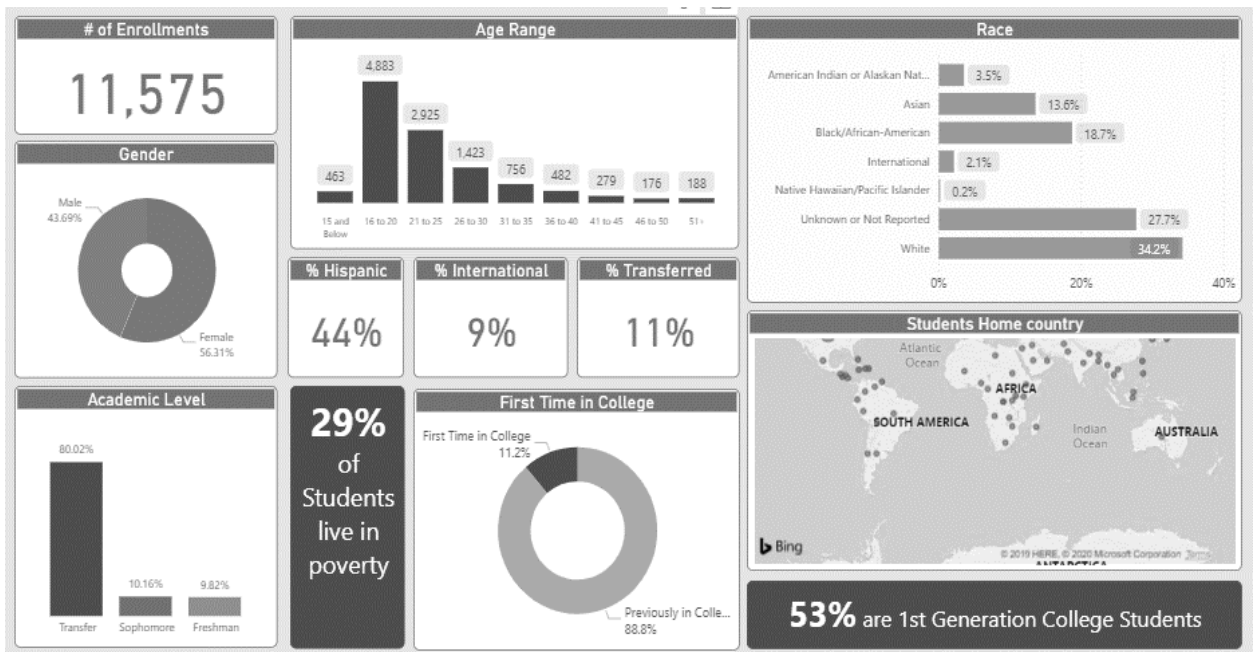


Fig. 4.2. Student Population for the North Lake Campus: Fall 2019;

https://dccc.sharepoint.com/sites/Data_Depot

Enrollment Numbers and Types of DE Courses

The enrollment numbers for the DE courses from North Lake vary each semester and year. The following enrollment numbers and type of DE courses, shown in Figure 4.3, taken from the district’s Data Depot reflect the data of this study, are taken from the fall semesters, and range between the years of 2010-2019.

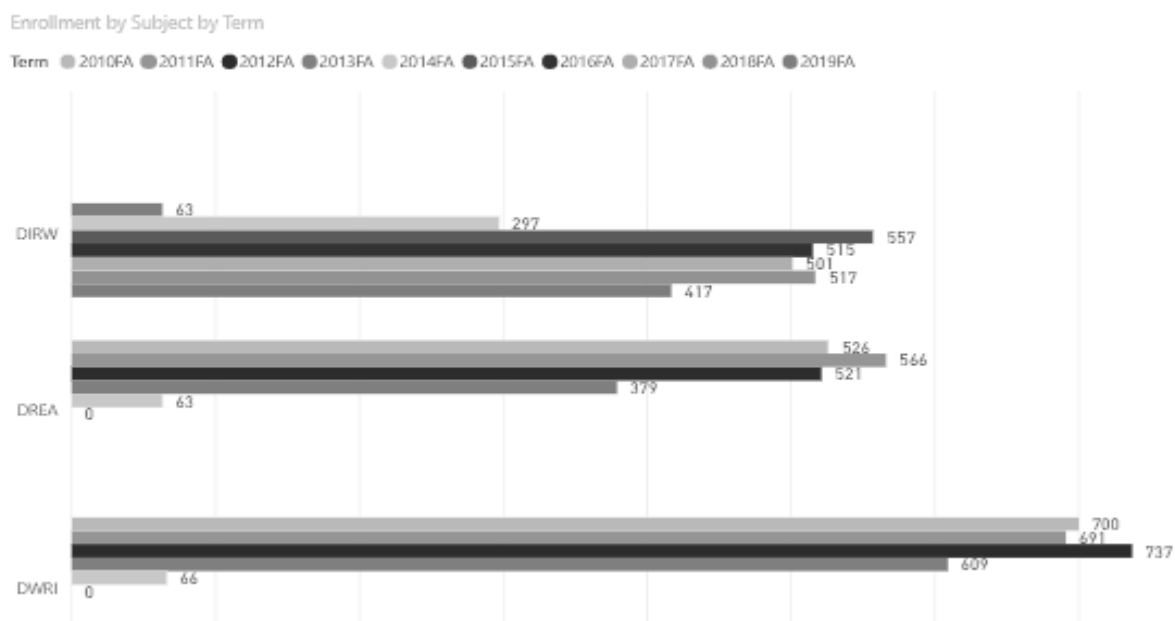


Fig. 4.3. Enrollment by Subject and Term: Fall Semester Only 2010-2019;

https://dccc.sharepoint.com/sites/Data_Depot

The DIRW is a course that was first offered in the fall 2013 semester. The DREA is a Stand-Alone Developmental Reading course. The DWRI is a Stand-Alone Developmental Writing course. Note the decrease in the Stand-Alone DE courses and the increase in the DIRW courses. This shift corresponds with the state mandates mentioned at the beginning of this chapter. North Lake ultimately became a campus that offered 100% Corequisite courses in DE in the fall of 2018. The goal was always to help students move beyond DE and gain success in their freshman core courses and gain traction toward their academic goals.

Data Set and Analysis

The data analyzed comes from the Institutional Research office at the North Lake campus. The data focuses on developmental reading courses (DREA 0090, 0091, and 0093), developmental writing courses (DWRI 0090, 0091, and 0093), and integrated reading and writing courses (DIRW 0305, 0310, and 0315). The DE sequence evolved over time and responded to mandates by the THECB. Table 4.1 shows how the courses evolved from Stand-Alone and separate subject DE courses, to integrated subject but still Stand-Alone courses, to a fully integrated Corequisite support course.

Table 4.1.

Three Separate DE Levels for Both Reading and Writing; Two Stand-Alone Integrated Courses; One Integrated Corequisite Course

DE Reading (DREA)	DE Writing (DWRI)
All Stand-Alone support courses	All Stand-Alone support courses
DREA 0090 – low level	DWRI 0090– low level
DREA 0091 – mid level	DWRI 0091– mid level
DREA 0093 – upper level	DWRI 0093– upper level
Developmental Integrated Reading and Writing (DIRW)	
Both Stand-Alone support courses	
DIRW 0305	Denotes a Stand-Alone lower level
DIRW 0310	Denotes a Stand-Alone upper level

Developmental Integrated Reading and Writing (DIRW)**A Corequisite support course**

DIRW 0315 Denotes the Corequisite version that replaced the Stand-Alone DIRW 0310

These different iterations of DE courses were taught between Fall 2011 and Spring 2019. This is the range of years from when the campus began making DE curriculum and course level progression changes through the second year the campus had completed a 100% Corequisite offering.

Additionally, in the 2013-2014 Academic Year, a Learning Framework course, EDUC 1300, was linked as a support course for the DE student in DIRW 0310. To capture the impact of this support, the EDUC course was added to the data set.

Table 4.2.

DIRW 0310 Paired with EDUC 1300

Integrated Reading and Writing at the Upper level (Paired)

DIRW 0310 – Developmental Integrated Reading and Writing

Paired with EDUC 1300 - Learning Framework

Finally, the freshman composition course sections (ENGL 1301) were included as the goal course to succeed in. Additionally, the Stand-Alone course sections of freshman

composition (ENGL 1301) were looked at to compare success rates with non-remedial students who had met the minimum state standards on the TSI. These college-ready students enrolled directly into a Stand-Alone freshman composition course section (ENGL 1301), whereas the DE students enrolled in a Prerequisite (DIRW 0310) or a Corequisite (DIRW 0315) offering of both the DE support course and the freshman composition course (ENGL 1301). Again, the purpose was to compare success rates of the DE students with the college ready students. Table 4.3 captures the three course scenarios.

Table 4.3.

Prerequisite, Corequisite, and Stand-Alone Courses in the Data Set

A 16 week Semester (8x8), Prerequisite Modality	
First 8-weeks (DE course) →	→ Second 8-weeks (Core course)
DIRW 0310 - Developmental Integrated Reading and Writing (must be passed in order to enter into the composition course)	→ ENGL 1301 – Freshman Composition
16-week Corequisite Modality (students concurrently enroll in DIRW and ENGL)	
DIRW 0315 - Developmental Integrated Reading and Writing	
Concurrently enrolled in ENGL 1301 – Freshman Composition	
Both 8 and 16-week Length Stand-Alone Freshman Composition Courses	

The data set was derived from Institutional Research reports on success rates for the above-mentioned courses during the long semesters (fall and spring). Course sections were coded to indicate their teaching modalities (Dual Credit, Hybrid, Online, and Traditional Lecture formats), the duration of the section (8-weeks, 12-weeks, 14-weeks, 15-weeks, or 16-weeks), and whether the course section was tagged for one of the treatment modalities. The treatment modalities relate to the type of support students may receive in the freshman composition course. The traditional treatment would be a Stand-Alone model, in which all students in the section have achieved an entrance level based either solely on TSI scores or on completion of a lower-level DE class. As the program evolved, influenced by internal and external changes, treatments included several DE structures:

- Stand-Alone - A freshman composition course with no associated DE support
- Corequisite - A 16-week Corequisite model where students took a DIRW course and a freshman composition course concurrently.
- Prerequisite – A first 8-week Prerequisite DIRW course followed by a second 8-week freshman composition course, both within the same semester.
- Prerequisite Plus – A first 8-week Prerequisite DIRW course followed by a second 8-week freshman composition course, both within the same semester.

Additionally, the student is enrolled in a 16-week student success course.

Table 4.4 gives an overview of the different types of courses within the original data set.

Table 4.4.

Different Courses in Data Set

COURSE	TIME FRAME	# SECTIONS	# STUDENTS	SUCCESS RATE
DREA 0090	2011FA-2015SP	74	1213	50.7%
DREA 0091	2011FA-2013SP	73	755	60.4%
DREA 0093	2011FA-2013SP	66	709	61.4%
DWRI 0090	2011FA-2015SP	59	837	61.5%
DWRI 0091	2011FA-2013SP	89	1096	62.8%
DWRI 0093	2011FA-2013SP	119	1808	66.4%
DIRW 0305	2014SP-2018FA	79	1499	58.6%
DIRW 0310	2013FA-2019SP	158	2938	60.8%
DIRW 0315	2018FA-2019SP	37	632	56.8%
EDUC 1300	2011FA-2019SP	548	13217	68.6%
ENGL 1301	2011FA-2019SP	984	20202	67.8%
TOTALS	2011FA-2019SP	2286	44906	65.6%

Table 4.5 gives the reader an overview of the different type of course modalities within the original data set. Table 4.6 shows the different type of support treatments offered to DE students.

Table 4.5.

Different Modalities in the Whole Data Set

MODALITY	TIME FRAME	# SECTIONS	# STUDENTS	SUCCESS RATE
DUAL CREDIT	2011FA-2018FA (Falls Only)	119	2153	88.6%
HYBRID	2011FA-2019SP	334	6711	69.6%
ONLINE	2011FA-2019SP	280	5895	48.9%
LECTURE	2011FA-2019SP	1553	30147	66.0%
TOTALS	2011FA-2019SP	2286	44906	65.6%

Table 4.6.

Different Support Types in Data Set for Freshman Composition (ENGL 1301)

SUPPORT	TIME FRAME	# SECTIONS	# STUDENTS	SUCCESS RATE
Stand-Alone	2011FA-2019SP	745	16042	64.7%
Corequisite	2011FA-2012SP, 2012FA-2013SP, 2018FA-2019SP	50	860	59.6%
Prerequisite Plus	2016SP, 2017SP, 2017FA-2018SP	29	384	79.3%
Prerequisite	2013FA, 2015FA, 2016FA-2018SP	14	225	78.0%
TOTALS	2011FA-2019SP	838	17511	65.1%

Discussion on Dual Credit

Dual credit students did not fit into the research focus of this study. These classes were typically taught at partner high schools in the surrounding area and attended by high school students who have met college-level requirements based on the TSI, ACT, SAT, or another state-approved standardized test. With the exception of 2018FA, when there were two DIRW sections in dual credit, the only courses offered in the dual credit category were Stand-Alone freshman composition courses. An analysis of the percentage of success shows that students in dual credit classes are significantly more likely to be successful than the DE students in other modalities. This was confirmed with a one-way ANOVA that compared different modalities on success rates. Results indicated the dual credit students did indeed have a significantly higher success rate in comparison to other modalities, $f(1,2284) = 200.59, p < .001$). Dual credit students are not DE students and are unlikely to be included in DE programs (only 2 out of 754 sections of DE courses in the data set, or 0.26%, were dual credit). For these reasons, the dual credit population in

this data set was removed from the remaining analysis and discussion. Tables 4.7 and 4.8 reflect the courses and modalities analyzed in the data with dual credit being removed.

Table 4.7.

Course Data Set with Dual Credit Removed

COURSE	TIME FRAME	# SECTIONS	# STUDENTS	SUCCESS RATE
DREA 0090	2011FA-2015SP	74	1213	50.7%
DREA 0091	2011FA-2013SP	73	755	60.4%
DREA 0093	2011FA-2013SP	66	709	61.4%
DWRI 0090	2011FA-2015SP	59	837	61.5%
DWRI 0091	2011FA-2013SP	89	1096	62.8%
DWRI 0093	2011FA-2013SP	119	1808	66.4%
DIRW 0305	2014SP-2018FA	78	1484	58.1%
DIRW 0310	2013FA-2019SP	157	2929	60.7%
DIRW 0315	2018FA-2019SP	37	632	56.8%
ENGL 1301	2011FA-2019SP	859	17952	64.7%
TOTALS	2011FA-2019SP	1611	29415	62.7%

Table 4.8.

Course Modalities with Dual Credit Removed

MODALITY	TIME FRAME	# SECTIONS	# STUDENTS	SUCCESS RATE
HYBRID	2011FA-2019SP	211	3875	66.0%
ONLINE	2011FA-	180	3351	42.4%

	2019SP			
LECTURE	2011FA-2019SP	1220	22189	65.2%
TOTALS	2011FA-2019SP	1611	29415	62.7%

In addition to different course types and modalities, there were also several course lengths offered. Table 4.9 shows the different course lengths in the original data set.

Table 4.9.

Different Course Lengths in Data Set

LENGTH	TIME FRAME	# SECTIONS	# STUDENTS	SUCCESS RATE
8WKS	2011FA-2013FA, 2014FA, 2015FA-2019SP	254	4705	63..8%
12WKS	2014FA	1	25	44.0%
14WKS	2012FA-2014SP	18	193	53.9%
15WKS	2011FA, 2013SP, 2014FA, 2015SP, 2016FA	19	431	44.0%
16WKS	2011FA-2019SP	1319	24061	62.9%
TOTALS	2011FA-2019SP	1611	29415	62.7%

There are five course lengths in this data set of freshman composition and DE classes from 2011FA-2019SP. In fall 2014, there was one section of freshman composition (ENGL 1301) offered in the 12-week course length. There were 25 students in this section with only a 44.0% success rate. Since this course length was not offered again after fall 2014, likely because of the poor success, we removed this section from further analysis.

Additionally, since the 14-week and 15-week course lengths were an isolated and inconsistent offering, these unusual sections were also removed from the analysis of the

different treatment models. This removal also makes sense because all of these sections were in the Stand-Alone model in which the sections were not linked with a DE support course, so there would have been no opportunity for comparison between the Stand-Alone and DE support types.

Also, in 2018FA, a single section of freshman composition (ENGL 1301) was paired with an upper level ESOL Reading course (ESOL 0044). This course was unusual for this dataset in that it was neither a DE supported course, nor was it a Stand-Alone freshman composition course in which the students were TSI-met prior to taking the course. For that reason, this course and its data were removed from the data set. This one section had 11 students and an 18.2% success rate. Removing this section did not make a dramatic difference, but it did clean up the data. After the removal of these non-standard offerings, Tables 4.10 and 4.11 reflect the different courses and modalities analyzed in the final data set.

Table 4.10.

Different Courses in Final Data Set

COURSE	TIME FRAME	# SECTIONS	# STUDENTS	SUCCESS RATE
DREA 0090	2011FA-2015SP	74	1213	50.7%
DREA 0091	2011FA-2013SP	72	752	61.2%
DREA 0093	2011FA-2013SP	65	706	61.8%
DWRI 0090	2011FA-2015SP	59	837	61.5%
DWRI 0091	2011FA-2013SP	84	1046	63.0%
DWRI 0093	2011FA-2013SP	114	1764	66.1%
DIRW 0305	2014SP-2018FA	76	1446	58.9%
DIRW 0310	2013FA-2019SP	153	2848	61.5%
DIRW 0315	2018FA-2019SP	37	632	56.8%
ENGL 1301	2011FA-2019SP	838	17511	65.1%
TOTALS	2011FA-2019SP	1572	28755	63.1%

Table 4.11.

Final Data Set for Course Modalities with Dual Credit Removed

MODALITY	TIME FRAME	# SECTIONS	# STUDENTS	SUCCESS RATE
HYBRID	2011FA-2019SP	211	3875	66.0%
ONLINE	2011FA-2019SP	180	3351	42.4%
LECTURE	2011FA-2019SP	1220	22178	65.2%
TOTALS	2011FA-2019SP	1572	28755	63.1%

The above tables show the progression from the original data set to the final data set used for analysis in this project.

Tools Used for Data Analysis

The data analysis was conducted with Microsoft 365 Excel Data Analysis ToolPak. The analysis consisted of gathering, categorizing, organizing, and examining the evidence to address the research questions for this study. Dummy variables were created to code each class section by Modality, course type, and presence of support. In terms of analyses employed, the statistical procedures of single factor ANOVA (the analysis of variance), two-tailed *t*-tests (two sample assuming unequal variances), Pearson *r* correlation coefficient, and multiple linear regression statistics were used in an exploratory manner to determine the degree to which treatments predict student success and the statistical significance of those effects. For the regression, some factors that correlated highly with other variables (for instance, course length correlated greatly with

Modality) were excluded to avoid multicollinearity. The reporting and analysis of the data using these tools are discussed in Chapter 5.

CHAPTER V

DATA ANALYSIS

“If we’re going to rely on science as a means for reaching the truth — and it’s still the best tool we have — it’s important that we understand and respect just how difficult it is to get a rigorous result.” ~ Christie Aschwanden

Introduction

Whatever we as institutions do, it seems reasonable to follow Carey’s advice from his graduation rate research:

Successful institutions have invested considerable time, energy, and resources in analyzing their internal data to better understand patterns of student progression, uncovering chokepoints and hurdles to completion...Perhaps most important of all, they are never content and are always working to get even better. (20)

It is with like-mindedness that this study was undertaken to analyze efforts made to improve the success of DE students at campus of study and shed a light on success wins and understand the opportunities for improvements.

This data analysis chapter addresses the results of the research questions guiding this dissertation. The first Research Question explores the impact of support on success for the DE student compared to those students meeting minimum state standards and directly entering a Stand-Alone freshman composition course. For the purposes of this

study, success means a student earned the grade of a C or better in the freshman composition course. The resulting overall data is $N = 838$ sections of freshman composition (ENGL 1301) with an average success rate of 65.13% ($SD = 20.91$). Data analysis showed the success rates for students in the freshman composition sections with DE support were slightly higher than those in the Stand-Alone freshman composition sections.

For Research Question 2, this study drilled down and looked at how the support of Corequisite, Prerequisite, and Prerequisite Plus models affected the success of the DE student. Initial results indicate there was no statistical difference between the impacts of Prerequisite and Prerequisite Plus support models. Subsequently, these two treatment groups were combined for the comparisons with the Corequisite and Stand-Alone groups. Data analysis results showed that the Corequisite support model resulted in significantly lower success rates than the offerings of the combined Prerequisite support groups. Similarly, the Prerequisite group performed better than the Stand-Alone group, while the Stand-Alone group performed better than the Corequisite group.

Research Question 3 looked into the effects of class length. Although results seem to show a significant difference between the 8-week fast track and traditional 16-week course length offerings, all of the Hybrid courses in this study had 8-week durations while all but one of the Lecture classes with DE support observed a 16-week term, and for that reason we cannot say for certain that the length of the class drives success results.

Finally, for Research Question 4 course Modality was considered, with the results showing the Hybrid Modality was the most successful, followed by traditional Lecture,

and lastly Online (INET) courses. Results for Online DE classes were clear enough even before this study that they were removed as an offering for the DE population in the fall of 2017.

Research Question 1: Does DE Support Affect Student Success?

The overarching research question that guided the study was this: Does the success rate of DE students in a freshman composition course with support match the success rates of TSI-met (college-ready) students in a Stand-Alone freshman composition course? Readers will remember from previous chapters that the TSI is the standardized college entrance exam for Texas. The hope was that the support course would increase the DE student's success in the freshman composition course to show no statistically significant differences between the two groups. In other words, the DE student would do just as well in freshman composition as a TSI-met or college-ready student. This would match the traditional view of successful remediation: students in remediation perform at the same level within the freshman composition course as non-remedial students do.

For Research Question 1, the two populations being tested were DE students taking freshman composition classes with DE support, and TSI-met or mainstream freshman composition students without DE support. The average success rates for each section in these two groups were compared using a single factor analysis of variance (ANOVA), testing levels of DE Support (DE Support vs. Stand-Alone or No Support) on the dependent variable of average success rate for each section in that group. Results showed that success rates were slightly higher in the freshman composition sections with DE Support ($N = 93$, $M = 68.5\%$, $SD = 19.34$) than the Stand-Alone freshman

composition sections ($N = 745$, $M = 64.7\%$, $SD = 21.07$). This difference was not statistically significant when tested with a single factor ANOVA ($F(1,836) = 2.733$, $p = .099$).

Because the ANOVA test was not significant, the null hypothesis cannot be rejected; the two groups are not statistically different from each other. This might be exciting news—to say that the students receiving DE Support in this campus’s program over these selected terms have already progressed to the point that they have leveled up to their TSI-met, college-ready peers. To double-check these results, a two-tailed t -test was also conducted. A two-tailed t -test is a conservative test of the differences between the means of two groups. The difference in success rates between DE Support and Stand-Alone sections, while showing a slight advantage for those in the DE Support group, were still not statistically significant with a two-tailed t -test ($t(121) = -1.767$, $p = .0798$). Even though on the surface, it appears that students receiving DE Support performed slightly better than their Stand-Alone counterparts (see Table 5.1), this difference is not statistically different.

Table 5.1.

Means and Standard Deviations for Success in Stand-Alone and DE Support
Freshman Composition Courses

Support Type	<i>N</i>	<i>M</i>	<i>SD</i>
Stand-Alone	745	64.7%	21.07
DE Support	93	68.5%	19.34

If we assume that the TSI accurately places students and that DE students are therefore at a disadvantage, then these results suggest that the DE support is working. The DE population finds success at about the same level as their counterparts who did not require remediation. The assumption that DE students might have fared worse without the help has support in existing scholarship. Based on student needs and realities, we know that the DE population tend to struggle with unique needs. Hunter Boylan and Amy Trawick remind readers that

...it is not uncommon for students participating in remediation to come from low-income backgrounds, to be first-generation students, to come from minority populations historically underrepresented in higher education, and/or to be non-native speakers of English – in addition to being academically underprepared. Many are also non-traditional learners, returning to school after many years and/or carrying financial responsibilities for themselves and their families. All of these characteristics are associated with poor academic performance in college.

(28)

Additionally, there may be potential issues with unmeasured factors in this student population, such as motivation and determination levels. However, the daily struggles or gaps in their support systems cannot be minimized. The reality is that poor students often have to choose among competing essentials, like car insurance and books, medicine and technology, or food and supplies.

First-generation students do not have role models or mentors who can guide them through an unfamiliar process and environment, so much “common sense” information is missed and turns out to be not so common after all. A simple example of this is a student of mine thinking that double space meant inserting two spaces between each word. She had never used technology for academics, and she was the first in her family to attend college. How many more assumptions do those of us who do know make about those who do not know and do not even know that they do not know? Clearly, DE support alone may not be enough to offset the disadvantages faced by some of the students in this population. However, the data here shows no significant difference between the two groups. DE students are succeeding at percentages equal to non-remedial peers.

Continuing on the bright side, according to the Institutional Research office of the campus where this study was conducted, progress has been made in both the credit and developmental populations concerning student success. In 2014, overall success was 69% in face-to-face core courses for all subject areas and 58% for Online offerings. In the fall of 2018, the overall success in face-to-face core courses had increased to 76%. Online core college courses had a success rate of 71%. In contrast, DE subject areas had an overall success rate of 46% in face-to-face courses in 2014 compared to 60% in 2018. Whereas, Online DE courses in 2014 only had a success rate of 17%, and by 2017, due to these dismal success rates, the campus had eliminated Online DE course offerings. For context, according to the National Community College Benchmark Program, the national benchmark of success for core courses is 72%, whereas the benchmark for DE courses is

60% (Slejko). By 2018, the campus had passed the national benchmark for core courses and met the benchmark for DE courses.

Research Question 2: Do Different Support Types Affect DE Success?

The first drilldown factor to investigate was this: Do differently structured DE support formats impact student success in freshman composition? The Stand-Alone format was initially kept in as a benchmark, so to speak, to compare the success rates of non-remedial students (those testing directly into freshman composition) with those of the DE students in freshman composition in each of the DE support types. These were the four formats measured:

- Stand-Alone – a non-remedial freshman composition course
- Corequisite – a 16-week concurrent and paired offerings of a DE integrated reading and writing course with a freshman composition course
- Prerequisite – a first 8-week Prerequisite DE course followed by a second 8-week freshman composition course within the same semester
- Prerequisite Plus – a first 8-week Prerequisite DE course followed by a second 8-week freshman composition course plus a concurrent 16-week learning framework course designed to address affective concerns, learning processes, motivation, navigation of school resources, with a built-in advisor. All three of these courses were taken in the same semester.

Four comparisons were completed to evaluate the effectiveness of success for each Support Type, shown in Table 5.2.

Table 5.2.

Means and Standard Deviations for Success by Support Type for Freshman
Composition with and without DE Support

Support Type	<i>N</i>	<i>M</i>	<i>SD</i>
Stand-Alone	745	64.7%	21.07
Corequisite	52	59.83%	16.88
Prerequisite	14	77.98%	17.70
Prerequisite Plus	27	80.29%	16.29

Research Question 1 showed that success rates for students in Stand-Alone sections of freshman composition were not significantly different from those in the DE Support sections. The initial step for Research Question 2 was to remove the Stand-Alone courses from the data set and focus attention on the types of Support that DE students received during the time frame of this study. Table 5.3 shows the resulting differences among the remaining three types of support DE students received.

Table 5.3.

Means and Standard Deviations for Success by Support Type for Freshman
Composition with DE Support

Support Type	<i>N</i>	<i>M</i>	<i>SD</i>
Corequisite	52	59.83%	16.88
Prerequisite	14	77.98%	17.70
Prerequisite Plus	27	80.29%	16.29

Success rates were analyzed for these three Support Types using a single factor ANOVA. Results showed that there was a significant difference among the three groups,

$F(2,90) = 15.735, p < .001$. The question became where among the three Support Types was the difference significant? In order to better understand the answer to this question, comparisons between pairs of Support Types were considered.

Comparison 1: Prerequisite and Prerequisite Plus

The Prerequisite and Prerequisite Plus Support Types differed in the amount of support delivered to the students. In the Prerequisite model, students attended a DE course in the first 8-weeks, and then attended a subsequent second 8-week freshman composition course. In the Prerequisite Plus model, students were enrolled in the same pattern of courses, plus a 16-week Learning Framework course designed to offer the DE students additional support and an opportunity to earn three more college credit transfer hours in their first semester of college, even while designated a part of the DE population. Looking at this pair of Support Types in Table 5.3 above, one can see that their mean success rates are very close—just over 2 points apart, while their group sizes are smaller than the Corequisite Support Type. A post hoc two-tailed t -test of the Prerequisite and Prerequisite Plus Support Types was conducted to determine whether there was a significant difference between these two groups. The post-test yielded a two-tailed $t(25) = -0.408, p = .687$, which was not a statistically significant difference. For this reason, these groups were combined for comparison with the Corequisite Support Type. The updated data for the two remaining Support Types are shown in Table 5.4.

Table 5.4.

Means and Standard Deviations for Success by Support Type for Freshman
Composition with DE Support; Prerequisite and Prerequisite Plus Combined

Support Type	<i>N</i>	<i>M</i>	<i>SD</i>
Corequisite	52	59.83%	16.88
Prerequisite (combined)	41	79.50%	16.60

Comparison 2: Corequisite and Prerequisite (Combined)

The analysis of the Support Type students received was continued by comparing the now more similar sample size of the Corequisite and Prerequisite groups. Success rates of the Corequisite and combined Prerequisite Support Types were analyzed with a single factor ANOVA. As expected, since the comparison of the three Support Types showed a significant difference, there was also a significant difference between the two remaining Support Types, $F(1,91) = 31.581, p < .001$. Students in the combined Prerequisite ($M = 79.50\%$, $SD = 16.60$) support sections performed better than students in the Corequisite ($M = 59.83\%$, $SD = 16.88$) support sections did.

Comparison 3: Stand-Alone, Corequisite, and Prerequisite (Combined)

To be thorough, after these comparisons, the Stand-Alone type was compared with each of the two DE Support types—Corequisite and Prerequisite (combined). This comparison is for three populations—the Stand-Alone non-remedial students, the Corequisite DE Support students, and the Prerequisite DE Support students. The average success rates for each section in these three groups were compared using a single factor ANOVA, testing levels of DE Support (Corequisite, Prerequisite or Stand-Alone) on the

dependent variable of average success rate for each section in that group. Results yielded a statistically significant difference among the three groups, $F(2,835) = 11.805, p < .001$.

Two post-hoc two-tailed t -tests were run to analyze the differences among these groups, specifically Stand-Alone and Prerequisite, and Stand-Alone and Corequisite. In the first comparison, students in the combined Prerequisite support sections performed statistically better than students in the Stand-Alone sections of the freshman composition course (two-tailed $t(47) = -5.47, p < .001$). In the second comparison, there was no significant difference between Stand-Alone and Corequisite DE Support students (two-tailed $t(63) = 1.97, p = .052$), though the numbers in this comparison approached significance.

Summary of Results for Research Question 2

Students in the combined Prerequisite DE support sections for the freshman composition course performed better than students in the Corequisite DE support sections and in the Stand-Alone sections. As a reminder, the term *Corequisite* refers to the condition wherein a student is taking both a DE course and a freshman composition course concurrently within the same semester. The learning objectives of the DE course align with those of the freshman composition course. The purpose of the DE course per HB 2223 is to provide direct and intentional support with the goal of the student to reach success, defined as earning a C or better in the core course. The term *Prerequisite* refers to the condition where a student is taking and must pass a Prerequisite DE course before taking the freshman composition course. For this study, these courses were both 8-weeks long and taken within a single semester. *Prerequisite Plus* explains the same condition as

“Prerequisite” plus the student takes an additional 16-week support course in the same semester as the 8-week DE and freshman composition courses.

The poorer performing Corequisite type is remarkable considering the wholesale buy-in for this DE format for Texas and many other states. The researcher was hoping to see stronger success rates for this format; however, this may simply be evidence that Corequisite courses are not the silver bullet for the struggles within the DE discipline for student success. While truncating the levels of DE courses may get more students into gateway courses as CCA recommends, this move does not guarantee success for all. More investigation on the success of DE students with different course formats to see which work best may be necessary. On a more positive note, the students who successfully completed the Prerequisite and Prerequisite Plus types succeeded at rates better than those students in the Stand-Alone composition courses did. This speaks to the accuracy of the traditional interpretation of DE as helping students rather than hindering them. If remedial students are attaining statistically better outcomes than the non-remedial students, then this suggests that DE is doing its job and effectively closing the gap between those who need support and those who do not. If the results had been indistinguishable, skeptics might wonder whether DE students would have done just as well without assistance, but the fact that DE students had significantly better results than the TSI-met students did heavily implies the existence of positive instructional and/or support impacts. Another thought to consider concerns the much-criticized old DE model. With the positive impact of the Prerequisite models analyzed in this study, perhaps the old DE model deserves a more thorough investigation, or at least a less

biased view, of its efficacy. The additional takeaway since there was no difference between Prerequisite and Prerequisite Plus suggests that more support does not necessarily mean better support for success in the freshman composition course. Perhaps there are affective impacts outside the classroom, but there do not seem to be additional measurable academic benefits within the classroom.

Still, the question remains: what to do with those who still fail? One opportunity is to also investigate pedagogical approaches in DE. Edgecombe suggests that

Most acceleration evaluations track milestones of academic progression—such as course completion, sequence completion, gatekeeper course completion, and persistence to subsequent terms—but while these indicators are important, they reveal very little about what students have learned and how that knowledge is relevant to and may transfer to other academic or occupational settings...What is taught and how it is taught should receive as much attention as the structure in which that pedagogy occurs. (25-26)

Perhaps looking at instructional approaches such as active learning and student-focused learning, and researching how students can better transfer learning, will give more insight on the quest to increase DE student success. Additionally, research could be conducted on the differing success between students scoring just below college-level and those scoring significantly lower.

Research Question 3: Does Course Length Affect DE Success?

An additional factor to consider was this: Do different course lengths impact student success rates (a grade of C or better) for DE students in the freshman composition course? The two different lengths of course that were offered were the traditional 16-week and 8-week fast-track. Table 5.5 shows the overall results of both Stand-Alone and DE support courses.

Table 5.5.

Means and Standard Deviations for Success in Freshman Composition by Course Length for Both Stand-Alone and DE Support Courses

Length of Course	<i>N</i>	<i>M</i>	<i>SD</i>
16-Weeks	669	64.87%	20.50
8-Weeks	169	66.12%	22.46

A single factor ANOVA yields an $F(1,836) = 0.482, p = 0.488$, which showed no significant difference between the two groups.

However, this broad comparison, which included the Stand-Alone courses, falls outside the specific target of this specific research question. Since the focus of this study was on the students receiving DE Support, at this point it made sense to remove the Stand-Alone courses from the compiled data. Before we move to the next category, the researcher feels it is necessary to note that after removing the DE Support courses, analysis of the Stand-Alone courses by course length still yielded no significant difference between 16-week ($N = 618, M = 65.31, SD = 20.72$) and 8-week ($N = 127, M$

= 61.75, $SD = 22.53$) Stand-Alone freshman composition courses ($F(1,743) = 3.02, p = .083$).

Now, Research Question 3 is set to focus on the freshman composition courses that were attached to a Prerequisite or Corequisite support course. The same two main course lengths were offered for the DE support options:

- 8-week (fast track)
- 16-week (traditional)

The 8-week offering falls into the Prerequisite category by default, with the DE course being taken in the first 8-weeks, and the freshman composition course following in the second 8-weeks. The 16-week course would typically be considered a Corequisite format, in which students concurrently took freshman composition and the DE support course. Table 5.6 shows the overall results for DE support courses in both the 8-week and 16-week format.

Table 5.6.

Means and Standard Deviations for Success in 8-week and 16-week Freshman Composition Courses with DE Support

Length of Course	<i>N</i>	<i>M</i>	<i>SD</i>
16-Weeks	51	59.70%	16.94
8-Weeks	42	79.35%	16.42

An analysis of course length for the DE Support courses yielded a significant difference between 16-week and 8-week course lengths. Students in the 8-week ($N = 42, M = 79.4\%, SD = 16.4$) courses were significantly more successful than students in the

16-week ($N = 51$, $M = 59.6$, $SD = 16.9$) courses ($F(1,91) = 32.30$, $p < .001$).

Further analysis of the data with only the DE Support course sections yielded some interesting results that were not obvious in the initial review. When the Stand-Alone sections were included, there were no significant differences. However, looking only at the DE Support courses, success rates were significantly higher in the 8-week courses compared with the 16-week courses. A single factor ANOVA of course length of only DE Support course sections yielded a statistically significant difference between the two course lengths in success rates ($F(1,91) = 32.30$, $p < .001$).

When course length was analyzed by DE Support level, there was an apparent interaction between the Course Length, the Type of DE Support Course, and Modality. All of the Prerequisite sections were 8-weeks long and Hybrid, and all of the Corequisite sections were 16-weeks long and Lecture except for one outlying section of 15 students. This one outlier was an 8-week Corequisite, Lecture offering. This raises the question then: Is the difference in success affected by the Course Length, by the Type of DE Support, or by the Modality? Table 5.7 summarizes the interaction between Course Length, Type of DE Support, and Modality.

Table 5.7.

Summary of Interaction Between 8-week, Hybrid and 16-week, Lecture Freshman Composition Courses with DE Support Type

Length of Course	<i>N</i>	<i>M</i>	<i>SD</i>
16-Weeks	51	59.57%	16.94
Corequisite	51	59.57%	16.94
Lecture	52	59.83%	16.88

8-Weeks	42	79.35%	16.42
Corequisite/Lecture	1	73.33%	n/a
Prerequisite/Hybrid	41	79.50%	16.60

This puzzle is complicated somewhat by the fact that, with Stand-Alone courses excluded from the analysis, all of the remaining 16-week courses have the Lecture Modality, and all of the remaining 8-week courses have the Hybrid Modality.

Despite finding Length and Modality were conflated, there was still a significant difference between Prerequisite and Corequisite support. In Texas, due to HB 2223 and the requirement of 75% of DE courses being Corequisite in the 2020-2021 academic year, Prerequisite courses have largely been eliminated. However, the data suggests the Support Type may matter, eliminating the need to force a “one-length-fits-all” mindset when it is not necessary or accurate. Perhaps rather than limiting or eliminating Prerequisite offerings, students could choose either course compression (8-week, Prerequisite, Hybrid) or course pairing (16-week, Corequisite, Lecture or Hybrid), both of which are accelerated options. Both of these course Lengths and Support Type would allow students to complete the DE course and the freshman composition course within a single semester. As Floyd reminds us, “Without offering a clear and swift path to college coursework, we close the door of access to a large portion of the population. Specifically, we close the door to ethnic minorities who view the community college as their only door to a successful and more prosperous life” (20). The emphasis to meet any student as individual, where he or she is at, especially the underprepared, remains in the forefront when programs offer choices that work.

Research Question 4: Does Modality Affect DE Success?

Finally, the last drilldown factor to investigate was this: Do student success rates in courses differ based on the course Modality? There were three Modalities:

- Traditional Lecture
- Hybrid
- Online (INET)

Initially, the data for both Stand-Alone and DE Support was analyzed, as Table 5.8 summarizes.

Table 5.8.

Means and Standard Deviations for Modality in 8-week and 16-week Freshman Composition Courses, Stand-Alone and with DE Support

Modality	N	M	SD
Lecture	614	67.36%	18.74
Hybrid	134	69.08%	20.96
Online	90	44.00%	22.92

The broad dataset of success rates in freshman composition courses for both Stand-Alone and DE Support Type sections was analyzed by course Modality with a single factor ANOVA. Results showed a statistically significant difference ($F(2,835) = 59.039, p = 0.001$). A comparison of each pair is considered separately to determine where the significance lies.

Comparison 1: Lecture and Hybrid

A post hoc two-tailed t -test was conducted on the means of Lecture and Hybrid sections of the data. Results showed no significant difference in success rates between the two course Modalities (two-tailed $t(182) = -0.879, p = .381$).

Comparison 2: Lecture and Online

A post hoc two-tailed t -test of success rates by Modality for Lecture and Online sections in the dataset yielded a significant difference between the two groups, ($t(107) = -9.228, p < .001$). Students in the traditional Lecture Modality performed significantly better than students in the 100% Online Modality sections.

Comparison 3. Hybrid and Online

A post hoc two-tailed t -test of success rates by Modality for Hybrid and Online sections in the dataset yielded a significant difference between the two groups ($t(179) = 8.308, p < .001$). Like the Lecture-Online comparison, students in Hybrid sections performed better than students in 100% Online sections.

However, again, since the primary focus of this study is the DE Support group, the analysis was run again with the Stand-Alone sections removed. These findings are summarized in Table 5.9.

Table 5.9.

Means and Standard Deviations for Modality in 8-week and 16-week Freshman Composition Courses with DE Support

Modality	N	M	SD
Lecture	52	59.83%	16.88
Hybrid	41	79.50%	16.60
Online	0	0	n/a

In addition to the already discovered correlation between Course Length and Modality, the first notable difference after setting aside the Stand-Alone courses is that there are no Online sections left in the DE Support groups. Second, the almost 20-percentage-point difference in average success rates between the Lecture and Hybrid groups is, as one might imagine with such a difference, highly significant, with students in the Hybrid courses more successful than students in the Lecture courses (single-factor ANOVA results: $F(1,91) = 32.299, p < .001$). However, it is difficult to tell whether the impacts of those Modalities are due to the Modality or due to the length of the course, since all of the Hybrid classes were 8-week classes and most of the Lecture classes were 16-week, leaving again the question: Is the difference in success affected by the Course Length or by the Modality?

There are good reasons from existing research to imagine that the impact of each class type stems more from Modality than from Course Length. While Online course offerings are popular, they have not proven to be particularly successful for many students across the nation, especially those from the DE population. Just one example is from Bantam's 2012 study in California, in which the results shows Online DE students

succeeding at a rate of 51.2% compared with 64.1% for face-to-face students, a difference found to be statistically significant ($p < 0.00$). In fact, the analysis of the data from the school in this dissertation shows about a 44% difference in success between the Lecture DE student and the Online DE student for the fall of 2018. A consistent recommendation from relevant literature is that until secure in academics, study skills, technology, economics, community, and internal motivation, most DE students should enroll in a traditional Lecture Modality (Rovai).

Impacts at the campus where this study took place further support the above advice. The Online course success rate for TSI-met students was 44% compared to a 67% success rate in traditional Lecture courses. For the record, the campus of this study has made progress in the success of all its core courses. The success rates according to their Institutional Research office have moved from 59% in the fall of 2014 to 66% in the fall of 2018. Progress, yes, but these numbers are still below the college-level benchmark of 72% as determined by The National College Benchmark Program (Slejko). DE fared much worse. The highest success rate for DE students taking Online courses was 33% in fall 2014. Fall 2018 only resulted in a 14% success rate. Because of the poor results of Online courses, the college stopped offering those to DE students in spring 2018, which is a win for equity as focus shifts from access to success.

Doug Lederman reports that in 2017, one-third of college students took at least one Online course, an increase in 5.7% or 350,000 students from the 2016 numbers. However, an ascent in popularity does not ensure a rise in success. While Online courses are in demand, convenient, and an income-generator for institutions, administration

should consider readiness criteria for students enrolling in Online courses, whether DE or not. The results of this study are not isolated. In his recent dissertation, David Lawyer found similar results for freshman composition courses at the school of his study. Lawyer's dissertation, for which success was defined as a D or higher, also reported higher success rates for Hybrid students (89.3%) than for face-to-face (86.3%), with Online students faring the worst at 71.2% (the p value was not given, only the statement that there were significant differences, and they were unexpected). His research also showed that students enrolled in Hybrid or face-to-face composition courses were more likely to earn the grade of an A or B (65.2% and 63.6%) when compared to those enrolled in an Online course (49.2%; 57-58). Joseph Fadia found students' performance to be stronger in Hybrid courses than those in 100% Online course offerings. His findings at a university in the northeast showed a 12% higher success rate in the Hybrid courses reviewed, which he found to be statistically significant ($p = .002$; 48-49). Collectively, these findings suggest that learning and academic mastery are stronger for Hybrid and face-to-face courses.

Summary of Research Questions

The summary data for the DE Support types, different Modalities, and Course Length are summarized in Tables 5.10 and 5.11 below.

Table 5.10.

Pearson r for Each Relationship of Modality, Length, and Support Type for Freshman Composition Courses with DE Support

	<i>Modality</i>	<i>Length</i>	<i>Support Types</i>
Modality	1.000		
Length	0.978	1.000	
Support Type	1.000	0.978	1.000

In Table 5.10, you have the correlation matrix, showing the Pearson r coefficient for each relationship: Modality, Length, and Support Type. Modality and Support Types are 1.00 correlated, meaning they are statistically the same. This is logical since the connection was made that all of the Corequisite courses were in Lecture Modality and the Prerequisite courses were in Hybrid Modality. Both Modality and Support Type were almost perfectly correlated with Course Length ($r = .978$). Of course, this makes sense considering only one course section did not follow the general trend of the other sections. All but one 8-week courses were in the Hybrid Modality and were assigned to the Prerequisite Support Type. All 16-week courses were in the Lecture Modality and were assigned to the Corequisite Support Type.

Table 5.11.

Summary of the Means and Standard Deviations for Research Questions 1, 2, 3, and 4: Course Type, Support Type, Length, and Modality for Composition Courses with DE Support

Q1: COURSE TYPE	<i>N</i>	<i>M</i>	<i>SD</i>
STAND-ALONE	745	64.7%	21.07
DE SUPPORT	93	68.5%	19.34
Q2: SUPPORT TYPE			
COREQUISITE	52	59.83%	16.88
PREREQUISITE	41	79.50%	16.60
Q3: LENGTH			
16-WEEK	51	59.70%	16.94
8-WEEK	42	79.35%	16.42
Q4: MODALITY			
LECTURE	52	59.83%	16.88
HYBRID	41	79.50%	16.60

The success of the DE students in the freshman English composition course was looked at in each Research Question. The results of Research Question 1 showed that the course type of Stand-Alone and DE Support were not statistically different for success; however, this was encouraging since the average success rates were higher for the DE group. Research Question 2 showed the two types of Prerequisite support were not statistically different with a single factor ANOVA test, and a *t*-test showed the success of the combined Prerequisite support were significantly different than the Corequisite support. Research Question 3 results seemed to show a significant difference between the 8-week fast track and traditional 16-week course length offerings. However, since all of the Hybrid courses in this study had 8-week durations, and all but one of the DE-support Lecture courses had 16-week durations, we cannot say for certain that the length of the class drives success results. Finally, Research Question 4 came with some surprise realizations: there were no Online offerings for the DE students, all Lecture offerings were 16-week Corequisite (except for one section that was an 8-week fast-track that met three hours per day for four days a week to meet the 96 contact hours of the 6-hour credit

paired course), and all Hybrid were 8-week Prerequisite. The takeaway from this last question was that Hybrid offerings were more successful than the Lecture Modality. What was not clear was the extent to which these variables might confound each other, and which of them might exert the most influence in a model.

Regression

A multiple linear regression was conducted to determine which independent variables held the most influence, when controlled for each other, on the dependent variable: success rates for freshman composition with Stand-Alone and DE students. Independent variables included the number of weeks of the course (8 or 16), plus dummy variables for Online and Hybrid courses, Corequisite, and Prerequisite/Prerequisite Plus. Another dummy variable was added to these, for whether the class took place in fall, as similar internal studies in our region, including several by this dissertation's advisor, showed fall terms often significantly outperform spring terms. A significant regression equation was found ($F(6, 831) = 29.89, p < .0001$), with an R^2 of 0.178. Student success is equal to $0.398 + 0.044 (\text{Fall}) - 0.302 (\text{Online}) + 0.094 (\text{Hybrid}) + 0.016 (\text{Length, per week}) - 0.082 (\text{Corequisite}) + 0.144 (\text{Prerequisite/Prerequisite Plus})$, where fall is coded as 1 = Fall, 0 = Spring; Online is coded as 1 = Online, 0 = Not Online; Hybrid is coded as 1 = Hybrid, 0 = Not Hybrid; Length is measured in weeks; Corequisite is coded as 1 = Corequisite, 0 = No Corequisite; and Prerequisite is coded as 1 = Prerequisite or Prerequisite Plus, 0 = Not Prerequisite/Prerequisite Plus. The impacts of Hybrid Modality were significant in this model at $p = .013$, Fall and Corequisite were significant at $p < .01$, and the other variables were all highly significant at $p < .001$.

According to this model, the percentage chance of student success starts at 52.5% for an 8-week course (39.8% plus 1.6% for each week of the course), and 65.2% for a 16-week course. All approaches fare 4.4 percentage points better in fall than in spring. Chances of success drop 30.2 percentage points if the class is Online, but increase by 9.4 percentage points if Hybrid, and again by another 14.4 percentage points if the course has Prerequisite/Prerequisite Plus support. Meanwhile, the Corequisite support model reduces the chances of success by 8.2 percentage points.

The regression model suggests that both Modality and Length affect student success in composition courses. It also enables us to predict the impacts of combinations. A 16-week, fall-term, Hybrid class with Prerequisite support would be predicted to have a success rate of 93.5%. An 8-week, spring-term, Online class with Corequisite support would be predicted to have a success rate of 14.1%.

Limitations

Herbert Kritzer makes the following real world statement about the realities of the relationship between data and researcher: “Experienced social scientists know that textbook descriptions of the research process are at best a sanitized description of the messy reality of what happens when researcher meets data” (761). Kritzer is right: the research process is a messy and sometimes convoluted process. What seemed straightforward on paper becomes mired in unforeseen complication on the same paper where the initial idea seemed so straightforward. As a result, mistakes can be made and limitations have to be realized. This study is no exception.

The first limitation to address is the researcher. To the best of my ability, I have been thorough and ethical in the gathering and coding of data, leveraging experts and resources as needed. I have worked to fairly and accurately record and interpret the collected data set. However, I am human and make mistakes. Hopefully, errors within this study are minimal; if there are any, I hope they are minor, contained, and do not discredit the work attempting to be done in this study.

Another limitation to consider is the lens of this study. This data only considered success of the DE student in a freshman composition course. This study did not consider retention or persistence, for example. A teacher conducted this study, and success is a teacher concern. Will these students be successful in the course, and how can I help them be successful? Success is also a student concern: will I pass my test or this paper? Success is a practical concern at both the classroom and individual level. Success is a more primary or elemental concern. Success should be met first. Like Maslow's Hierarchy of Needs address physiological needs first, so this study addresses the need for success first. The bias of the lens being that when success improves, retention and persistence will follow. This bias of importance or concern may have limited the result opportunities for this study.

Additional limitations can be found within the student population and so limit the certainty that what the data seems to mean is what it is actually saying. For instance, there may be *selection bias* effects. Who signed up for one option might be different from the student who signed up for another option. For example, students who choose an 8-week course might be categorically different from the kinds of students who pick the more

traditional 16-week version of the class. Similarly, students who choose an Online, Lecture, or Hybrid course might each be categorically different from each other. Students in an evening class are often employed, older, working adults, fitting the class into a busy schedule, and thus they may respond differently to treatments compared to students in a late morning weekday class. Additional campus or schedule restrictions may also create an unknown selection bias. There are also spurious effects: shoe size correlates with level of education, not because people with bigger feet are smarter but because feet get larger as students get older. There are many ways in which completely accurate data can be completely misinterpreted. The approach to the data collection for this study has been conservative, consistent, and thorough. However, selection bias and spurious effects do happen.

A final limitation is found within the depth of the drilldown this study completed. This study is broad, focusing primarily on discipline and course-level elements. The student specifics within the courses were not analyzed. This may result in some important details being eliminated or glossed over, causing inaccurate conclusions to be drawn. Limitations admitted, Chapter 6 contains a discussion of the implications for DE classroom practices based on the findings from the Research Questions analyzed in this chapter.

CHAPTER VI

IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSIONS

“‘What do we do now?’ is the question most frequently asked, and there is no [one] answer.”

~Hannah Arendt

Introduction

Frustrated with success rates, faculty, administration, and staff of a Texas community college initiated some changes based on best practices within the field of developmental studies. With a momentum that quickly swept through DE at a national level, additional pressures of change from outside influences with an eye on policy and the ears of state policy makers found their way into the DE classroom. This final chapter discusses the implications of this exploratory study, which attempted to evaluate the effectiveness of changes made within the DE program at the campus of study. Findings were generated through analysis of success for DE students in freshman composition course sections. Success rates of the DE students were compared with students in non-remedial freshman composition courses. Additionally, success rates were analyzed by Type of Support, Length of Course, and Modality. The results and implications of this scholarship for colleges, as well as additional recommendations of further, refined study for researchers will be discussed. The chapter concludes with the researcher’s reflection regarding this study and its intent.

Research Question 1: Does DE Support Affect Student Success in Freshman

Composition?

The results for Research Question 1 showed no significant difference for success in the course type of Stand-Alone and DE Support. Yet, it is interesting that the results for DE support were better than for Stand-Alone, and since the results here approached significance at $p < .099$ one wonders whether a larger study would arrive at a similar but significant outcome.

Implications of Results for Colleges

The first implication to consider is the success rate of the DE population in the study. They slightly exceeded the non-remedial freshman composition student's success rates. The DE support group had a success rate of 68.5% compared to a 64.7% success rate of the Stand-Alone group. What can be concluded from this finding? A broad outcome is clear: Instructors, DE departments, and college administrators can be more confident that support in freshman composition is working to help DE students be as successful as Stand-Alone students.

1. Have faith and gather data. Instructors who teach DE courses can have a restored faith that their efforts do work. In a climate where DE instructors are often seen as part of the problem, it is nice to see results that offer positive feedback of DE student success and being part of the solution. Many DE instructors, including myself, consider teaching a calling. We work long, hard, and consistently to help our students make academic connections and find a success that transfers into other courses and culminates in our students reaching their goals. It is rewarding when they do, and it is inspiring to

see results that they do indeed succeed. DE instructors can keep the faith and continue striving for excellence as they guide their students to do the same.

2. Gather and interpret data, and know and share results. Departments too, need to know that their program works. Instructors and departments need to have systems in place to collect and analyze data for each course, every semester to know what practices can be improved upon and verify which ones work. Departments need to know strengths and weaknesses, and ultimately that their DE program works, so they can protect it. If collected and verified data shows that a program works, then the burden of proof lies with the voice who says it does not. More departments need to be proactive in assessing and tracking results, so there is a record of success. This strategy offers both future inspiration and security: you know something works, and you can confidently defend it.

3. Know results, share results, make informed decisions based on the story of the data. Campus administrators need to know that their DE program works too, so that it is not carelessly dismantled without thought by some strawman reform presented with easy data and slick slides. Knowing that a program works, as well as knowing which pieces work, deters reckless if well-intended changes. Instead of having an “it can’t hurt” attitude to change, administrators can make informed decisions through success data gathered by instructors, analyzed by departments, and curated by college administrators.

4. A meta-analysis is needed. Finally, the more programs that collect, analyze, and report, the bigger the collection of DE studies becomes. With a body of published studies, a meta-analysis becomes both possible and advisable. This meta-analysis could benefit DE with a variety of insights, such as whether Prerequisite’s outperformance of

Corequisite support is a fluke or a pattern; are the results particular to a population or consistent across the country? A meta-analysis could help interpret what works across the board in DE, as well as help the DE discipline defend what works, and how we know it works. More studies culminating in a meta-analysis will inform what to fight to keep, what to revise, and what to let go of. These strategic approaches are lost without data.

Unresolved Questions for Researchers

1. What does long-term tracking of DE students reveal? Could measuring a longer period or longitudinally tracking student success, persistence, and graduation in the two groups—remedial and non-remedial—yield more insight as to whether DE is worth the effort and cost? There is a reality of difficulty with college, whether students are prepared or not. Academic systems and campuses should work to find a consensus for what will best help all of their students, but especially those struggling to move beyond the gap.

2. Is a Prerequisite DE course prior to this semester a factor? An unknown detail about the non-remedial population of this study is whether some of those students had taken a Prerequisite DE course before taking the Stand-Alone composition course. To further determine accuracy of the success rates between the two groups, the students could be refined into groups who have taken DE and those who have not. Then a success rate could be compared between these two student groups with more clarity as to the effectiveness of DE support for a composition course. Additionally, these students in each group could be compared for success in subsequent courses requiring reading and writing skills, retention, and graduation rates, further shedding light on whether DE

courses positively affect not only individual course success, but also semester-to-semester retention, and long-term graduation rates.

3. Are any demographic groups more vulnerable than any other? In this study, data were parsed on the broad section and course level. While student enrollment totals were known, individual demographics were not parsed out and connected to success. A deeper look into the categories of ethnicity, gender, economic level, and first-generation student could lead to a deeper understanding of whether success is equitable in all groups or if any one group is more at risk than another one is. Knowing this level of specificity would allow more intentional intervention or support to be given to those groups with the greatest need.

Research Question 2: Do Different Support Types Affect DE Success in Freshman Composition?

Research Question 2 showed the successes of the combined Prerequisite support were significantly different from the Corequisite support and the Stand-Alone courses. Additionally, students with Corequisite support showed no statistical difference in success from the Stand-Alone students.

Implications of Results for Colleges

1. Question and test. DE programs are being told to offer only Corequisite support, yet the results of this study showed Prerequisite support as having the best results for DE success in freshman composition. Campuses should offer Prerequisite courses and compare success with Corequisite offerings to see what results their data produce. Let the data inform the decision to offer or eliminate a course support type.

2. Define DE success reasonably, but pay attention when DE outshines mainstream courses. The nuances of what constitutes DE success remain debated. Traditional interpretation defines DE support as successful if DE students perform as well as non-remedial students. A newer interpretation defines DE support as successful if DE students surpass the success rates of non-remedial students. Both conditions are met in this study. Prerequisite support exceeded the success of the stand-alone; Corequisite support matched that of the stand-alone. Colleges should adopt the more reasonable definition: DE succeeds when its students enjoy the same success rates as the students who do not need support. However, surplus impact should not be ignored. Any success beyond the now-closed gap should invite exploration into how and whether such impacts can be carried over to students in stand-alone courses.

3. Address failure. Corequisite courses are not the single solution to guarantee success for underprepared students. Some students still fail. Colleges and DE programs need to have a plan to deal with the students who are still failing DE. How do colleges meet these students where they are and help them address the issues inhibiting success? Do they simply have students repeat the Corequisite course? Do they have support structures in place for repeaters, such as tutors, advisors, or an academic mentor? Do they offer a Hybrid Prerequisite support course in place of the Corequisite support? Colleges need to have a logical plan in place based on research and what works for their student population.

Unresolved Questions for Researchers

1. Why did the Prerequisite support outperform the Corequisite support? This difference of data results needs more scrutiny. One possible detail to uncover is how many students started in the Prerequisite support course versus how many actually entered into the freshman composition course. The requirement with the Prerequisite model is that students must pass the Prerequisite DE course to enroll and continue into the freshman composition course. Knowing how many students started in the DE course compared to how many progressed to the freshman composition course may impact the overall results. For example, if 15 students started the Prerequisite DE course, but only five moved into the composition course, then 10 have already been lost. The success rate for the DE course is only 33.3%. However, if all five succeed in the freshman composition course, that success rate would be 100%, which could possibly skew the data results in favor of the Prerequisite support. This question needs clarification through further investigation of these specific courses by looking at student level data. The way this data set was pulled did not allow a drilldown to track an individual student's progression or success. Following up with an individual student's level success is a logical next step of study.

2. What to do with those who fail the Corequisite course? While national entities like CCA share numbers showing that success rates increase with Corequisite style DE courses, the reality remains that not all students who enroll succeed in Corequisite courses. This study even showed that the Corequisite support model reduced a student's chance of success by 8.2 percentage points. If Corequisite is the one-size-fits-all choice,

what happens to the students who do not pass this one option? Is their only option to retake the same Corequisite course? In the case of this campus, the Corequisite results showed 40% of the students not being successful in the freshman composition course. That is too large of a percentage to dismiss. What advice would be given by CCA and others who advocate for Corequisite only or eliminating developmental completely? This is a question that must be asked and for which an answer needs to be offered. In recent meetings I have attended, there are rumors being discussed of a possible addendum to the Texas HB 2223 proposing 100% of DE courses being offered in the Corequisite format. Moves like this, if they are on the horizon, would seem to squeeze out any other DE support options. So the question remains: what will be done with those students who want to further their education but are not passing the Corequisite approach? Or what about students who every semester say they cannot afford to take two classes and only want to take the DE course but, having been required to enroll in two, enrolled in none? This is a question of great concern that needs a thoughtful answer, and soon. More research should be done to determine the causes of failure or lack of enrollment in this population, and then an informed decision to effectively address this new understanding could be made. The longer the delay, the more vulnerable students fall through the cracks. Additionally, researchers could run a study to compare success rates in a 16-week Prerequisite Hybrid DE course and a 16-week Corequisite Hybrid DE course. Knowing success rates between these two types of support could lead to a more robust understanding of an advantage of one over the other, or a confidence in offering both if the success rates do not produce significantly different results.

3. Maybe the cut score is the issue? Perhaps Corequisite is a perfect fit for those students who test at the top level of DE—those falling just below the cut-scores. Maybe those students scoring into a lower level need a Prerequisite type of support? Further research could be conducted on the success of students scoring just below college-level and those scoring significantly lower. Perhaps identifying student success based on academic level or college readiness would be an effective approach to helping students get the type of support they need.

ACT looked at college readiness in *The Condition of College and Career Readiness 2019* report. Results from the class of 2019 showed that while 37% met at least three of the four College Readiness Benchmarks, 36% did not meet any (2). Additionally, the ACT press release “Decline in College Readiness Continues Among US High School Grads, New ACT Report Finds” highlights that “College readiness levels remain alarmingly low for students from underserved populations (low-income, minority and/or first-generation college students); the large majority meet only one or none of the four ACT College Readiness Benchmarks.” ACT’s research suggests that college readiness begins in elementary school and continues through high school. If it is the same underserved population who are falling below readiness from elementary school, why do policy makers think every student will be prepared for college rigor with one support course? ACT’s report suggests two things. The first is that primary, middle, and high schools need to do a better job of preparing students for college. The second is that perhaps some students would benefit from a Prerequisite DE course to help them develop skills that they can then apply to a Corequisite support type and then find success in the

gateway course. Additionally, in the ACT press release about the 2019 report, CEO Marten Roorda said,

As we've been pointing out for many years, taking the right courses in high school dramatically increases a student's likelihood to be ready for success when they graduate. Students who don't take challenging courses—particularly those from underserved populations—may lack the self-confidence and ambition to do so, and social and emotional learning instruction can help them improve in those areas.

Roorda's remark suggests that perhaps, students who do not have the affective and academic skills are put into courses that still feel too far out of reach, and perception often becomes reality. They are not told they are not prepared; rather they feel it by the chaos the course content and workload bring to their minds. The carrot for success is too far away, so instead of excelling, they fall into learned helplessness. More research needs to be done regarding effective placement to determine where these students fit best to match the level of challenge they can confront and overcome. The suggestion is not to insert students into an endless path of developmental courses. Rather, the idea is to build a clear, concise, and structured pathway to success in college courses. This idea aligns with Scott-Clayton who found that

...community college students will be more likely to persist and succeed in programs that are tightly and consciously structured, with relatively little room for individuals to unintentionally deviate from paths toward completion, and with limited bureaucratic obstacles for students to

circumnavigate. (“The Shapeless River: Does a Lack of Structure Inhibit Students’ Progress at Community College?”)

These ideas also suggest that greater success for underprepared students might be accomplished through robust programs.

4. Are there robust DE programs with promise? These days, everyone in DE knows about ALP and Corequisite courses. These approaches to accelerate remediation have gone viral, if you will. In addition to finding success with DE support at the course level with such approaches, are there any fully developed programs that are showing promising results? One example that can be looked at is The Accelerated Study in Associate Programs (ASAP) at the City University of New York (CUNY). It is getting some attention for its impressive results with success, retention, and graduation rates. The program began in 2007, the same year as ALP, though none of my DE colleagues had heard about it. ASAP’s goal was to graduate at least 50% of its participants in three years “through provision of comprehensive support services and financial resources that remove barriers to full-time study, build student resiliency, and support timely degree completion” (“Significant Increases”). Some of the specific ASAP benefits that students receive include

- Assistance for textbooks
- A gap scholarship that covers additional school related fees not covered by financial aid
- Dedicated advisors and tutors
- A cohort that fosters community

To be eligible for this program, students need to agree to be full-time students in good academic standing until they graduate, enroll in block courses, take required developmental support courses early, meet regularly with the support staff, attend any compulsory academic support session, and complete two required financial aid applications each year.

When the program began, only about 23% of CUNY community college students graduated within three years. A three-year evaluation showed a slightly more than double the graduation rate (53%) for the ASAP students (“Significant Increases”). An independent evaluation by MDRC, a “nonpartisan education and social policy research organization,” brought rave reviews: “ASAP’s effects are the largest MDRC has found in any of its evaluations of community college reforms. The model offers a highly promising strategy to markedly accelerate credit accumulation and increase graduation rates among educationally and economically disadvantaged populations” (Scrivener et al.). Additionally, a cost analysis of the program by an economist showed a 3:1 return on tax dollar investment, and a 12:1 return on earnings for the graduates of the ASAP program (“Significant Increases”). This holistic approach sounds like just the type of support that underprepared students need rather than a wholesale removing of remediation. A robust program change rather than a limited gateway revolution may provide a better and more economical solution for these at-risk students following the conventional wisdom of those designing their path. The better the path to academic success is designed and understood, the more students can successfully navigate it to reach their transfer, degree, or certificate goals.

Most of the touted reforms in DE today focus on a cut in time through compression or even removal of DE courses. “Spanning the Divide” by CCA records the results from West Virginia which, after changing to a Corequisite remediation model, achieved about 68% of students completing the gateway composition course compared to only 37% from the traditional model of remediation. Florida made DE optional in 2013, and naturally, enrollment in core gateway courses went up, as did failure rates in these same math and English courses (Smith). While compression and optional DE seem like good options, there are hardworking, motivated students who need more than quicker access to first-year college courses. They need the community of an intentional, enduring support system that will mentor them in the immediate hard moments as well as in the long-term struggle to reach resilience. Education is challenging and gaps in opportunity and ability are real; they do not go away through legislative fiat. Goudas, in his article “How to Double Graduation Rates, ASAP,” emphasizes that

Education takes a great deal of time, money, and human connections. For community college students especially, a good education requires an understanding of the significant barriers, and then it requires an investment of time and money that address those barriers.

This approach suggests that just a lowering of a gate is not enough. Once DE students step through the gate, they still need training for the educational gauntlet they are embarking upon. They will still need support along their run, and cheering as their successes get them closer to their long-term academic goals. In fact, a recent study by Ran and Lin conceded that “we did not find any significant effects on enrollment

persistence, transfer to a four-year college, or degree completion, suggesting that Corequisite remediation is not a panacea for the impediments to college success” (4). Apparently, more needs to be done for this at-risk population than just opening the gate.

Dallas College has a high number of underprepared groups—47% first-generation, 48% Hispanic, 24% living in poverty, and 21.7% African American (“Student Profile.” Location: All.). I would look favorably at an opportunity to work with administration and other DE or composition faculty to get a grant or other funding to attempt a full DE program such as ASAP. Further research by individual campuses and larger community college systems needs to be done regarding efficacy of compression versus a comprehensive program with “components [that] include full-time enrollment, block scheduled first-year courses, cohort course taking, financial support, intrusive and mandatory advisement, a student success seminar, career services, and tutoring” (“Significant Increases”). A robust program like ASAP seems more in line with providing holistic, comprehensive support for underrepresented groups who often need more and longer rather than less and quick. Efforts to follow such a program, tracking student success, and comparing data could lead to clearer answers of DE efficacy.

Research Question 3: Does Course Length Affect DE Success?

Due to confluences of Length and Modality, this study was unable to conclusively answer the question of whether Course Length affected DE success. A regression analysis showed length significantly affected success overall, with each week of coursework adding 1.6 percentage points to the chances of success, but once we drill down to only DE classes, the confluences—several of which are perfect correlations

between length and Modality, or nearly so—leave us guessing as to whether that pattern holds true for DE students as well. However, we have no reason to imagine that it would not.

Implications of Results for Colleges

Offer 16-week DE courses. According to the multiple linear regression conducted, the percentage chance of student success began at 52.5% for an 8-week course and 65.2% for a 16-week course. According to this prediction, it seems that offering 16-week courses for DE courses will bring a higher success rate.

Unresolved Questions for Researchers

Does course length affect DE success? To determine whether the 8-week or 16-week course length does affect success, we need to test 16-week Hybrids against 8-week Hybrids. Accelerated learning through compressed courses has been associated with adult education. Typically, adults who worked and had a good work ethic were able to take courses in nontraditional formats often using active learning strategies to achieve their educational goals (Wlodkowski and Kasworm). Recently higher education has had success with acceleration with dual-credit, offering reward to academically strong students who are motivated by the reward of fast-tracked progress toward their college degree. Both of these populations typically share motivation, skills of time and self-management, and academic proficiency. Contrasted with the DE population who often lack these attributes, the concern is whether the 8-week format would help or harm this at-risk population. Perhaps the best form of acceleration for this group of student is a 16-

week length course. More study is needed to determine which length would best serve success for this at-risk population.

With the push to have 75% or more of DE courses offered as Corequisite, at least in Texas, it may be moot to offer 8-week Prerequisite versions of DE courses. Even if these courses remain an option, an observation about the one 8-week Corequisite course that was taught at North Lake was its intensity. The enrolled students and faculty of record met three hours per day for four days a week to meet the required 96 contact hours of the 6-hour credit paired course. The course did end with a 73% success rate; however, the instructor and students were exhausted by the pace. The instructor was unwilling and unable to teach another section such as this in order to meet load requirements. No other faculty wanted to teach this format either. It was not only the fatigue from the intensity, but also the number of contact hours per day made it difficult for an instructor to teach his or her required course load of five 3-hour courses. Additionally, the daily time requirement of this course made it virtually impossible for faculty to teach any extra courses for additional pay, which is common on community college campuses. Since a Corequisite 8-week course presents little to no incentive for faculty, this leaves the only realistic comparison to be a Hybrid Prerequisite model (8-week Hybrid DE course followed by a Hybrid 8-week freshman composition course) with a Hybrid Corequisite (a Hybrid 16-week DE course paired with a Hybrid 16-week freshman composition course).

Research Question 4: Does Modality Affect DE Success?

For this study, it turned out no Online courses are offered to the DE student population. To give a context reminder, the reason for this was based on data showing poor success rates. In the fall 2017 semester, the success rate for DE students in Online courses was a mere 14%. Fortunately, administration listened to and agreed with the case made to eliminate Online DE offerings, and subsequent DE courses were offered only in Lecture or Hybrid formats. Of the two Modalities remaining, this study showed that Hybrid courses were significantly more successful than Lecture.

Implications of Results for Colleges

1. Do no harm. Unless a campus has evidence proving equal or greater success rates in Online courses, this Modality should not be available for DE students. It is unethical to offer a course Modality that becomes an additional barrier to student success. There are Online efficacy training programs offered by groups such as Quality Matters and the Association of College and University Educators (ACUE), whose mission is focused on achieving equity through increasing the quality of instruction. Colleges could provide these types of trainings to their faculty in order to improve Online efficacy. However, efforts for measuring success should start with small populations.

2. Improve lecture. The lecture Modality in this study showed a 60% success rate. Lecture or face-to-face is the traditional academic Modality calling back to the days of the middle ages, where faculty were the “sage on the stage” pontificating their version of wisdom to starry-eyed proselytes. While I am sure each person who has gone to college can identify an ego-driven faculty member who made the class about them rather than the

learning, most probably experienced learning success in Lecture Modality. The recommendation from this study is not to eliminate the face-to-face mode in the DE courses, but rather to make them more effective. Proven strategies can be incorporated into current courses with minimal effort.

Some recommendations to make face-to-face classes more effective on the writing side can be borrowed from George Hillocks, Jr's seminal meta-analysis of more than 2,000 studies about what best supports developing successful curriculum and practices in the composition classroom. Instructors in the composition and DE classroom need to recognize a few important elements on composing processes and teaching practices in order to align their classes and curriculum with research.

Hillocks explains that the composition process is complex and involves four types of knowledge that the student must have in order to effectively produce a written composition. First, the students must have a background knowledge of the topic of writing. This is a huge point to consider and suggests that unannounced topic writing is not an effective approach for successful writing. In my experience, this is a common approach to high-stakes writing tasks, such as midterms and finals, in freshman composition courses. Second, discourse knowledge requires the student to be aware of how to produce a certain type of writing (narrative, process, argument, etc.). A third required knowledge is procedural in regards to the manipulation of the content they create to meet the required elements, flow, and cohesion of ideas within those elements. The last knowledge is also procedural but at an elemental level. Students need to understand how to produce accurate graphics, syntax, semantics, as well as the standard

conventions of grammar and mechanics. These four types of required knowledge for successful writing suggests that the composition classroom needs to confirm that students do have these knowledge types and help students who do not build a foundation for these types of knowledge and a process of adequately applying this knowledge in different academic situations.

Hillocks also encourages several types of instructional practices in the writing classroom. The first goes against many common in-class conventions: He recommends that educators eschew the teaching of grammar. His meta-analysis of grammar instruction showed that “the study of grammar does not contribute to growth in the quality of student writing” (75). Knowledge of formal grammar does not seem to impact writing quality. There is a difference between declarative and procedural knowledge. Grammar practice may inform declarative but does not seem to influence the procedural act of writing. To this end, Hillocks recommends incorporating classroom activities that build process and procedure. One alternative to teaching grammar is sentence combining. When students use procedure and inquiry to create more complex syntactic structures, it affects the quality of their writing. Hillocks also recommends scales, which present students with specific criteria for judging and revising writing. This type of activity builds discourse knowledge for composing, revising, and editing. The next recommendation is using sets of data to lead students through structured inquiry processes. Writing tasks that implement inquiry might require a student to argue one side or another from reading proposals from two city planners, or describe a process taken from a narrative reading, or hypothesize logical conclusions based on certain data points. This type of inquiry writing

proves more effective for improving the quality of writing than working to copy a model paragraph or essay. The final effective technique in Hillocks' recommendation list is free writing. The process of free writing on a topic of interest, discussing it with peers, revising and expanding ideas based on specific criteria, and receiving instructor feedback on a recursive draft is more effective than simply giving students a writing prompt. The static writing prompt encourages a single draft, which is often poorly structured and misses out on a quality process of revision, expansion, and editing.

Similar strategies can be applied to the reading processes and instruction of the DE or composition course. Primarily, students should be given the opportunity to read both physical and digital texts. Barbara Means and Michael Knapp remind instructors to focus on meaningful and complex tasks and not to underestimate what students are capable of doing, postpone challenging academic tasks, or remove meaningful learning contexts. The integration of reading, writing, and critical thinking through whole academic tasks already aligns with Kenneth Goodman's legacy of whole language instruction, which focuses on helping students find comprehension by building meaning with context. This is especially important with an adult learner since instructors are teaching process not phonetics and vocabulary in context rather than isolated words from a list. Reading is an active process, so instruction should allow students to make connections between text and their own experiences or logical connections, through classroom discussions, through inquiry, and reflective writing or retelling. Ultimately, these tasks building comprehension through reading and discussion move into the writing assignments, tying back to Hillocks' suggestion of free writing related to the reading of

relevant content leading to meaningful development of ideas, rather than simply writing to a single prompt. The goal of the integrated developmental reading and writing course and the competency core composition course should be to lead students to what Judith Langer calls “literate thinking” (51). She explains that this idea “extends beyond the acts of reading and writing themselves to also include what the mind thinks about and does when people gain knowledge, reason with it, and communicate about it in a variety of contexts” (51). In other words, both the writing and reading parts of the DE support course and the freshman composition class should lead students to metacognition.

3. Offer Hybrid Modalities. Hybrid courses were the most successful Modality. The success of the Hybrid Modality for this study rounds up to 80%. Colleges can be confident in offering this Modality or increasing the elements of Hybrid into Lecture courses.

Unresolved Questions for Researchers

1. What could to be done to improve success in Online courses for both the DE and college-ready population? One answer is that community colleges and universities review enrollment practices and readiness strategies for their Online offerings. More research should be done for implementing preventative measures. Campuses should only put into Online courses students who are prepared for them. For example, rather than greedily greeting the 11th hour enrollment bodies (many of whom need a developmental course), taking their money, and justifying dumping their bodies into an Online grave in the name of education-made-easy, more ethical, equitable practices and processes should be in place. Counselors, an Online test for assessing technology skills and academic and

affective awareness, or a successful completion of one semester in Hybrid or lecture Modality should be considered part of an effective protocol for determining if a student is enrolled in an Online class.

At the behest of the THECB, Sam Houston University did a study of 68 public Texas institutions to determine Online effectiveness with DE delivery. The recommendations were shared in the 2012-2017 Statewide Developmental Plan.

- Distance learning must be supported by the institution's administration, both in fiscal and professional development terms;
- Higher attrition rates indicate Online courses are not advantageous for many students; and
- Best practices policies must include a mandatory Online assessment to measure the extent to which students exhibit skills and motivation to succeed in the Online environment. (10)

Additional research indicates that self-management, time-management, a strong support system, a sense of community, and the clear and consistent presence of a teacher impact Online success (Gering et al.). Additionally, strategies like embedding short instructional videos within an Online course could be implemented (Taylor). More research should be conducted to determine reasons for withdrawing from Online courses. A better understanding of both internal and external factors could help create intentional strategies for preventing withdrawal and encouraging persistence in Online courses. In the broad academic course offerings, mindful parameters need to be defined, so Online

courses can be better leveraged for student success in learning, progress, and certificate or degree completion.

However, while more research can be done, initial findings seem to suggest that the DE student and the Online Modality do not mix well. If Online were to become an option for the DE student, then they would need to show at least the required skills in technology and internal motivation in order to enroll. To do more study with DE students in Online courses does seem to raise an ethical question though. If success is so low, is setting up students for failure in order to study their success (or lack thereof) even something institutions should do? Finding the best pathways for each of its students or student groups is the ethical responsibility of institutions of higher education.

In wrapping up the idea that the DE population and the Online Modality are not compatible, consider some recent anecdotal evidence of the low success rate in Online courses for the DE population. With the COVID-19 pandemic, for individual safety all courses for the Corequisite DE program at North Lake were relegated to the Online format in the fall 2020 semester. On the first class day of August, I started with 71 DE student enrolled in my four Corequisite sections. When I reported grades in December, only 34 or 48% of my students had grades of an A, B, or C, reaching success. The other 37 or 52% of the students had failed or withdrawn. While 48% is better than 14% from the fall of 2017, it is still too low to be considered successful, reinforcing the fact that DE students do not do well in Online courses. While these unprecedented times require flexibility and understanding, they also reinforce an additional barrier for reaching success that cannot be ignored.

2. Does professional development improve success? Another recommendation in this section is that to ensure quality instruction, faculty, whether full-time or adjunct, need to be trained and prepared to provide intentional, high-quality instruction based on research of what works, especially in the classroom focusing on at-risk populations. In its 2012-2017 Statewide Developmental Plan, the THECB reinforces this idea:

The majority of developmental education classes are taught by adjunct or part-time faculty who are often disconnected from departmental decision-making and implementation of new programmatic strategies (Rutschow & Schneider, 2011). Furthermore, developmental instructors, regardless of full or part-time status, tend to have limited training in teaching underprepared students. If developmental education students are to be successful, instructors must provide quality and effective instruction. (12)

To become, be, and stay effective, professional development needs to be a part of each college discipline.

Further study that could be done is measuring the instructor level of effectiveness. Some faculty have been involved in professional development related to DE students and Corequisite courses. Other instructors were simply credentialed to teach English and so were given a course. The sections taught by each instructor could be analyzed to see if those with relevant professional development had greater success rates or not. The results would inform the effectiveness of instruction. Additionally, results could reinforce the power of professional development in action.

3. How can success be increased by using the Hybrid model? Further clarity of what aspects of the Hybrid sections are responsible for the higher success rate is needed, so these elements can be implemented into the 16-week offerings. There is still some murkiness on whether it was the Hybrid Modality that produced the higher success rate, or if it was the students who progressed from the 8-week Prerequisite DE course into the 8-week composition course that made the difference in the results. It is a logical presumption that the students who progressed through the 8-week course offerings are responsible for at least some of the difference in success rates. These students would have at least been more motivated, have higher academic skill levels, and been more firm in their belief that they could succeed. Once they made it into the composition course, they probably would have been more motivated to continue a pattern of success. To state it another way, they would have had the internal and external motivators in place to succeed in college.

One can look at the andragogical theory assumptions embedded in the Hybrid approach and first presented by Malcolm Knowles to determine what elements might be incorporated into the lecture Modality. The first principle is the idea that adult learners are self-directed and need to be involved in the process and decisions of their own learning. The second principle is that adult learners use prior knowledge and experience to guide new learning, and use mistakes to increase learning rather than to shy away from the vulnerability of learning. The third principle is that adults are ready to learn and interested in learning relevant material to their goals. The fourth principle is that adults prefer problem-centered learning to curriculum-centered tasks (Knowles 45-48). Each of

these principles can be analyzed and tied to curriculum and flexible learning processes. Perhaps the very act of treating the DE student as if they can will help them believe that they can too. More research is needed to determine the details of creating an effective Corequisite Hybrid for the 16-week offering.

Conclusion

As this story and study comes to an end, consider the following comment by Alexander Astin: "... the underprepared student is a kind of pariah in American higher education ... educators value being smart much more than ... developing smartness" (20-21). This is a view of the underprepared student that still persists in some camps and causes a devaluing of DE. Similarly, CCA claims that remediation is broken. So, the system developed and evolved since the inception of higher education in America is also devalued. In contrast, DE researchers and proponents Boylan and Goudas counter that "[in] the quest for student success, opportunity must not be confused with efficacy. And opportunity here should not be defined as allowing students to enroll in gatekeeper courses without adequate preparation" (12). They claim research into the effectiveness of DE has been misinterpreted, and while some recommendations should be considered, to throw out DE entirely is reckless and "potentially harmful" (12).

This study has shown that DE support does help underprepared students succeed in college-level freshman composition courses. This study has shown that DE students have not only reached success but also, at least in this specific data set, surpassed the success percentages of non-remedial students. This study has shown Prerequisites to be more successful than Corequisites. This study has shown Hybrid to be a more effective

Modality than Lecture or Online. Perhaps the best approach to processing the result of this study and to resolving some of the conflict within the DE community is to follow the advice of Shanna Jaggars and Michelle Hodara when they recommend legitimacy on both sides:

By acknowledging that both sides of [the] tension represent valid goals and by discussing how those tensions might be reconciled to maximize both goals, colleges may be able to move forward dramatically in their conceptualization of an optimal developmental education system, setting the groundwork for real improvements in policy, programming, and eventual student success. (59)

Students matter. Their success matters. Equity of education in all groups and subgroups matter. Equity in education is a social justice issue and must be recognized and resolved. Both sides of the aisle need to put students and their success first. We should start with what the data tells us, and do more of what works. This way the students win.

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