JOURNAL OF COLLEGE ACADEMIC SUPPORT PROGRAMS

FALL 2018 | VOLUME 1 | ISSUE 2

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JOURNAL OF COLLEGE ACADEMIC SUPPORT PROGRAMS

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CONTENT

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The *Journal*'s content focuses on basic skills education, developmental education activities, learning assistance, and counseling as they relate to at-risk students at the postsecondary level. Editorial emphasis is placed on manuscripts that relate theory to practice (i.e., teaching, learning, and student development) and studies that include evaluative results of implementation. Sample hot topics include: technology, P-16 initiatives (seamless education), Integrated Reading and Writing (IRW), Redesign initiatives, and placement and assessment policy and instruments. The *Journal* also publishes manuscripts that expand current knowledge or have a clearly demonstrated impact on the field.

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FOREWORD

Each exciting Fall semester brings a new student class onto the campuses and into the hallways and classrooms of higher education throughout Texas. The summer heat begins to slowly wane as autumn settles over the broad and geographically diverse state, instructors nurture the seeds of learning and insight that bloom from the minds of their students, and marching bands fill the mornings with music as they prepare for another year of competition.

This particular Fall semester also marks the implementation of legislative change as House Bill 2223 mandates that all Texas public institutions of higher education offer corequisite models of education for students on the cusp of college readiness. The editorial staff of the Journal of College Academic Support Programs is proud to follow its inaugural issue, released earlier this year in February 2018, with this current issue dedicated largely to the challenges posed by the mandate.

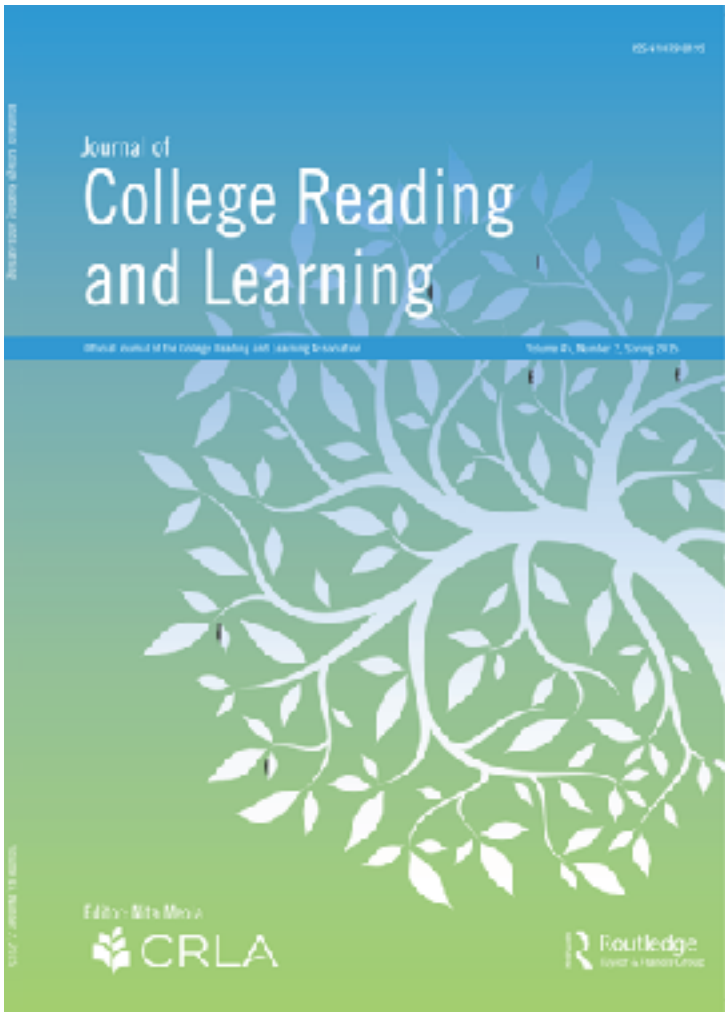
Here in Volume 1, Issue 2 of the *J-CASP*, you can find peer-reviewed and promising practice articles about corequisite models at three major public universities and one prominent community college campus as well as an op-ed piece exploring and examining the current corequisite trend in higher education. This issue of the *J-CASP* also includes a peer-reviewed article about demographic trends and implications in Texas and beyond as well as a promising practice article pertaining to the use of online forums. The result is a robust collection of scholarship, authorship, and reflection by practitioners for practitioners.

While this themed issue of the *J-CASP* has been intentionally timed to accompany corequisite model implementation throughout Texas, the vision of this academic journal includes a themed issue every Spring semester. For this forthcoming Spring, we anticipate an issue dedicated largely to learning support and invite you to submit an academic article or practitioner-based reflection. You can learn more about *J-CASP* guidelines in the call for submissions page at the end of this issue. As editor, I thank all *J-CASP* authors, editorial review board members, editorial advisors, and editorial assistants for the hard work involved in making this inaugural year of publication a success. Most of all, I thank the readers and practitioners for whom we are dedicated to serve.

Finally, the *J-CASP* team happily welcomes assistant editor Cassandra Gonzales for the 2018-19 academic year.

Michael C. McConnell, Editor
Journal of College Academic Support Programs

Journal of College Reading and Learning



The *Journal of College Reading and Learning (JCRL)* invites authors to submit their scholarly research for publication. *JCRL* is an international forum for the publication of high-quality articles on theory, research, and policy related to areas of developmental education, postsecondary literacy instruction, and learning assistance at the postsecondary level. *JCRL* is published triannually in the spring, summer, and fall for the College Reading and Learning Association (CRLA). In addition to publishing investigations of the reading, writing, thinking, and studying of college learners, *JCRL* seeks manuscripts with a college focus on the following topics: effective teaching for struggling learners, learning through new technologies and texts, learning support for culturally and linguistically diverse student populations, and program evaluations of developmental and learning assistance instructional models. For more information on the journal and the guidelines for submission, please visit:

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JCRL Editorial Team

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jcrl@crla.net

FEATURE ARTICLE

Corequisite Courses for Developmental Students at a Large Research University

Hillary Procknow, *University of Texas at Austin*
Leta Deithoff, *University of Texas at Austin*
Van Herd, *University of Texas at Austin*

ABSTRACT

This article details the efforts that the Texas Success Initiative (TSI) office at a large research university made toward piloting, refining, and scaling corequisite courses for students who require developmental education. House Bill 2223, passed by the Texas Legislature in June of 2017, requires public institutions to increase the percentage of developmental students enrolled in corequisite courses. In response, student outcome data, curricular examples, and suggestions for structuring corequisites are presented.

When the 85th session of the Texas Legislature completed its work in June 2017, House Bill 2223 (HB 2223) was passed, requiring that beginning in Fall 2018, a minimum of 25% of students needing development in each area (reading/writing and math) were required to be enrolled in corequisite courses. Each subsequent year will require a 25% increase of enrollment in corequisites, reaching the maximum requirement of 75% enrollment in corequisites beginning in Fall 2020.

Program Overview

Student Population

For the past 4 years, the Texas Success Initiative (TSI) program at the University of Texas (UT) at Austin has been piloting and scaling corequisite courses for students who are not college-ready in reading/writing and math. People are often surprised to learn that UT Austin has a developmental education program. While the TSI student population is small, an important goal of the university is to ensure all entering students are adequately prepared to succeed in the demands of their college course work.

The university evaluates students for TSI status according to state statute and follows the same guidelines for assessing and identifying TSI students as do all public institutions in the state of Texas. The majority of students needing developmental education are those admitted to the university under Texas's 10% rule, which grants automatic admission to any Texas Institution of Higher Education (IHE) for all Texas high school students who finish in the top 10% of their graduating class. This means that a large portion of our students graduated at the top of their high school classes but frequently attended underserved high schools with fewer academic and extracurricular resources. In fact, 67% of developmental students entering in the Fall 2016 cohort came from families with incomes less than $60,000 compared to the population of UT Austin at large, for which only 27% come from families with incomes less than $60,000. As documented in several places, students who come from lower-income families are more likely to struggle academically (Berman et al, 2018; Berliner 2006; Jensen, 2013).

More than 90% of students in developmental courses at the university are students of color, which is reflected in the American Psycholgoical Association's observation that race, ethnicity, and socio-economic status are strongly related (2018). Due to systemic racism and policies that that prevent people of color from achieving greater economic success (Solomon & Weller, 2018), students of color are more likely to live in poverty and therefore experience lower academic achievement. For example, 50% of students needing developmental courses are Hispanic, compared to an overall Hispanic population of only 25% at the university. Similarly, 30% of students needing developmental courses are Black despite comprising only 5% of the university population. In addition, the majority of developmental students at UT are first-generation college students, a population that research indicates "experience difficulties prior to and during their college experience that make them vulnerable to lower academic performance" (Ramoz-Sánchez & Nichols, 2007, p. 6). Because of these factors, the TSI program at UT recognizes the need to ensure students are connected to programs across campus that will support them and to provide engaging and personally relevant material.

Corequisite Structure and Scheduling

In Fall 2014, the TSI office piloted one corequisite course for students needing development in reading/writing and one corequisite course for students needing development in math. Current literature—in particular,

reports based on the Accelerated Learning Program out of the Community College of Baltimore County (2018)—has focused on corequisite models in which the same instructor teaches both the credit-bearing course as well as the developmental corequisite course. However, some documented drawbacks include potential negative outcomes for the college-ready students in credit courses (Goudas, 2017). Furthermore, there are a number of administrative and bureaucratic challenges to implementing that format at UT Austin since separate departments house the developmental, non-credit bearing courses (undergraduate studies) and the credit-bearing corequisite courses (math, statistics & data science, and rhetoric). Thus, differential departmental hiring practices and difficulties sharing faculty between departments dictate that students attend corequisite courses taught by faculty in corresponding departments, and attend developmental sections taught by TSI faculty.

The developmental corequisite course for reading and writing has a maximum enrollment of 15 students per section and is paired with the university's single-semester introductory composition course. The introductory composition courses have an enrollment limit of 25 students and share a common syllabus. Because our program does not want to fill more than half of a single introductory composition section with students needing developmental courses, and because the composition syllabus is shared across sections, students enrolled in developmental courses are able to enroll in any section that does not conflict with the developmental corequisite. To ensure the availability of enough seats in composition for developmental students, the TSI office works with the Rhetoric department to reserve a small number of seats across three sections. However, students are encouraged to register for open sections on their own if they are able.

The developmental corequisite course meets at a fixed time and location for 1.5 hours each week throughout the regular long semester. This corequisite is offered as a zero-credit hour course on a pass/fail basis and appears on students' transcripts. Table 1 demonstrates how the composition and math courses as well as the developmental sections are scheduled.

Math corequisite courses are structured similar to the composition corequisite courses and are paired with Math for Liberal Arts and two different introductory statistics courses. The developmental corequisite courses for math are also limited to 15 students per section. The primary difference between the composition course and the math courses is the number of students enrolled in the credit course. While the composition courses are small in size, the math courses range in enrollment between 100-200 students. For this reason, we are typically able to place all 15 students in the developmental math corequisite course in the same large section of Math for Liberal Arts or introductory statistics. The TSI office works with the Department of Math and the Department of Statistics and Data Science to reserve seats in one of these sections, allowing the instructor of a developmental corequisite course to communicate with a single math instructor when necessary and to focus on concepts and assignments on which all students in that section are working.

Table 1

Sample Scheduling for Credit-bearing and Developmental Corequisite Courses

Developmental area	Credit-bearing course	Paired, zero-hour developmental corequisite
Reading and Writing	Introductory Composition: Any section that does not conflict with the corequisite Total students in credit course: 25	Thursdays; 11-12:30pm
Math	Math for Liberal Arts: Monday, Wednesday, Friday; 9:00-10:00am Total students in credit course: 125	Tuesdays; 11-12:30pm
Math	Introductory Statistics: Monday and Wednesday; 3:00-4:30pm Total students in credit course: 200	Tuesdays; 8:00-9:30am

While the desired student outcomes for developmental corequisite courses must match the desired student outcomes for the credit course, the goal of our corequisites is never to double, or even substantially increase, the workload of the students. The goal is to provide the students with the space to ask questions, practice, work on concepts they may have missed in high school, and think critically about the area they are developing. Therefore, students in corequisite courses will have homework though not extensive. Assignments supplement the kind of work and ideas students will produce in their paired credit course and, in some cases, in their future academic endeavors. Curricular decisions and activities are detailed in the following sections.

Student Placement Practices

Each student goes through a holistic review as required by the TSI statute (Title 19, Rule §4.57 of the Texas Administrative Code). In the first years of offering corequisite courses, the TSI program considered enrolling students who scored between 347 and 349 on the TSI Assessment (TSIA) in the math corequisite course. In an effort to increase the percentage of students in corequisite math courses in anticipation of HB 2223 requirements, in the Fall of 2017, TSI staff decreased the minimum score for entry into math corequisites to 345. In addition to students' scores on the TSIA, the director of the program reviews students' records including the number and level of math courses completed in high school, their grades in those courses, and other academic and personal factors as put forth by the Texas Higher Education Board (THECB), the state agency that oversees IHEs and operationalizes state statutes. When students attend their TSI advising appointment during Summer orientation, the TSI advisor explains to them the benefits of enrolling in the corequisite model. If students insist that they would rather take the semester-long course in the Fall and the credit course in the following semester, staff allows them to do so, but this is a rare occurrence. When students' scores on the TSIA are close to the cut-off score for the corequisite model, TSI advisors work with the student during their advising appointment to determine a student's motivation and level of comfort in the area. If students express that they feel comfortable with math and

think they will do better in a corequisite model, advisors allow them to enroll. Consequently, students with scores as low as 339 on the math section of the TSIA have succeeded in the corequisite model.

Similar rules apply for the holistic placement practices concerning the reading/writing corequisite course. Because the TSI statute requires that all exit-level developmental reading and writing courses must be integrated, the corequisite course in the English area integrates reading and writing and is paired with the university's introduction to composition course. The majority of students in the corequisite course (88%) have passed the writing section of the TSIA. During the initial years of offering the corequisite model, students who earned scores of 348 to 350 in reading were considered for the corequisite course. In Fall 2017, TSI staff lowered the minimum reading score for placement into the corequisite to 346. As with the math corequisite, TSI advisors determine borderline cases during appointments and place motivated students with strong high school academic records in corequisites. By pairing the corequisite course with a writing intensive course, students have a semester to practice and strengthen their writing skills and also to develop college reading skills across a number of disciplines.

Reading and Writing Corequisite Courses

Premise and Structure

Based on the idea that reading and writing "should be viewed as a single act of literacy" (Quinn, 1995, p. 295) and the focus of every assignment and text (Holschuh & Paulson, 2013), the reading/writing corequisite (DEV 000W) presents students with texts from the different disciplines they will encounter in college (i.e., history, psychology, biology, sociology, economics) and asks them to mimic the language of that discipline in various written responses (e.g., journal entries, short answer responses, critical analyses, essays, etc.).

Early in the semester, the instructor provides a variety of low-stakes activities (Elbow, 1997), such as daily journal prompts that focus on practice and idea generation. Such low-stakes activities are paired with student-centered texts (i.e., essays on current topics, engaging short stories, such as Evan Hunter's *On the Sidewalk Bleeding* (1957), and familiar disciplines such as rhetoric or literature) to build proficiency, self-efficacy, and motivation through success on small tasks. As students engage with the varied texts, they learn to read "with two minds" (Hjortshoj, 2009, p. 37), that is, to analyze what authors say and how they say it. Students then apply this dual focus to their own writing, creating solid content that mimics the demands of a specific discipline and utilizes effective writing practices to produce well-developed, well-supported responses. Additionally, students learn to study smarter, not harder, so tasks incorporate metacognition to assess what future tasks will ask of them and how to approach these tasks (El-Hindi, 2003).

Readings and subsequent essays become more challenging as the semester proceeds so that students can apply new reading and writing strategies to the disciplines they will experience beyond the developmental classroom. Higher-stakes writing measures (Elbow, 1997) serve as the basis of assessment while preparing students for the demands of their paired introductory composition course.

Detailed Examples

To illustrate the kind of work students produce in the developmental corequisite course, the examples below present two assignments: an early semester, in-class activity that models the necessary depth, support, and analysis required in a short answer response; and an end-of-semester, discipline-specific (science) writing assessment.

The in-class activity asks students to examine Norman Rockwell's 1943 images representing his interpretation of America's *Four Freedoms* referenced in *Smithsonian* (Tucker, 2018). The four photographs attempted to muster popular interest towards America's involvement in World War II, so the students analyze how Rockwell constructed his images and subsequently evaluate whether he was successful in his purpose. Then students compare these images to the four newly created images compiled by Abigail Tucker for *Smithsonian* in an attempt to re-envision the *Four Freedoms* for 2018. Tucker's online article presents and discusses many of the rhetorical issues associated with these images, making it a good resource for the instructor to frame the activity. Students evaluate the differences and answer questions such as:

- How have ideals changed since Rockwell's time?
- What changes did the artists have to make in order to reflect these new ideals? (Use description from the images as *evidence*.)
- Do the new images accurately reflect the American beliefs and values of 2018? Why or why not?

For the final assignment, students must first read Harry Harlow's *The Nature of Love* (1958), an early premise for attachment theory based on researchers' observations that "contact comfort" was such "an important basic affectional or love variable" for orphaned rhesus monkeys that it seemed "to overshadow so completely the variable of nursing," leaving Harlow to conclude: "Love is an emotion that does not need to be bottle- or spoon-fed" (p. 677). Students dissect the scientific text and construct arguments based on their interpretations. They then conduct a debate on the ethics of animal experimentation in research. Finally, they write a paper supported by the original text and one additional piece of research, answering the question: "Were Harry Harlow's monkey experiments ethical?" in a manner suitable for the audience of a science-based journal.

Both of these examples show a progression of tasks in terms of their proximity to students' interests and familiarity as well as in degrees of increasing length and difficulty. As Table 2 conveys, by the end of the semester, 88% of students are ready for their credit courses, regardless of the discipline.

Table 2
Score Ranges for Students Placed in Reading/Writing Corequisite Course and Student Outcome Data for 2016-2017 and 2017-2018

Corequisite area	Paired course	TSIA score range	Total number of students	Average grade earned in credit course	B- or higher	C- or higher
Reading/ Writing	Introductory composition	Reading: 340-360 Writing: 346-382 Essay: 3-7	26 (100%)	2.82	17 (65%)	23 (88%)

Assessment

To measure student progress, assignments in the developmental corequisite course should demonstrate a greater command of the writing stages and an awareness of audience influence on the resulting text. Specifically, essays should avoid what Hjortshoj (2009) identified as common perceived weaknesses in student writing: "unclear theses and arguments, insufficient thought about the topic, poor organization and logical development, and careless proofreading" (p. 58). This focus is particularly important since the students are co-enrolled in the introductory composition course, which asks them to navigate the idea of *good* persuasive writing—and is credit bearing. Thus, the developmental corequisite course provides ample opportunity for discussion about and practice of effective writing techniques while varying between low-stakes daily assignments and four higher-stakes writing measures as student proficiency increases.

Table 3 illustrates the breakdown of the assignments based on a 100-point scale. The first two assignments are worth fewer points as students improve grammatically and structurally. Journal entries are daily, free-writing assignments in response to a text, quote, or suggested topic. They are graded during three journal checks for content and idea generation depth rather than grammar or mechanics to promote better quality and lower stress responses.

Table 3:
Assignment List for the Reading/Writing Corequisite Course

Assignment	Point Value (100 points total)
1: Reading Response to an excerpt from *The Cellist of Sarajevo* by Steven Galloway	15
2: Rewrite Activity—Revision of a sample musical rhetorical analysis	15
3: Cross-discipline Comparative Short Answer Analysis	20
4: Harry Harlow Response: Is animal research ethical?	20
Course Journal	30 (3 checks worth 10 points each)

Suggestions From Practice

After 4 years of teaching integrated reading and writing corequisite courses similar to the one presented above, TSI staff and instructors have learned what benefits students through trial and error. The early developmental courses were paired with a common history course because students often struggle with reading primary sources vs. secondary historical sources, using these sources as evidence in essay responses, understanding how to answer and study for essay exams, and, generally, knowing how to be successful in a history class. Student performance throughout the semester demonstrated that, while preparing for and often passing the first history test was challenging despite a student's preparation level, students soon learned how to be successful on subsequent exams in the history course and readily adapted to the demands of the texts, especially later in the semester as readings moved closer to present-day language and concerns. This improvement left less to discuss in the latter part of the reading/writing corequisite. The steep learning curve experienced in freshman history mirrors what students face in other courses once they leave developmental education. Therefore, it seemed more beneficial to expose students to multiple disciplines while helping them develop the skills to adapt to a college environment's changing demands.

Thus, pairing the developmental corequisite course with the university's introductory composition course became the obvious choice. Additionally, students tend to want support throughout the semester in introductory composition as the assignments move from summarizing multiple sources, to critical evaluation, to the final production of a research-based argument on a controversial topic. Therefore, developmental students meet once a week with their developmental corequisite instructor to discuss topics that build general learning strategies, support various reading and writing tasks, and prepare students for the content provided during their composition classes. The instruction in both courses helps students transfer newly-acquired rhetorical knowledge to broader academic requirements.

Experience also reveals both pros and cons for how to *grade* the developmental corequisite course. Despite rigorous assignments and grading standards, students ultimately receive a pass/fail score in the developmental corequisite course. Consequently, students are not penalized for taking a non-credit-bearing course in addition to their full semester demands. Emphasis shifts to their credit-bearing courses, and the corequisite becomes support for those courses rather than a distraction.

One drawback to UT's current corequisite model rests in the scheduling challenges it presents. Since the developmental corequisite course meets only once a week, addressing issues for students with specific or limited time demands can be problematic. This drawback will be addressed further in the final section of the paper. The pass/fail emphasis presents another obstacle in that

it can negatively impact performance motivation as some students strive to do just *good enough* on their tasks. In general, though, the current model provides students with enough practical assessment opportunities that they will learn and progress even if they are *just* completing the minimum requirement.

Overall, student results suggested that this model is instrumental in helping students succeed in their future classes as evidenced by the success rates for the students enrolled in this corequisite in the 2016-2017 and 2017-2018 academic years presented in Table 2.

Math Corequisites

The vast majority of students needing math development at the university are required to complete only one math course for their degree plans. This requirement is satisfied most often with Math for Liberal Arts and one of the two different versions of introductory statistics offered at the university. As noted above, while students in the reading/writing corequisite can enroll in any section of composition, due to smaller class sizes and a common syllabus, students in math corequisites are enrolled in a single section of Math for Liberal Arts or statistics. The large class sizes of math courses allow for TSI advisors to place up to 15 students in a single section without disrupting the normal conduct of class, which also ensures that each student in the developmental corequisite is doing the same work in the credit class at the same time.

Math for Liberal Arts Overview

As is the case in the reading/writing corequisite, the corequisite course paired with Math for Liberal Arts aims to not only support students in their credit course but also to introduce students to concepts and ideas they will be encountering in future course work. The University of Texas at Austin has a long history of leading mathematics pedagogy and methodology from the time of the storied Robert Lee Moore and his inquiry-based approach to mathematics education and the production of knowledge (Parker, 2005). Inquiry-based instruction has borne great pedagogical fruit, expanding far beyond its original home to become an international movement, and inquiry-based education continues to occupy a prominent position in the corequisite mathematics curriculum at the university. Transcending this practice is the recognition of the mathematical process known variously as *complectification*, popularly subsumed under the rubric of *complexity* (Rescher, 1998).

To this end, the instructor for the corequisite math course has endeavored to evolve an exposure or complexity model of mathematics education, which fits the corequisite desiderate handsomely. For example, corequisite education transcends standard tutoring and putative remediation and is meant to be an active *looking ahead*—that is, equipping and exposing students in a low-stakes setting to the upcoming conceptual challenges they will be facing, for example, in the next lecture or next module. By the very act of exposure to the concept in the corequisite environment, students are now ready to face the conceptual challenge when it faces them in a non-scaffolded environment.

This exposure in the developmental corequisite course is all the more necessary given that in the current arrangement, the instructor for the developmental corequisite course does not teach the Math for Liberal Arts course in which the students in developmental education are enrolled. Nevertheless, the instructor of developmental education has a symbiotic teaching relationship with the instructor(s) of the credit-bearing course, who have proven to be supportive of the corequisite work. Vital to this partnership has been access to the online learning management system and student records as well as to lesson plans and homework so that the corequisite instructor may align dynamically the module requirements with the credit course.

> The goal is to provide the students with the space to ask questions, practice, work on concepts they may have missed in high school, and think critically about the area they are developing.

Course Structure

Math for Liberal Arts is typically taught with Burger and Starbird's canonical textbook, *The Heart of Mathematics* (2009). Following is a description of daily activities and assignments from the developmental corequisite in anticipation of the credit-bearing course covering an extract from Chapter 2 of the text, "Number Contemplation" (which chapter serves as an ideological *anchor* for the course). In advance of the day's activities, the corequisite instructor has reviewed the syllabus for Math for Liberal Arts and is aware of upcoming assignments and exams. Typically, the corequisite course instructor is working ahead according to the exposure model of mathematics pedagogy discussed above. This is very important. While the corequisite instructor can (and should) function in the role of a tutor or course supplement, that is *not* the main function of the corequisite instructor. Rather, their role is to teach *ahead* of the main section such that when students are met in plenary session, topics are not new but rather familiar due to having been discussed previously.

Detailed Example

For this activity, the students enrolled in the developmental corequisite course meet at the Harry Ransom Center (HRC), a renowned archive housed at the University of Texas at Austin to examine the History of Mathematics holdings. This meeting place is not unusual as the class has several field/applications experiences throughout the semester. Context-rich experiences such as these

are one of the luxuries of a research institution for such a course as this. Readers are encouraged to contact the authors for more specific implementation instructions for these enrichment exercises. The works to be studied were selected by the instructor in consultation with the curator and librarians of the HRC. For example, one of the concepts used by the Math for Liberal Arts instructor and mentioned orthogonally in the *Heart of Mathematics* text were magic squares. Hence, several works containing magic squares were pulled for the students to study. Chief among these are John Dee's 16th-century magic squares and magical mathematical tables (known from the posthumously-published *A true and faithful relation* (1659)), Johannes Kepler's *Harmonices mundi* (1617), and Luca Pacioli's 1494 *Geometria* that the University of Texas owns in a later condensation, known as *De Divina proportione* (1509), with illustrations and figures provided by Pacioli's former mathematics student, Leonardo de Vinci. Also studied were the diverse manners in which mathematical equations are presented and the ways in which these have changed over the intervening centuries. Thus, students obtain a clear sense of historical development and the influence that history has exerted upon mathematical concepts. In this particular lesson, the instructor covered Leonardo of Pisa, culminating in a review of the Fibonacci series that was begun in the previous week. This lesson culminated in an assessment that required the return to the HRC to select one of the books that had been discussed and to write a brief bibliographic description of it according to a simplified template. Students were also required to select a simple mathematical equation or symbol from the books they selected and to write a brief paragraph about it in the report. For occasions when students are in the classroom and not out experiencing the resources available to them on the campus, a typical day's classroom schedule is presented in Table 4.

Table 4

Sample Daily Class Schedule Template for the Developmental Corequisite Course Supporting Math for Liberal Arts

1. 10 minutes	Roll Call using ice breaker review of mathematical concept covered in last period.
2. 25 minutes	Exercise with mathematical manipulatives (or games) of upcoming concepts in M 302.
3. 15 minutes	Textbook review in which instructor highlights important sections pertaining to concepts to be covered in M 302 in the next 2-3 sessions; that is, before DEV 000M meets again. It is vital that the text is emphasized because success in M 302 is commensurate with the amount of student exposure to the anchoring text.
4. 20 minutes	Homework review of current homework
5. 10 minutes	Homework orientation to concepts not yet assigned in M 302.
6. 10 minutes	Exit ticket [varies] that can be to solve a quick, simple equation already covered in the day's class. It is important that the session end even more strongly than it began, leaving students with a definite sense of mathematical accomplishment.

Assessment

Finally, examinations are not given in the developmental corequisite, but graded exercises, usually built upon the homework, are assigned. Moreover, the instructors coordinate closely such that when an examination in the credit course approaches, the corequisite instructor holds an extended review session either in addition to or in lieu of the corequisite class meeting that week. Similarly, an extended mathematics festival is held during finals week, usually on the day of the final for the credit course such that students may drop by to review for the final in a structured come-and-go session, submit any final projects, or catch-up on assignments. This session is also designed to give the students a rich mathematical context, but, above all, a strong psychological boost immediately before they enter upon the final examination.

Introductory Statistics

Having completed its third academic year, the statistics corequisite was developed initially to support a more algebraically intensive introductory statistics course. In the Fall of 2017, the Statistics and Data Science department created a second introductory statistics course that required less algebraic calculation and focused more on statistics concepts. During that semester, the students in both statistics courses were enrolled in the same section of the developmental corequisite, but as will be discussed, in the future, students in these two courses will be enrolled in separate corequisites. The aim with the statistics corequisite course matches the aim of the corequisite course paired with Math for Liberal Arts. That is, the corequisite course not only supports the students in the work with which they are currently engaged in the credit course, but it also introduces students to the concepts that will be taught in near-term so that they will be familiar with them before they are formally presented in the credit course.

Suggestions From Practice

Both statistics courses have proven difficult for incoming students who have not demonstrated college-readiness in math. Feedback from the instructor for these credit courses resulted in the implementation of a requirement in the developmental corequisite courses that students must meet with one of the learning specialists in the campus's learning center. Each student in the developmental corequisite course will be required to make a one-on-one appointment with a learning specialist before the first exam in statistics to discuss study strategies and cover metacognitive self-assessment skills. Then, students will be required to see the same learning specialist after the first exam to reflect on areas that the student will need to continue to work on and how they can employ or refine study strategies to help improve their performance on the next exam. Table 5 presents the success rates for students in the developmental corequisite and each of the three credit math courses.

Table 5
TSI Score Ranges and Average Grades Earned in Credit Corequisite Courses for Academic Years 2016-2017 and 2017-2018

Corequisite Area	Paired Course	TSIA score range	Total number of students	Average grade earned in credit course	B- or higher	C- or higher
Math	Math for Liberal Arts	336-349	18 (100%)	3.07	14 (77%)	17 (94%)
Math*	Introductory statistics (less emphasis on algebraic calculations)	341-349	8 (100%)	2.29	3 (38%)	7 (88%)
Math	Introductory statistics (greater emphasis on algebraic calculations)	345-349	16 (100%)	2.22	4 (27%)	14 (87%)

Note: The data for the first listed statistics course are only from Fall 2017, as that is the first semester this particular corequisite was offered.

Discussion of Challenges and Future Plans

As previously stated, efforts to establish successful corequisite models in both reading/writing and math have met some challenges. The authors hope that discussing them here will be of value to other institutions as they build their corequisites models.

Issues with the corequisite model for the statistics courses have been particularly demanding. The initial math corequisite course was paired with Math for Liberal Arts, but an increasing number of degree programs require a statistics course. TSI staff found that many first-year students are encountering statistics and statistical thinking for the first time, which is conceptually difficult for them to grasp. For the first time, in the Fall of 2017, developmental students were placed in two different statistics courses while attending the same developmental corequisite course, which meant the instructor for the developmental corequisite course had to divide at least some of the class time between students grappling with different assignments and concepts. Beginning in Fall 2018, there will be two separate developmental corequisite courses so that the students in each section are enrolled in the same statistics course.

Clearly, the most looming challenge is that of meeting the demands of HB 2223, which requires a continued increase in the percentage of students enrolled in corequisites to meet the 75% benchmark in Fall 2020. Increasing the percentage of students in corequisites means placing students with lower TSIA scores into these courses while still ensuring they are academically supported. To accomplish this, beginning in Fall 2018, the university will be offering a 3-hour corequisite model (in comparison to the current 1.5-hour model). This format will add a second day that will function as a laboratory during which students can get supervised help with any of their coursework, and the instructor can address conceptual challenges common to many students.

Two-Day Model Benefits

In addition to increasing the percentage of students in corequisites, this format will also alleviate a number of other smaller issues. As was referred to above, one of the hurdles for students enrolling in the 1.5 hour per week corequisite (which is a zero-credit hour course) is that it takes the time slot of what could be another 3-hour course. To clarify, if the corequisite meets on Tuesdays from 11:00-12:30, a student cannot register for a 3-hour course that meets on Tuesdays and Thursdays from 11:00-12:30, which can be a significant challenge for students who are juggling multiple commitments outside of school, including work schedules and family. Further, and perhaps most importantly, this 3-hour corequisite, while not eligible for college credit, will count toward full-time enrollment, meaning students will not have an additional time commitment outside their required coursework that counts toward enrollment. Furthermore, the 3-hour corequisite will make students eligible for both financial aid and NCAA and UIL activities. Instructors for both the reading/writing and math corequisites are developing this format over the Summer of 2018 and will be working closely with the faculty in those departments that teach the credit-bearing course so that the corequisite will be closely aligned and able to best support students. TSI staff will continue to monitor and track students with lower TSIA scores enrolled in the 3-hour corequisite to ensure they are successful in their credit-bearing courses.

Suggestions From Practice

The program that has completed the most research on corequisite models, the Accelerated Learning Program (ALP) housed at the Community College of Baltimore County (2018), has developed a model in which the same instructor teaches both the credit portion of the corequisite and the developmental section of the corequisite. While this has been a popular model to implement, there is not yet consensus regarding this practice. Outside of the potential negative outcomes for the non-developmental students in the credit course, there is a conceivable benefit to employing the model of using separate instructors for each. For those institutions that wish to use the same-instructor model but must first credential their developmental reading and writing instructors to teach college-level courses in order to do so, they can continue to enroll developmental students in credit-bearing courses taught by existing faculty in those departments while allowing their developmental instructors to teach the developmental corequisites.

Finally, though a result of the overall small population of students in need of developmental education at the University of Texas at Austin, the authors recognize that the number of students participating in the presented corequisite models is small compared to other institutions. Furthermore, while the student outcome data presented here are from only the previous 2 academic years in which the model has stabilized in terms of pedagogy,

scheduling, and placement, data from the combined four years of corequisite implementation suggest that the university's practices for corequisites are promising in terms of student success in credit-bearing courses early on in their college careers.

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Student Response to a Corequisite Pilot Program: A Retrospective

Elizabeth J. Threadgill, *Utica College*

ABSTRACT

This retrospective article presents the results of a pilot study on student perceptions of a corequisite model for developmental writing. Qualitative survey data was collected at the beginning, middle, and end of Fall 2013 at a large public university in central Texas. A total of 21 students participated in this study. Eleven students who were near the cut-off for the placement exam were enrolled in a first-semester composition course with other students who placed directly into first-semester composition. These 11 students also agreed to meet outside of the composition classroom at a set time for the corequisite course. Another ten students who were near the cut-off for the placement exam were placed in a traditional 16-week developmental writing course that served as a control. Responses were analyzed using coding practices outlined by Saldaña (2009), including initial coding, categorizing, and theming. Themes that emerged in the responses of students enrolled in the traditional 16-week developmental writing course included the following: (a) this course is pointless/a waste, (b) mismatch between placement and self-perception, and (c) transferability. Themes that emerged in the responses of students enrolled in the corequisite model included the following: (a) a lot is riding on success in the corequisite composition course, (b) unsure/nervous about expectations, and (c) improved self-efficacy at the end of the course. The major implication of this study is the importance of including student voices in the implementation of models for developmental education.

In the midst of legislation in which models of developmental education (DE) are continuously changing, stakeholders should reflect on (a) the effectiveness of mandated models of DE and (b) the importance of engaging student voices in implementing models of DE. In Florida in 2013, Senate Bill 1720 mandated that institutions of higher education offer accelerated options for DE, including corequisite models. The College Completion legislation in Connecticut mandated that by 2014 DE should be offered within an entry-level course or offered as a pre-semester college readiness program. In 2015, Minnesota passed the College Readiness and Completion Act mandating the use when appropriate of corequisite models in place of traditional developmental courses. In 2017, House Bill 2223 in Texas mandated that all institutions of higher education implement corequisite courses for DE.

For developmental writing, specifically, there is long-standing evidence that corequisite models can be effective (e.g. Grego & Thompson, 1996; Rigolino & Freel, 2007; Jenkins, Speroni, Belfield, Jaggars, & Edgecombe, 2010; Michas, Newberry, Uehling, & Wolford, 2016). The benefit of these models is that they (a) are credit-bearing, (b) reduce time-to-degree, (c) reduce stigma, and (d) provide contextualization.

Scholars and educators point out the inequity of a system in which some students are granted credit for a writing course while other students are denied credit and the opportunity to work toward their degree (Rigolino & Freel, 2007). When developmental writing courses offer no credit, students may feel that their writing has less or no value, and instructors may feel frustrated that students who have great potential are not trying (Rodby & Fox, 2000). In fact, many scholars argue that traditional basic writing courses create basic writers (Bartholomae, 1993; Galindo, Castaneda, Gutierrez, Tejada, Jr., & Wallace, 2014; Grego & Thompson, 1996; Rodby & Fox, 2000).

Corequisite models may address this inequity, not only by offering credit but also by reducing time-to-degree, which provides financial viability to students and institutions. After years of gathering data for the Accelerated Learning Program, Adams (2016) has pointed out that while instructional costs to the college are increased in the short-term, the increased number of students who enroll in first-semester composition and are retained thereby increases the amount of tuition and funding from the state that the college receives.

Additionally, corequisite models can reduce or eliminate the stigma attached to being in a developmental writing course. Specifically, corequisite models can reduce the labeling of students as remedial, basic, or developmental (Mlynarczyk, 2016; Rigolino & Freel, 2007). In fact, Mlynarczyk (2016) has argued that one of the reasons corequisite models are successful is that they not only rename developmental writing, but also reframe developmental writing from an idea of remediation to an idea of acceleration. As such, students feel less like they are held back, and instead feel like they are challenged. As Rose (1989) has said, "Students will float to the mark you set" (p. 26).

Finally, corequisite models may provide student writers with a context for writing and participating in institutional discourse, which, in turn, offers students the opportunity to apply newly learned writing skills to the

composition classroom, to think deeply about the expectations of an academic audience, and to empower themselves through seeing their writing as integral to the academic conversation (Rodby & Fox, 2000).

Alternative positions do not necessarily deny the value of corequisite models but point out that further inquiry is needed. Collins and Lynch (2001) have acknowledged that corequisite courses can be effective but argue that, too often, stakeholders see this model as the only alternative to the traditional prerequisite course. Some scholars point out the flaws in placement and exit assessments and argue that assessment needs our attention (Agnew & McLaughlin, 2001; Shor, 2001). Soliday (1996) has expressed concern that mainstreaming into composition might take away "sheltered educational pockets for academically marginal writers" (p. 85).

Perhaps the most important addition to this discussion is that even when evidence-based models of practice are available, policymakers should still involve instructors and students in the decision-making process and should consider local contexts when mandating models of DE (Evans, 2016; Fitzgerald, 2001; Galindo, Castaneda, Gutierrez, Tejada, Jr., & Wallace, 2014; McNenny, 2001; TYCA, 2014; Wiley, 2001).

This retrospective article presents the results of a pilot study on student perceptions of a corequisite model for developmental writing. The pilot study was conducted in Fall 2013 following Rider 34, which mandated that all institutions in Texas offer a non-course competency-based option (NCBO) with flexibility for institutions to design their own NCBO. These earlier findings have implications in light of House Bill 2223 (2017), which mandates that all institutions in Texas implement the corequisite model.

Even those students who were initially unsure or nervous about the corequisite composition course had improved self-efficacy later in the semester.

Methods

This pilot study was guided by the work of Adler-Kassner and Harrington (2002), who conceptualize developmental writing as a political act. Adler-Kassner and Harrington (2002) argue "Basic writing classes can become sites for investigating the contexts and ideologies associated with a range of literacy practices, particularly students' and those in the academy (and even the basic writing class itself)" (p. 31). This pilot study investigated the assumptions of the state and institution regarding student success and motivation in developmental writing and introduces students to the discussion about implementing models of developmental writing.

I collected qualitative survey data at the beginning, middle, and end of Fall 2013 at a large public university in central Texas. A total of 21 students participated in this study. Participants in the study initially enrolled in multiple sections of developmental writing based on their placement scores on the Accuplacer and Compass. I worked with the Texas Success Initiative (TSI) office on campus to identify students on the bubble—students who scored between 88/4 and 80/5 on the Accuplacer or 85/4 and 59/5 on the COMPASS. Any student who enrolled in developmental writing and met the score requirement on the placement exam was invited via e-mail to participate. The incentive for enrolling in this program was simultaneously receiving credit for developmental writing (which was not a credit-bearing course toward graduation) and first-semester composition (which is a credit-bearing course toward graduation).

Eleven students volunteered to enroll in the intervention. These students were enrolled in a first-semester composition course with other students who placed directly into first-semester composition. These 11 students also agreed to meet outside of the composition course at a set time for the non-weekly corequisite seminar. Another ten students who also met the score requirement but who did not volunteer or who were unable to volunteer based on their schedule were placed in a traditional 16-week developmental writing course that served as a control. These students attended the traditional 16-week developmental writing course with students who placed into developmental writing but who were not near the cut-off point.

I taught both the first-semester composition course and the corequisite seminar. The seminar focused on making the knowledge construction process more transparent, helping students to navigate institutional processes, and giving students insider knowledge, not only about the course content but also about *why* they were learning that content. Adler-Kassner and Harrington (2002) cited conversations about this kind of insider knowledge as being crucial to the work of developmental/basic writing; specifically, they recommend having conversations "about how they [students] thought about writing and reading, what they expected to learn in basic writing courses, how they thought about their own writing and reading, what they expected to encounter in college classes, and where the ideas that they had about these things came from" (p. 2). These conversations formed the foundation of the seminar meetings that served as the intervention for this study. Another instructor who shares this belief system—providing students who place into DE with insider knowledge—taught the traditional 16-week developmental writing course that served as a control.

As a result of this exploratory pilot study, I hoped to learn about student perceptions of both the traditional 16-week developmental writing course and the corequisite model in order to include student voices in the implementation of corequisite models of developmental writing.

As a primer, students responded to task value items (4, 10, 17, 23, 26, and 27) from the *Motivated Strategies for Learning Questionnaire (MSLQ)*. The *MSLQ* is a valid predictor of final grade in a course with a strong framework based in motivational theory (Pintrich et al., 1991). Additionally, reliability on the task value subscale which is used in this study is high (α = .90) (Pintrich et al., 1991). The *MSLQ* measures student motivation and learning strategies related to a specific college course on a 7-point Likert scale (Pintrich et al., 1991). For example, one item on the scale states, "I think I will be able to use what I learn in this course in other courses" (Pintrich et al., 1991). The number of students participating in the pilot was not conducive to any meaningful analysis of this quantitative data. Instead, the *MSLQ* served as a way to start a conversation with students.

At the beginning, middle, and end of the semester, students in both the control group and the corequisite intervention responded to the following open-response question: "What are your feelings about this course right now?" Responses were analyzed using coding practices outlined by Saldaña (2009), including initial coding, categorizing, and theming.

Findings and Discussion

Themes that emerged in the responses of students enrolled in the traditional 16-week developmental writing course included the following: (a) this course is pointless/a waste, (b) mismatch between placement and self-perception, and (c) transferability. Themes that emerged in the responses of students enrolled in the corequisite model included the following: (a) a lot is riding on success in the corequisite composition course, (b) unsure/nervous about expectations, and (c) improved self-efficacy at the end of the course.

The predominant theme that emerged is the belief that the traditional 16-week developmental writing course is pointless or a waste. The words "waste" and "pointless" were used explicitly and frequently in student responses. For example, one student stated, "this course is pointless for me to take." Another student stated, "I think it is a waste of my time and money." Other students referred more directly to the non-credit-bearing status of the course. For instance, one student stated, "I don't want to do it, because it doesn't count," and another student stated, "I would rather struggle in a regular class than be in a developmental class that gives no points towards GPA." This belief did not change throughout the semester.

The feelings of resentment about being placed into the traditional 16-week developmental writing course are related to the self-perception of the students placed into this course, particularly at the beginning of the semester. In fact, one student plainly stated, "This course is pointless for me to take because I consider myself to be a good writer." As another example, a student stated, "I feel me taking this course is unnecessary because I consider myself a strong writer." Another student stated, "I feel like this is pointless and I don't need it." These students have a positive self-perception about their writing ability that they feel doesn't match their placement into developmental writing.

The resentment that these students on the bubble have about being placed into the traditional 16-week developmental writing course may support the assumption among legislators that students on the bubble who are forced to take a traditional developmental writing course may not be motivated. Additionally, to explain the mismatch between self-perception and placement in the traditional 16-week developmental writing course, one student said, "I think I should be in English 1310 [composition] because I know I'm capable. I was just lazy on my entrance exam so that's why I'm here." Only one student brought up not taking the placement exam seriously. However, there has been a legislative move in many states to more clearly explain what is at stake when taking placement exams and to offer prep sessions.

Despite the negative feelings toward being placed in the traditional 16-week developmental writing course, many students had positive feelings throughout the semester about the transferability of the content. One student expressed, "I think I should be in English 1310 [composition], but this class will come in handy so it's not too bad." Students enrolled in the traditional 16-week developmental writing course discussed transferability to composition, to other classes that require writing, and to jobs. Students talked about the course as a good "prep" or said it would help "prepare" them for other coursework. One student stated, "It will help me in my actual English class." Another student stated, "I feel like it will honestly help me with every class I have in the future that includes writing papers." At the end of the semester, one student reflected, "I feel that this course has been helpful to me in developing my writing skills, so that in the future I will be more prepared for higher level writing." However, the theme of transferability might be artificial as this concept was included in the items on the MSLQ that students responded to as a primer to the open-response question.

By contrast, while a few students enrolled in the corequisite model brought up transferability, it was not a consistent theme. As such, the theme of transferability might relate to the positive self-perception of students enrolled in the traditional 16-week developmental writing course. If students believe they have mastered course content, they may be more likely to think about how to transfer that content. As discussed previously, the students enrolled in the traditional 16-week developmental writing course believed they did not need developmental writing and that they were capable of succeeding in composition. However, students who do not feel confident about their mastery of course content—such as the students enrolled in the corequisite model—may be less likely to think about the transferability of that content.

Students enrolled in the corequisite model expressed a feeling that a lot was riding on their success in composition. For instance, one student stated, "I have to do a good job in 1310 [composition] and not fail." Students

enrolled in the corequisite course talked about having the "chance" or "opportunity" to take first-semester composition. While students expressed being grateful for the opportunity "to be able to take both English credits in one semester," students were also clearly "nervous" or "unsure." For instance, one student stated, "I am nervous for it because I don't know how to write well." Another student stated, "I'm nervous because English has always been hard for me." Yet another student stated, "I am nervous for it . . . I don't think I was prepared in high school for writing college essays." In these examples, students brought up feeling underprepared for college writing, mirroring our discussions about underprepared students in the field of DE.

Being underprepared likely left students unsure and nervous about the expectations in the corequisite composition course, especially at the beginning of the semester. Specifically, students brought up workload, feedback, and grades. As an example of a comment about workload, one student stated, "I am nervous for it . . . I know we will be assigned a lot of papers this year." Another student stated, "It's a lot of work put on me right now and I'm not very used to that." Yet another student explicitly used the term "overwhelmed" to discuss writing papers. Later in the semester, one student explicitly referred to feedback stating, "I'm a little unsure with my writing ability, because I get mixed feedback with my essays." Another student referred to grades stating, "It is hard to have confidence in myself because of harsh grading." Students talked about the grading as being "hard" or "harsh" in comparison to what they were used to. In each of these areas—workload, feedback, and grading—these students were underprepared for the expectations of college-level writing.

Importantly, even those students who were initially unsure or nervous about the corequisite composition course had improved self-efficacy later in the semester. For example, one student stated, "It has been a very long semester, lots of extensive writing . . . very challenging essay prompts, but I managed." Another student stated, "In the beginning it was really challenging, but it helped me to become a better writer."

If we involve students in the conversation about what developmental writing is and should do, then students have buy-in, and we have become a field that is truly student-centered.

Conclusion

In thinking about the improved self-efficacy of students on the bubble who had the opportunity to participate in the corequisite program, I'm reminded of the famous Mike Rose (1989) quote I mentioned earlier: "Students will float to the mark you set" (p. 26). Five years later, I remember these students as being some of the most empowered students I've had the privilege of teaching. All of the students enrolled in this program passed composition, many earned high grades, and, most importantly, these students became leaders in the composition classroom during workshop and other group activities. As a reminder, these students were enrolled in a class with students who placed directly into composition. Yet, it was students who initially placed into developmental writing who became leaders in the composition classroom. As a whole, this program was effective for this group of students. However, the findings of this study are not generalizable due to differing local contexts and student needs. The data do, however, present some interesting implications.

Probably the most notable finding is a mismatch between placement and self-perception of ability for students enrolled both in the traditional 16-week developmental writing course and in the corequisite program. Students enrolled in the traditional course resented being placed in developmental writing and believed they had the ability to succeed in composition while students enrolled in the corequisite program were worried about their preparation and their ability to succeed in composition. Both groups of students came from the same pool of possible participants who were on the bubble. The different feelings these two groups had about placement and their self-perception of ability and preparation have implications for how we place students, how we talk about placement, and even for how we talk about and define college writing and literacy in college, high school, and policy.

As mentioned above, these findings support the assumption among legislators that students on the bubble who are forced to take the traditional 16-week developmental writing course may not be motivated in the course. As such, legislative mandates have the potential to be a positive change in the educational experiences for students on the margin. However, student voices should be a part of those policy changes. For example, students enrolled in the corequisite program expressed concern that they were not adequately prepared for college writing. As such, student voices could provide insight about curriculum changes with regard to the pipeline between high school English and college composition.

Students also need a voice during institutional implementation. The feedback we received from students changed the way we framed our discussion about the corequisite program. For instance, based on the finding that students were motivated by the "chance" or "opportunity" to register for the corequisite program, we sent out opportunity letters inviting students to participate in the program. Based on the finding that students in the corequisite program were unsure or nervous about the expectations in the composition course, the chair of the

department came in to give a pep talk at the beginning of the subsequent semester. We also later housed this program under the Writing Center and moved the teaching responsibilities in the corequisite program to the Assistant Director of the Writing Center. Therefore, students who might have been worried about the expectations of the composition course attended the supplemental seminar in the Writing Center, so that when the seminar ended, they walked out into a room full of additional support.

It is also important to engage student voices in the conversation about how we define and frame developmental writing. That so many students have referred to the traditional 16-week developmental writing course as "pointless" or a "waste," not only in this study but also at many other institutions, has implications for how the work of developmental writing is being framed both inside and outside of our field. Five student scholars from California State University, San Bernardino who were "categorized as remedial" discuss the importance of being involved in conversations about the work of developmental writing and how having these conversations pushed them to "speak out to the academic community about how institutional language constructs students and shapes their relationships with their families, with other students, with professors, and within the professions they plan to enter" (Galindo, Castaneda, Gutierrez, Tejada, Jr., & Wallace, 2014, p. 5). If we involve students in the conversation about what developmental writing is and should do, then students have buy-in, and we have become a field that is truly student-centered. As a result, the positive message about what we hope to accomplish as a field will emanate from these students.

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FEATURE ARTICLE

A Review of Demographic Trends for Texas and the United States

Russ Hodges, *Texas State University*
Emily Miller Payne, *Texas State University*
Emily Suh, *Texas State University*
Patricia Hernandez, *Texas State University*
Na Wu, *Texas State University*
Amarilis Castillo, *Texas State University*
Tamara H. Shetron, *Texas State University*

ABSTRACT

This article provides a review of current and future demographic trends for Texas and the nation including the ongoing discrepancy between enrollment and retention/completion. Students entering postsecondary education embody America's growing diversity in language, ethnicity, age, gender, religion, sexual orientation, ability, and socioeconomic status. Demographic research findings support the importance of the role played by developmental educators in continuing to address the changing needs of students. Recommendations include the need for K-12 and postsecondary developmental educators to continue collaborating on college readiness initiatives, academic support services including career pathway advising, better alignment between 2- and 4-year institutions, developing cultural competence, and continuing research to improve support of underserved and diverse student populations.

Demographic changes in the college-going population typically influence higher education policy and practice, thus it is imperative that educators inform themselves about demographic trends. This article offers a snapshot review of those demographic trends. Texas relies on our citizens to participate in the 21st century digital-age, knowledge-based economy. Educational attainment predictions estimate that 35% of U.S. jobs will require at least a bachelor's degree, and 30% will require some college or an associate's degree (Carnevale, Smith, & Strohl, 2013). Nationally, healthcare support, community services and arts, and careers in the STEM field (science, technology, engineering, and mathematics) will be the fastest growing occupational clusters. Together, these occupational groups are expected to account for more than 5.3 million new jobs by 2022, about one-third of the total employment growth (U.S. Department of Labor, 2013; Carnevale et al., 2013). Texas, the second largest state in the U.S. in square miles and in population, has a gross domestic product (GDP) of $1.6 trillion and is the second largest state economy in the U.S. (Forbes, 2017). Viewed globally, Texas ranks 11th for GPD just behind Canada (Perry, 2015). However, an undereducated workforce is a factor that can keep Texas from future economic growth. As early as 1997, Texas state demographer Steve Murdock posited that the Texas economic and political edge will decline by 2030 if educational attainment issues were not dealt with successfully (Tajalli & Ortiz, 2017).

Population Growth

Even though the population of the U.S. has slowed in growth from 2015 to 2016 to just over 323 million people, a 0.7% increase, which is the lowest annual expansion in 80 years, some states (e.g. Utah, California, Washington, Arizona—among other Southern and Western states) including Texas have experienced substantial gains. Since 2000, the Texas population has increased by 12.7%, 28 million in 2016, second only to California's 39 million in total population (U.S. Census Bureau, 2016b).

Trends in immigration and birth rates also indicate that soon there will be no one majority ethnic group in the U.S.—that is, no one group that makes up more than 50% of the total population. In Texas, this demographic shift has already occurred. Hispanics currently make up 39% of the general population, African-Americans 13%, Asians 5%, Native Americans 1%, and White non-Hispanics 42% (U.S. Census Bureau, n.d.a).

The U.S. population has continued to grow older, with many states reaching a median age of over 37.9 years in 2016 (The Statistics Portal, 2018). In Texas, there is a noticeable difference in median age between White and Hispanic populations. According to the U.S. Census Bureau (n.d.a), the median age of White Texans in 2011 was 41, while the median age for Hispanics was 27 (Halebic, 2012). The young Hispanic population offsets the older White population in Texas making the median age of all Texans 33, lower than the U.S. average of 38

years (U.S. Census Bureau, n.d.a). These demographic changes indicate that K-12 and postsecondary education will be serving a growing majority-minority student population.

The gender ratio at birth in the U.S. is currently 105 males for 100 females; however, mortality at every age is higher for males. Within the U.S. population, this results in more males at younger ages and more females at older ages (Howden & Meyer, 2011).

K-12 Enrollment

Nationally, approximately 50.7 million students entered public elementary and secondary schools for the Fall 2017 term (National Center for Education Statistics [NCES], n.d.). In Texas, in 2017, nearly 5.4 million students were enrolled (Texas Education Agency, 2017a). In 1940, approximately 25% of the U.S. population 25 years old and over had completed high school compared to 88% in 2015 (Ryan & Bauman, 2016). The Texas rate was a little better than the national average reaching 89% (Texas Education Agency, 2017b). However, within the next decade, enrollment changes are predicted to vary by state with a few states experiencing swift public elementary and secondary school enrollment expansions greater than 15% (e.g. Colorado, Texas, and Utah) while others will experience enrollment losses of 10% or more (e.g. Maine, Michigan, New Hampshire, Connecticut, and Vermont) (NCES, 2018). These changes are closely tied to declining birth rates for Whites in the wake of the Baby Boom Echo and changes in populations by regions.

Texas K-12 enrollment increased almost 17% between 2006 and 2016 (Texas Education Agency, 2017a). In 2016, state totals for student demographics showed that 52% of students were Hispanic, 28% White, 13% Black, 4% Asian, 0.4% Native American, and less than 0.1% Pacific Islander (Texas Education Agency, 2016).

Postsecondary Enrollment

In Fall 2017, total undergraduate enrollment in degree-granting postsecondary institutions reached 20.4 million students (U.S. Department of Education, 2017a). Yet, between 2011 and 2016 nationwide, the total number of enrolled college students fell every Fall. This trend will likely continue over the next 10 years (Hildreth, 2017). Texas enrollment for the Fall of 2017 in public and private universities was approximately 1.66 million students (Texas Higher Education Coordinating Board [THECB], 2018).

Demographic researchers have forecasted that between 2015 and 2026, part-time undergraduate enrollment will increase by 15%, a faster increase than the 13% projected for full-time undergraduate enrollment (McFarland et al., 2017). According to the THECB, postsecondary enrollment is expected to increase 8.3% between the years 2015 and 2020 at Texas public universities, and another 5.2% from 2015-2025, and an additional 3.7% between 2025-2030 (THECB, 2017).

Hispanics are the nation's largest minority group at 56.6 million, which is 17.6% of the U.S. population (U.S. Census Bureau, 2016a). The trend for Hispanic postsecondary enrollment is forecasted to continue between 2013-2024, with an increase of 25% nationally (Hussar & Bailey, 2016), and by the middle of the 2020-2029 decade, 1 in 4 college graduates will be Hispanic (Bransberger & Michelau, 2016). As for other groups, between 2013 and 2024, enrollment is predicted to increase for the following groups: White, 7%; Black, 28%; Asian and Pacific Islanders, 10% (Hussar & Bailey, 2016). Texas Hispanic enrollment in college in Fall 2017 was nearly equal to that of non-Hispanic Whites at 36.8% and 35.5% respectively. Black enrollment was 13.4%, and other ethnicity categories totaled 14.3% (THECB, 2018).

> Throughout the professions' history, developmental educators and learning assistance professionals have been at the forefront in creating access, developing new pedagogies for teaching, and innovating academic support programs designed to support a diverse array of college students.

In 2015, 11.8 million students under age 25 and 8.1 million students 25 years old and over attended U.S. institutions of higher education. Both the number of students who are younger and older increased between 2000 and 2015 (U.S. Department of Education, 2017a). Aud et al. (2011) posited that between 2013 and 2020, college enrollment is projected to increase 5% for 18- to 24-year-olds, 16% for 25- to 34-year-olds, and 17% for students 35 years old and older.

The current trend of females outnumbering males in enrollment and completion is projected to continue. In 2015, 43% of women ages 18-24 enrolled in undergraduate or graduate programs, compared with just 38% of men in the same age group (McFarland et al., 2017).

Students First in Their Generation to Attend College

Students who are first-generation to enroll in college in the U.S. comprise roughly 34% of the undergraduate population in 2011-12 (Postsecondary National Policy Institute, 2016). In 2012, the highest percentage of first-generation college students were White, followed by Hispanic, Black, Asians, and students of other races. In addition, a higher percentage of these students were native speakers of English (78%) than of any other language (Redford & Hoyer, 2017).

Students who are first-generation are not automatically presumed to be underprepared, but many come to college with limited background knowledge about the college culture, and students who are first-generation are less likely to enroll in higher education than students whose parents went to college (Engle & Tinto, 2008; Ward, Siegel, & Davenport, 2012). Previous research has

found that students who are first-generation had higher rates of departure through their college years than their counterparts and were less likely to complete their degree programs in a timely manner (Ishitani, 2006). In fact, students who are low-income, first-generation were nearly four times more likely to leave college after their first year than those with neither of these two risk factors (Engle & Tinto, 2008). Bowen, Chingos, and McPherson (2009) found that even when they controlled for students' test scores in reading and math, the graduation rate of students who are first-generation was 18% lower than that of college-goers who are non-first-generation. Studies have also indicated that students who are female first-generation are more likely to complete college than their male counterparts (DeAngelo, Franke, Hurtado, Pryor, & Tran, 2011).

Student Veterans

Since the close of the Second World War and continuing through the Korean and Vietnam conflicts and the war in Iraq, the GI Bill has afforded veterans an opportunity to attend postsecondary programs for decades, easing the transition from military life to that of a civilian workforce (Cate, 2014). The Montgomery GI Bill, also referred to as the Servicemen's Readjustment Act of 1944, was signed by Franklin D. Roosevelt as a means of reintegrating veterans returning from World War II by affording them the opportunity to attain a college degree (Bennett, 1996). *Student veteran* is defined as "active-duty service members, reservists, members of the National Guard, and veterans" (Queen & Lewis, 2014, p. 1). Ninety-six percent of postsecondary institutions for the 2012-13 academic year reported enrolling students who are veterans, and 82% of these institutions had a point of contact to serve their unique needs (Queen & Lewis, 2014). In 2013, over 1 million student veterans used their GI benefits to pursue postsecondary educational benefits, up from 500,000 in 2009, with expected enrollment estimated to increase by 20% over the next few years (VA Campus Toolkit Handout, 2014).

The Million Records Project (Cate, 2014) tracked 1 million student veterans between 2002 and 2010, and of those, 73% were male, 62% were first-generation, and 85% were non-traditional with many student veterans supporting families and juggling employment and school. Schuetze & Slowey (2002), in their comparison of traditional and non-traditional students in higher education, defined as non-traditional those students who, for a variety of economic, cultural, and social reasons, were historically excluded from or underrepresentd in postsecondary education. Despite enrollment interruptions due to military obligations or challenges for those with service-connected disabilities, nearly 52% of student veterans within this study earned a degree or certificate within a 4- to 5-year period.

A greater percentage of Texas veterans are non-Hispanic Whites (66.9%) and African Americans (13%) compared to non-veterans (45.7% and 11.8%, respectively). Approximately 17% of the Texas veteran population is Hispanic (Texas Workforce Investment Council, 2016). More veterans in Texas (28%) have a bachelor's degree or higher or are continuing their postsecondary education compared to all other states and territories (25%). Texas student veterans' enrollment is approximately 6% of students enrolled while the national average is 5% (U.S. Census Bureau, n.d.b).

Texas offers a unique educational benefit to Texas veterans called the Hazelwood Act. The Hazlewood Act provides up to 150 hours of coursework that exempts tuition and most fees at public institutions of higher education in Texas (Texas Veteran's Commission, 2018). The Act is an added incentive for veterans to pursue higher education in Texas. Student veterans form a part of the growing diversity on campuses across the nation and in Texas, and postsecondary institutions have a responsibility to assess these students' readiness for college-level work.

English Language Learners

With over one-quarter of the U.S. population being foreign-born or having at least one foreign-born parent, it is not surprising that the country is frequently referred to as a nation of immigrants. In fact, in 2013, foreign-born residents made up 13% of the U.S. population, a percentage reflecting a slow but steady increase (Trevelyan et al., 2016). Nearly half (46%) of the nation's first- and second-generation immigrants are of Hispanic origin. Among the 60.6 million 2011 census respondents who reported speaking a language other than English at home, 35.2 million (58.2%) reported speaking English "very well" as opposed to 15.4% and 7.0% who reported speaking English "not well" or "not at all respectively" (Ryan, 2013).

Students who speak a language other than English at home are tested upon their entry into the public school system and may receive special services for English Language Acquisition (commonly referred to as English as a Second Language [ESL]). While these students attend ESL classes or receive language monitoring, they are referred to as English Learners (ELs) or English Language Learners (ELLs). During the 2014-2015 academic year, an estimated 4.6 million students (9.4% of all public school students) nationally participated in language assistance programs (McFarland et al., 2017). These students speak over 400 different languages although more than three-quarters spoke Spanish as a first language in 2014-2015; the next most common non-English languages were Arabic, Chinese, and Vietnamese (U.S. Department of Education, 2017b).

Texas has a long history of Hispanic-background residents and a checkered but proud Spanish and English linguistic history (Valencia, 2000). Between 2005 and 2013, Texas experienced a decline in Latin America-born migrants, but this decrease was nearly offset by increases in Asian-origin migration; currently, Latino birthrates continue to outpace those of other ethnic groups (White et al., 2015). Approximately one out of every six Texas residents was born in a foreign country; based on size and composition, the state's foreign-born population is more international than at any time in its history (White et al., 2015).

In 2009, 4.8 million children (35.4%) in Texas K-12 public schools spoke a language other than English at home (Aud et al., 2011). In line with the state's ethnic makeup, the majority (91%) of these students spoke Spanish; making up the next largest group, Asian or Pacific Islander languages were spoken at home by approximately 5% of students (Aud et al., 2011). Although many children spoke a language other than English at home, only 18.8% of Texas' multilingual student population receives bilingual or ESL instructional services (Texas Education Agency, 2017c), and only 8.5% are classified as Limited English Proficient (Aud et al., 2011). The majority of Texas' multilingual students either receive monitoring or do not receive additional support. Many of these students are born in the U.S. and are considered English proficient before graduation (Cortez & Villarreal, 2009). In fact, the Hispanic student graduation rate has increased at a rate exceeding increases in the group's population gains (Bransberger & Michelau, 2016).

Although the National Center for Educational Statistics tracks K-12 students' language backgrounds and postsecondary student racial/ethnic background, reports like McFarland et al.'s *The Condition of Education* (2017) or even specially commissioned reports on access in higher education do not include demographic information regarding postsecondary students' home language(s) (McFarland et al., 2017; Ross et al., 2012). The lack of national data on college students' language background may be due in part to the absence of federal government resources for tracking and serving linguistically diverse students in college and also to college entrance requirements which include certain levels of English language proficiency. As a result, limited data track students' postsecondary enrollment and competition by language background.

Texas is educating a growing number of multilingual students. The state faces many challenges in meeting the linguistic needs and honoring the cultural and linguistic resources these students bring to their classrooms; however, these challenges do not end within the K-12 system. Although the vast majority of the state's multilingual students no longer require special services by the time they reach college, such students perform better and are retained at higher rates when their college classes and campuses honor their multilingualism and multiculturalism (Castellanos & Gloria, 2007; Oseguera, Locks, & Vega, 2008; Tierney & Jun, 2001).

Student College Readiness Estimates

Projections of college readiness is a complicated student characteristic to assess. Whether states rely on a single assessment instrument for placement of students who are deemed college ready and placed in college credit courses, or on multiple indicators of preparedness, many other readiness factors must be considered: point of entry (2-year or 4- year institution, public or private institution), selectivity of the institution, and students' academic goals and fields of study are only a few factors to consider in the projection of college readiness. Interestingly, past research has indicated that students' academic achievement by 8th grade is one of the best predictors of college readiness—even more so than high school achievement (ACT, 2008).

Complication of developmental education student enrollment as a proxy for college readiness is further exacerbated by lack of standardized assessment, placement, outcomes, and instructional practices. Aud et al. (2011) reported that 36% of students overall and 42% of students in their first year in community college take at least one developmental course. More recently, Complete College America's (2012) *Remediation: Higher Education's Bridge to Nowhere* reported that more than 50% of students entering 2-year colleges and nearly 20% of those entering 4-year universities are placed in developmental courses. Thus, using multiple college readiness indicators and those specific to a particular region or institution is best when assessing college readiness (Bailey & Dynarski, 2011).

These highly structured guided pathways require more intrusive advising and integrated support services to be afforded to students.

Since Fall 2013, placement into developmental courses in Texas is made based upon results of the *Texas Success Initiative Assessment* (*TSIA*) with exemptions made based upon a student's performance on SAT, ACT, Texas Assessment of Academic Skills (TAAS), Texas Learning Index (TLI), Texas Assessment of Knowledge and Skills (TAKS),and State of Texas Assessment of Academic Readiness (STAAR) as well as exemptions for transfer students and veterans. Currently, approximately 60% of Texans applying to 2-year schools in Texas and approximately 18% applying to 4-year schools in Texas are not college ready. Success rates for completion of developmental courses for a 2013 cohort were 37% in reading, 31% in writing, and 15% in math (THECB, 2018). Graduation rates for students in 2-year colleges who placed into developmental education are just 36% after three years of attendance compared to 57% of students who enter college-ready (THECB, 2018).

First-Year Retention and Persistence

Large numbers of students are not returning to college after their first year. The National Student Clearinghouse Research Center (NSCRC, 2017) defined the college student *persistence rate* as the percentage of students who return to college at any institution for their second year, while the *retention rate* is defined as the percentage of students who return to the same institution for their second year. According to NSCRC (2017), the overall persistence rate for first-time students has increased by 1.9% between 2009 and 2015, while the retention rate

has remained approximately 13 points lower than the persistence rate. Of all first-time students who started in Fall 2015, 73.4% returned to college in Fall 2016 with 61.1% returning to the same institution. Thus, about one in eight students who start college in any Fall term transfers to a different institution by the following Fall (NSCRC, 2017). Between 2009 and 2015, persistence rates for students age 20 or under at college entry were 78%. For students age 20-24 at entry, the persistence rate was 57.8%, and for students over 24 at college entry, the persistence rate was 52.7% (NSCRC, 2016). Student enrollment for the second year is now a prime indicator of college completion (NSCRC, 2017). Unfortunately, retention rates for minority students do not match enrollment rates. In 2013, the dropout rate for Hispanics was 13%, higher than the dropout rates for White students at 5% and Black students at 7% (NCES, n.d.).

In Texas, first-year retention (using the federal definition for retention) in public institutions falls below the national levels in public postsecondary institutions. First-year 2015 retention for 2-year public colleges was 52.3%, compared to the national average of 53.9%. First-year 2015 retention for 4-year public colleges was 77% compared to a national average of 80.5% (National Center for Higher Education Management Systems [NCHEMS], 2018).

Degree Completion

The country's college degree attainment has steadily declined compared to other nations. In 1990, the U.S. ranked first in the world in 4-year degree attainment among adults 25 to 34 years of age; however, today the U.S. ranks 12th (Ryan & Bauman, 2016). While half of all people from high-income families from the U.S. have a bachelor's degree by age 25, just 1 in 10 people from low-income families do (Bailey & Dynarski, 2011). Degree completion predictions are most interesting as the total number of associate's degrees is projected to increase 14% between Fall 2013 and Fall 2024 (Hussar & Bailey, 2016). The lower cost of attending community college is likely driving this rapid increase. A more modest increase of 10% will occur for bachelor's degree completions over this same period (Hussar & Bailey, 2016).

Texas has made progress—to some degree—increasing certificate and degree completion of its citizens based on results cited in *Closing the Gaps by 2015* (THECB, 2017). In the year 2015, postsecondary institutions awarded approximately 250,000 bachelor's degrees, associate degrees, and certificates—nearly 130,000 more than in 2000 (THECB, 2016).

Texas has a 6-year graduation rate from 4-year institutions of approximately 53%, which places Texas 31st in the nation for graduation completion compared with the top state rate in Massachusetts of 71% and the lowest state rate of 40% in Alaska. Texas students have a 6.9% graduation rate from 2-year schools (THECB, 2018).

Across the country, postsecondary education is under pressure from legislatures and taxpayers to increase graduation rates, and Texas is no exception. In the current state plan for 2- and 4-year colleges, *60x30 Higher Education Plan (60x30TX)*, the primary focus is on not only increasing completion but also doing so in fewer years with fewer course credits and culminating in degrees that are aligned with labor market demands (THECB, 2018).

Recommendations

The traditional model of college is changing, especially the full-time residential model (Postsecondary National Policy Institute, 2016; Van Der Werf & Sabatier, 2009). What opportunities exist to support students' access and success to an evolving higher education system based on demographic prediction trends for the state of Texas? A list of recommendations follows to guide researchers, policymakers, and practitioners.

Helping More Students Become College-Ready

The *60x30TX* higher education strategic plan's overarching goal states, "By 2030, at least 60% of Texans ages 25-34 will have a certificate or degree" (THECB, 2018). The plan is designed to ensure college readiness in Texas is competitive nationally. To meet this goal, Texas students should be college- and career-ready by high school graduation and preferably assessed for college readiness beginning no later than 10th grade. If not, transition programs, early boot camps, and other college readiness interventions should be implemented. K-12 and postsecondary collaborators should also continue to promote early college- and career-readiness programs allowing students to participate in early college high school programs earning up to 60 hours of college credit by the time they graduate.

Advising and Designing Guided Pathways

Continued advising in K-12 and postsecondary education should emphasize the labor market growth areas for students such as in health care and STEM professions. With the charge to streamline the process of moving students into career-oriented certification and degree pathway programs, K-12 and colleges should continue to collaborate on academic and career advising before students reach postsecondary education. In fact, students should prepare to make career choices in junior high and high school.

Many community colleges are redesigning their program offerings to allow students to select from a much narrower sequence of options. These highly structured guided pathways require more intrusive advising and integrated support services to be afforded to students. Guided pathways provide students with a clear roadmap to on-time completion, offering personalized guidance to help students stay on track. Some pathway models include features such as block scheduling and prescribed curricula (Bailey, Jaggers, & Jenkins, 2011).

Better Alignment Between 2- and 4-Year Programs

While the majority of community college students indicate they want to earn a bachelor's degree or higher (81%), only 33% actually transfer to a 4-year institution within 6 years (Jenkins & Fink, 2016). Of those 33% who do transfer to 4-year colleges, 42% complete a bachelor's degree within 6 years (Jenkins & Fink, 2016). One possible reason for this low transfer rate is that many 2- and 4-year programs have established transfer agreements, but Texas statewide policy and oversight needs to assure that

transfer students can avoid retaking the same courses. In some cases, non-core community college courses are often accepted but not as credit toward a major (Jenkins & Fink, 2016).

Meeting the Changing Needs of Students

College students often work while in college to support themselves, to support families (taking care of their children or as caregivers for parents and grandparents), and come from low-income backgrounds more so than in earlier generations. Currently, only half of today's students fit into the traditional age cohort between 17 and 21 years of age (Bill & Melinda Gates Foundation, n.d.a). Students are also more mobile as more than half of bachelor's degree recipients attend more than one institution, many stopping out for periods of time, before graduating (Van Der Werf & Sabatier, 2009; Wexler, 2016). For this reason, community colleges will continue to appeal to many students, especially part-time students.

Many colleges without strong identities or brand names will need to transform to appeal to more part-time, adult, and diverse students, especially those wanting to learn primarily through digital and hybrid technology formats (Van Der Werf & Sabatier, 2009). With nearly 3 million students currently enrolled in fully online degree programs and 6 million taking at least one online course as part of their degree program, online education is in demand (Open Education Database, n.d.). Online courses offer many benefits including more flexible learning approaches such as active- and project-based learning, access to courses that are over capacity, and to accommodate students who live in rural areas, those with special needs, and veterans currently serving in the military. Yet, students should have strong self-regulatory abilities and be self-directed to persist in online courses.

Many colleges without strong identities or brand names will need to transform to appeal to more part-time, adult, and diverse students.

Helping Underserved Students

For Texas students who come to college underserved by their previous high school experiences, postsecondary education researchers and practitioners should continue to focus research efforts on how best to prepare students academically. While studies (Aud et al., 2011; Bailey, Jaggers, & Jenkins, 2011; Goudas & Boylan, 2012) have found the use of single standardized placement assessments and stand-alone remedial courses often ineffective, researchers from Texas postsecondary institutions should continue to investigate the effectiveness of the *Texas Success Initiative Assessment* (*TSIA*). It is important to acknowledge that the College Board's 2016 validity study of the *TSIA*, conducted to establish the predictive placement validity of each of the tests, confirmed the reading and mathematics benchmarks while informing the recalibration of the writing score (College Board, 2016).

Postsecondary institutions should continue to implement innovations to support students needing basic skill instruction by adopting new reforms— such as compressed, integrative, contextualized, and linked course formats. For example, linked courses, often referred to as *learning communities*, allow cohorts of students to co-enroll in two or more courses (e.g., pairing developmental mathematics with a student success course integrating assignments and assessments). Additional hybrid approaches combine face-to-face and digital modular curriculum components. Importantly, colleges should offer an array of high-impact supports in tandem with coursework that span students' academic careers offered during the day, evening, and weekend hours (e.g., guided pathway advising, mentoring, coaching, counseling, and tutoring) (Bailey & Dynarski, 2011; College Board, n.d.; MDRC, 2017; Tajalli & Ortiz, 2017).

The THECB has funded several initiatives to improve delivery of developmental education programs and services. Among examples of THECB-initiated innovations are the Comprehensive College Readiness and Success Models for *60x30* (CRSM) that support scaling comprehensive strategies to meet the goals of the *60x30* plan (THECB, 2016) and the *Comprehensive Student Success Program (CSSP)* (THECB, 2018). One programmatic innovation mandated by the 85th Texas Legislature to commence in 2018, for example, is the new Texas corequisite initiative in which students who enter with *TSIA* scores within an institutionally-determined "bubble range" (Daugherty, Gomez, Carew, Mendoza-Graf, & Miller, 2018, p. 7) are eligible to enroll in a developmental course or non-course-based option along with the matching college-credit course. The corequisite model may show promise, but that, like many other initiatives as mentioned above, requires careful study. The corequisite model in Texas is being implemented in a phased-in initiative with institutions through 2020 (HB2223, 2017).

Developing Cultural Competence

Given changing demographics in Texas and the nation, educators should advocate for institutions to commit to supporting access to higher education for all diverse groups of students. Specifically, retaining students begins with an appreciation for the intersectional nature of the students' postsecondary experiences which are influenced by their academic preparation (Swail, Redd & Perna, 2003), the racialized contexts of higher education institutions (Hurtado, Milem, Clayton-Pederson, & Allen, 1998), campus climate (Torres, 2006), and their outside-of-school roles and responsibilities (Sáenz, Bukoski, Lu, & Rodriguez, 2013), among other factors. Importantly, as Hurtado and Ponjuan (2005) noted, "Actual experiences in

the college environment play a more important role than student background in predicting perceptions of a hostile climate for diversity" (p. 244). Developmental educators and administrators should reaffirm their commitment not only to crafting diversity statements but also to embedding diversity into students' experiences throughout institutions of higher learning.

Colleges should become more accessible by not only being more affordable but also by creating a *college-going culture* by adopting promising practices in recruiting and retaining students of color with special emphasis on males, students first in their families to attend college, and adult students returning to college for new career options and enhancement. Additionally, efforts must continue to serve student veterans and their families, students with disabilities, students that identify as LGBTQIA+, and those students gaining English proficiency.

Texas educators should enhance their cultural awareness to foster learning environments that promote an ethical responsibility for self and others, encourage meaningful discourse where multiple ways of knowing are seen as valid, and use sensitive techniques when teaching and assessing learning. Importantly, Texas educators of the 21st century should support students' intellectual development to learn and excel within a diverse educational community and to support the development of students' social and interpersonal skills that are needed to interact effectively within such a community.

Students entering postsecondary education embody America's growing diversity in language, ethnicity, age, gender, religion, sexual orientation, ability, and socioeconomic status, among others. Throughout the professions' history, developmental educators and learning assistance professionals have been at the forefront in creating access, developing new pedagogies for teaching, and innovating academic support programs designed to support a diverse array of college students. Texas educators should address students' needs with changes in campus infrastructure, enrollment planning, and curricula that fits the labor market needs and changing demographics. The discrepancy between enrollment rates and retention and completion rates highlights this critical call for continued interventions and use of promising practices that are student-centric, highly personalized for each learner, and more productive to deliver dramatically better results at the same or lower cost. The future of Texas depends on it.

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Taking the First Steps Towards 100% Implementation of the Corequisite Model

Cindy Allen
Anita Biber
Angela Chilton
Leslie Johnson

ABOUT THE AUTHORS

Cindy Allen *is an instructor in the Academic Foundations department on the Northwest Campus of Tarrant County College. She currently teaches Integrated Reading and Writing and English courses. She previously taught English at Idaho State University and worked with pre-service teachers at the University of Idaho.*

Anita Biber *is an instructor in the Academic Foundations department on the Northwest Campus of Tarrant County College. She currently teaches Integrated Reading and Writing courses. She also works closely with the ESOL program.*

Angela Chilton *is an Associate Professor of English and is the Academic Foundations department chair at the Northwest Campus of Tarrant County College.*

Leslie Johnson *is an instructor in the Academic Foundations department on the Northwest Campus of Tarrant County College. She currently teaches Student Success and Integrated Reading and Writing courses. She is the coordinator of the Student Success Courses and works closely with the Academic Learning Center on their Embedded Tutoring program.*

Getting Started

Texas House Bill 2223 (2017) was developed to accelerate underprepared students' persistence and successful completion of credit-bearing college-level courses. The initiative requires that a certain percentage of underprepared students enrolled in developmental education be reported as enrolled in a corequisite course. Underprepared students are identified through their Texas Success Initiative Assessment (TSIA) scores in reading, writing, and math. Required of all new to college students, the Texas Success Inistiative (TSI) was created to help colleges and universities identify students who need additional support before attempting college-level course work. This new corequisite mandate allows underprepared students to enroll in entry-level college courses and requires co-enrollment in a developmental education course/intervention designed to support the student's successful completion of the college-level course (TX HB2223, 2017).

At the Northwest Campus of Tarrant County College (TCC) , we began to research how to make the new mandate work for students. At the first point of entry, we considered the "effectiveness of the remedial courses in which a large proportion of entering community college students enroll" (Venezia and Hughes, 2013, p. 37). We wanted to make sure the effectiveness of our program was evident and that students felt better prepared as they began taking college-credit courses. The corequisite model was appealing since community colleges are aiming to decrease remediation time, consequently connecting students with certificates and degrees more quickly (Venezia & Hughes, 2013, p. 37).

Early research suggested that students are "not harmed by tackling slightly more difficult coursework than their test scores suggest they can handle" (Bailey, Jaggars, & Scott-Clayton, 2013, p. 24). Jones (2015) built on this idea: "The best way to support students who are currently placed into developmental education is to put them directly into college-level courses with additional academic support" (p. 26). Giving students support and strategies they can immediately put into practice is becoming much more popular, and based on these previous reports, it seems to be worth trying.

With this research and in anticipation of the HB 2223 mandate, our campus chose to offer four different types of corequisite pairings during Spring 2018. As shown in Table 1, we ran a total of six sections as corequisites. Students could choose between an English Composition, General Psychology, or U.S. History I course, each paired with an Integrated Reading and Writing (INRW II) support course. Campus administration agreed to allow small sections and to take special consideration of student success rates. Schedules of the college-level course instructors dictated most of the offerings. In all, the pilot ran with three college-level course instructors and three instructors from the Academic Foundations, TCC's department that works with underprepared and TSI reading- and writing-liable students.

Giving students support and strategies they can immediately put into practice is becoming much more popular, and based on these previous reports, it seems to be worth trying.

Table 1
Four Varieties of Corequisite Pairings Offered Spring 2018.

TCC Course	Sections offered	Transfer Course/ Length of Course	Support Course/ Length of Course	Shared Students/ INRW II Cap
PSYC 2301	2	General Psychology 16 weeks (T/TH)	INRW II 16 weeks (T/TH)	8/20
ENGL 1301	1	General Composition I 16 weeks (M/W)	INRW II 16 weeks (T/TH)	5/15
ENGL 1301	1	General Composition I 16 weeks (T/TH)	INRW II 8 weeks (T/TH) 8 weeks NCBO	10/15
HIST 1301	2	History of the U.S. I 16 weeks (T/TH)	INRW II 16 weeks (T/TH)	8/20

Note: The term *NCBO* refers to a *non-course-based option*, which at TCC allows a student to take a course with an added tutoring component. Students are not charged for the NCBO, but it allows additional support in their college-level course.

Initially, INRW I instructors nominated students into the corequisite model. Registration was a manual process involving the student, an advisor, two administrative assistants, and the registrar. The process was unsustainable, but it offered the opportunity to work and brainstorm with various departments, a process that would be fundamental in the successful implementation of future courses. Collaboration among faculty, advisors, section builders, deans, and the college's registrar were essential to streamline a systematic registration process that offers linked corequisite sections in TCC's online system for students and faculty. In Fall 2018, students will be able to self-register for their sections.

Serendipity

This pilot identified some key elements.

- The college-level course instructor must be a willing participant in the model. Our current faculty partners are ideal for this program because they currently employ other student support programs such as Supplemental Instruction (SI), the free academic enrichment program designed to help students succeed in historically difficult courses, detailed study guides, and other intervention tools. As the faculty give campus-wide presentations on this new model, additional faculty ask to partner with us, giving us targeted growth opportunities. Our goal is to increase our faculty partners while ensuring selected faculty will welcome and support students as they complete each course.
- Communication between the college-level course and INRW instructor is vital. Whether these were conversations, curriculum collaboration, emailed class re-caps, or simple text/email follow ups, we quickly realized that a *blind model* was not in the best interest of students. We informed students at the onset that their transfer-course instructor volunteered for the model and was equally supportive of their success. The course syllabus alerted students to the cross-discipline collaboration and shared information.
- Note taking, active reading, and study strategies should be front-loaded within the first few weeks of the course using the college-level course material. Although, initially, it felt like we abandoned the INRW course, using the textbook and readings from the college-level course intensified applicability and motivation. Students needed to see the immediate connection and experience success in their other course. Students shared that their perception of feeling prepared for a group discussion counted as a success, and they not only saw but also felt the benefits of the study and preparation strategies.

Looking Ahead

In Fall 2018, our campus will offer almost half of the sections of our higher-level course with the corequisite model with a goal of 100% by Spring 2019. All current instructors have re-enlisted, and another history instructor has expressed interest as well. The benefit of our piloting a Spring 2018 roll-out is the opportunity to reassess and regroup over the Summer and codify some of our best practices. For Fall 2018, instructors will anticipate the other discipline's content and be able to prepare additional supplemental material. We will then begin preparations for creating corequisite courses for Composition I and INRW 0395, our lower-level course, to launch Spring 2019. As we take the model full scale, we anticipate changes in dynamics. The pilot model has afforded the opportunity to identify the key elements and focus on curriculum development. Overall, we continue to focus on student success as we accept these new challenges connected with corequisite implementation.

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Using a Corequisite Composition Workshop to Accelerate Students

Andrea A. Berta

ABOUT THE AUTHOR

Andrea A. Berta *has a B.A. from the University of Texas at El Paso (UTEP) and an MLIS from the University of Texas at Austin. In 1985, she began her career at UTEP as a tutor and became a teacher in 1986. Currently, she is Director of the Developmental English Program at UTEP. She has taught Developmental Reading and Writing, Integrated Reading and Writing, Seminar in Critical Inquiry, Freshman Composition, Study Skills, Business Communication, and Technical Writing. In her spare time, she likes to garden and read.*

When the State of Texas passed House Bill 2223 (2017) requiring institutions of higher education to place 25% of their developmental students into a college-level corequisite course by Fall 2018, some Texas colleges and universities had corequisites already in use. The University of Texas at El Paso (UTEP) was one of those institutions. Since 2002, UTEP has had its highest-level developmental writing students in a corequisite course, English 0111 (N. Gallarzo, personal communication, July 17, 2017). Since that time, English 0111 has prepared students to successfully meet the requirements of college-level writing courses.

In "An examination of the impact of accelerating community college students' progression through developmental education," Hodara and Jaggars (2014) refer to several studies that show that the longer students are in remediation, the less likely they are to graduate with a college degree. Accordingly, Developmental English faculty members at UTEP in 2001 searched for ways to decrease their students' time in remediation (K. Mangelsdorf, personal communication, January 18, 2018) and created the English 0111 Composition Workshop in 2002. English 0111 mainstreams students who score within a few points of passing the Texas Success Initiative Assessment (TSIA), the placement test mandated by the Texas Success Initiative (TSI), into the first-semester college-level writing course (FYC). The TSI is a program that determines college-readiness standards in reading, writing, and math. In addition to increasing their likelihood of graduation, mainstreaming saves students time and money (Rutschow & Schneider, 2011). Students who are mainstreamed, who ordinarily would take a three-hour developmental writing course, no longer spend a full semester in Developmental English before beginning their FYC course. Furthermore, these students only pay for a one-hour Developmental English course rather than a three-hour course.

Iterations of English 0111

The English 0111 course taught in 2002 greatly differs from the course taught today. Revisions to the FYC course, legislative changes, and concerns over varying instructional practices (course drift) have all contributed to changes in the content and delivery of English 0111. Today, because of legislative changes (THECB, 2018), faculty and administrators in Texas are looking for ways to create or redesign corequisite courses. As a result, a look at the different iterations of English 0111 may prove fruitful for institutions of higher education in the process of developing or revising a corequisite writing course.

First Iteration

The initial structure of English 0111 was similar to the structure used in the adjunct workshop at California State University, Chico (K. Mangelsdorf, personal communication, January 18, 2018). Rodby and Fox (2000) describe the Chico workshop as a one-credit course that met for 50 minutes two times a week; even though the workshop did not count toward graduation credit, students could apply that one-hour credit to "financial aid or athletic eligibility" requirements (p. 88). According to Rodby and Fox (2000), the rationale behind the workshop was that students felt they were getting more value from the course if it carried college credit. The bi-weekly format provided time for students to seek help on issues related to FYC and for instructors to address those issues (Rodby & Fox, 2000). Registration into FYC used a mixed-ability approach, where students in each section of the workshop came from different sections of FYC. This enrollment strategy allowed them to take FYC with students who did not need remediation—ensuring that these students were completely mainstreamed into FYC (Rodby and Fox, 2000).

English 0111 instructors in this first iteration of the workshop began each class session by asking students what they were working on in FYC and what questions they had. Instructors then addressed these needs and spent time working with students on a one-on-one basis, giving feedback on drafts, or by giving students time to respond to their peers' papers. When time allowed, instructors would cover issues frequently encountered by FYC students, such as grammar and mechanics issues. Because English 0111 met two days rather than the traditional three days, faculty members held office hours on the third day, encouraging students to bring drafts in for feedback.

Initially, the students who placed into English 0111 included those who had already passed the placement exam but only by a narrow margin. In 2006, however, faculty teaching English 0111 determined these students could perform well in the FYC

course without the additional support from the workshop. Thus, UTEP changed the placement standard: students who failed the placement test by a few points, or *bubble* students, became the sole targeted student population for English 0111. This change also ensured Developmental English's compliance with the Texas Success Initiative (TSI).

Today, because of legislative changes, faculty and administrators in Texas are looking for ways to create or redesign corequisite courses.

Second Iteration

Although the course was designed to be somewhat flexible in terms of content, administrators became increasingly concerned over course drift. The National Center for Academic Transformation (2005) defined course drift as "what happens when individual instructors teach the course to suit their individual interests rather than to meet agreed-upon learning goals for students, resulting in inconsistent learning experiences for students and inconsistent learning outcomes" (p. 1). With several sections of the course offered each year and several instructors teaching those sections, course drift was evident in English 0111.

Searching for ways to reduce course drift, in 2007, Developmental English applied for and received a Texas Higher Education Coordinating Board (THECB) redesign grant to transition English 0111 into a hybrid course, which resulted in the second iteration of English 0111. The decision to redesign English 0111 from a completely face-to-face course to a hybrid course was not without controversy. Some Developmental English faculty members believed turning the course into a hybrid course with standardized course content and assessments would reduce or eliminate course drift in English 0111. Others felt the hybrid course would be less useful to the students than the looser structure of the workshop, where instructors focused each class session around concerns identified by the students. The faculty voices in support of the hybrid course won the debate, and English 0111 became a hybrid course.

This second iteration of English 0111 centered around 15 content modules (see Table 1). The content modules contained informational handouts, exercises, and quizzes designed to support student learning in the FYC course. A learning management system (LMS) delivered modules online. Savery and Hallam (2002) argue that the use of web-based "shared course materials . . . Improve consistency and quality of instruction throughout all sections of the course . . .. Reduce the preparation time for faculty . . .. [and] Provide class materials . . . in one easy to find location. . ." (p. 1747). Developmental English witnessed these benefits as well as other benefits in the revised course. The transformation of English 0111 into an online hybrid course also freed up classrooms, reduced the administrative budget, and improved students' attitudes toward the class since they now had unlimited access to course materials and instant feedback on their quizzes.

Faculty teaching English 0111 continued to start the class session addressing questions or concerns students had about their FYC course. Instructors spent the remainder of the class session, however, discussing ideas found in the content modules scheduled for that week rather than working with the students on a one-to-one basis or workshopping papers.

Table 1
Content Modules for Second Iteration of English 0111

Module Number	Title
One	Course Introduction
Two	The Writing Process and Expressive Writing
Three	Paragraph and Essay Structure
Four	Structural Development for Academic Essays
Five	Concepts in Essay Writing
Six	College Writing Style Expectations
Seven	Using Literary Techniques
Eight	Critical Reading Strategies
Nine	Writing Effectively
Ten	Argumentative Essays
Eleven	Conducting Research
Twelve	Fine-Tuning Final Products
Thirteen	Unclear Written Communication
Fourteen	Modes
Fifteen	Resources for Second-Language Learners

Third Iteration

As faculty teaching the FYC class became familiar with these new modules, they expressed the desire to have the information available to all their students, not just the ones in English 0111. As a result, Developmental English applied for and received a second grant from the THECB to revise the existing modules, add new modules, and make these materials available to all FYC students. A second redesign team composed of five full-time Developmental English instructors and five FYC instructors developed the following learning outcomes:

- Students will develop an understanding of syllabi and assignment instructions.
- Students will demonstrate a proficiency in the writing process.
- Students will demonstrate a proficiency in the organizational structure of an essay.
- Students will learn to proofread and edit.
- Students will use critical thinking, reading, and writing skills.
- Students will incorporate sources by addressing correct in-text citation methods and writing practice or actual reference pages.

Faculty members then worked in five teams, composed of one Developmental English and one FYC instructor, to develop skills-based modules that would support these outcomes.

This second grant resulted in the third and latest iteration of English 0111 with a total of 45 modules, which can be used by English 0111 and FYC instructors as warranted. Each module includes lesson plans, informational handouts, and quizzes, and many modules contain discussion board exercises (see Appendix A for a sample of a typical module). To make the modules easy to find on the LMS, faculty categorized the modules (see Table 2).

Instructors new to English 0111 have access to a standardized calendar of module assignments, designed to complement the common calendar used for FYC assignments and provided in the LMS, but instructors can alter the calendar to meet the needs of the class (see Appendix B).

In addition to English 0111, the Developmental English program's integrated reading and writing course and some FYC courses use the 45 modules. The modules have been so well received, in fact, that other English instructors and freshmen seminar (freshmen success) faculty members have asked to use the modules in their classes.

Table 2
Categories and Content Modules for Third Iteration of English 0111

Categories	Modules
Getting Started	Syllabus, Hybrid Course, Writing Process, Writing Well, and MLA Format
Fundamentals of Composition	Audience and Purpose, Generating Ideas, Paragraphs, Introductions, Thesis Sentences, Conclusions, Essay Structure, Organizing Your Essay, Unity, Coherence, and Voice
Getting It Right	Revision, Eliminating Wordiness, Creating Metaphors, Stylistic Literary Techniques, Academic Writing Style, and Editing and Proofreading
Modes and Rhetorical Strategies	Narration/Expression, Description: Showing Vs Telling, Interviewing, Classification, Comparison/Contrast, and Process
Argument	Argumentation, Argumentative Claims, Argumentative Evidence, Logical Fallacies, and Counter-Argument
Integrating and Citing Sources	Plagiarism, In-Text Citations, Integrating Sources, and Works Cited for MLA Format
Critical Reading Modules	Using the Dictionary, Analysis, Annotating, Outlining, Previewing, Questioning, Reflecting, Summarizing, and Metacognition

As in any arduous endeavor, challenges arose during this second redesign. One challenge was faculty buy-in. At the time of the second redesign, Developmental English and FYC were two separate departments housed in two different colleges. This split resulted in less immediate communication between the departments. Since English 0111 impacts students in both Developmental English and FYC courses, each department felt strongly that its input was needed on this project. Including FYC faculty members in the revision process strengthened communication between the two departments and ensured that both departments had a say in the resulting changes. Further challenges resulted from the varying degrees of technical expertise found in participating instructors and from the fact that the new modules varied greatly in style. To overcome these last challenges, staff members from instructional technologies worked with instructors to ensure uniformity in the modules.

Updates to the Third Iteration

More recently, Developmental English instructors added modules on APA format, understanding rhetorical appeals, and annotated bibliographies to the course to reflect changes made in the FYC course. In addition, Developmental English retired other modules that no longer reflected material covered in FYC.

Another change resulted from changes to the placement exam. The State of Texas lowered the passing score on the writing portion of the Texas Success Initiative Assessment (TSIA) in Summer 2017 (P. Caro, Personal Communication, August 4, 2017). Accordingly, Developmental English lowered the TSIA score that would place students into English 0111. Students in English 0111 are still bubble students—students who almost passed the writing portion of the TSIA—but these students enter English 0111 with significantly lower scores on the essay portion of the TSIA than students previously taking the course. Therefore, this new student population requires additional support in specific areas of composition. As a result, Developmental English faculty members created new modules for English 0111 (see Figure 1).

Action Verbs	Descriptive Words	Independent Clauses
Simple Sentences	Subject-Verb Agreement	Compound Sentences
Sentence Fragments	Run-ons and Comma Splices	Using Commas Correctly
Active and Passive Voice	Countable and Non-Countable Nouns	

Figure 1. New English 0111 Modules

These new modules are like the existing modules—complete with informational handouts, exercises, and quizzes. They differ, however, from the older modules in one important way. Individual students will determine the order in which they finish modules based on what they feel meets their most pressing needs at the time.

Results

Although English 0111 has been offered since 2002, the data presented below in Table 3 are based on the last few years only. In Fall 2013, the TSIA supplanted four placement exams used in Texas prior to that time (THECB 2017). Since the TSIA is now the required placement exam, it makes sense to focus on the performance of students

who take English 0111 because of TSIA placement rather than consider how students performed in earlier years taking other placement exams. Therefore, the data below begin with the implementation of the TSIA.

The bulk of Developmental English students register in the Fall semester, so the program tracks students enrolled in its Fall courses (see Table 3). Developmental English administrators typically look at several factors when assessing English 0111 students' performance:

- How many students attempted and passed English 0111.
- How many attempted and passed FYC,
- What was the Fall semester GPA of English 0111 students.
- How many English 0111 students enrolled at UTEP the next semester.

As Table 3 illustrates, no students enrolled in English 0111 in Fall 2014 and Fall 2017. Fall 2014 was the first semester that UTEP used the TSIA as its placement exam. Faculty believe that the change in placement exams temporarily impacted enrollment into English 0111. Likewise, as stated earlier, in Summer 2017, the state of Texas lowered the passing score on the writing portion of the TSIA. Thus, Developmental English had to change the score it used to place students into English 0111. A very conservative score was chosen; no students fell into the new placement parameters for English 0111, meaning no students enrolled in English 0111 in Fall 2017. A new placement score for English 0111 has been implemented for Fall 2018, and Developmental English anticipates increased enrollment at that time.

Typically, students pass English 0111. The 75% figure shown for Fall 2015 is average for the course. Table 3 shows, nevertheless, that far fewer students took English 0111 in Fall 2016 than in Fall 2015. Moreover, only 57% of the students who took English 0111 in Fall 2016 passed it. Part of the cause lies in a free Summer workshop that Developmental English offers to students who place bubble in reading and writing on the TSIA. Students who pass the Summer workshop are pronounced college ready, so they do not take English 0111 in the Fall. The students who enroll in this Summer workshop usually are go-getters who have clear goals for college and want to succeed. Even though UTEP has offered the workshop since 2013, not many students participated in it until Summer 2016 when Developmental English changed its recruiting methods. The new recruiting methods doubled the number of students in the Summer workshop. As a result, English 0111 in Fall 2016 had far fewer students in it than the previous Fall semester.

In addition to saving these students tuition and fees and allowing them to take college-level courses immediately upon entering college, these workshops can help to increase the students' persistence toward a college degree.

However, Developmental English administrators cannot say that these students did poorly in English 0111 because they were less prepared students. This same student population did well in FYC. Of the 44 students who took English 0111 in Fall 2016, 57% passed English 0111, but 86% students passed FYC. It may be more important, then, to focus on student performance in FYC rather than in English 0111. Generally, students who take English 0111 do well in the FYC course as illustrated by the 80% who passed FYC in Fall 2015 and the 86% in Fall 2016.

Conclusion

Corequisite workshops clearly are beneficial to students, particularly those students who fall in the bubble range on the placement exam. In addition to saving these students tuition and fees and allowing them to take college-level courses immediately upon entering college, these workshops can help to increase the students' persistence toward a college degree. These students have the opportunity to see the benefit of the workshop as it covers materials pertinent to the FYC course they are concurrently taking. Without the workshop, students would have to wait a semester before taking the FYC course; they would first have to take a developmental English course that they may not see value in taking.

Table 3
English 0111 Results for Students Enrolled in Fall 2014, Fall 2015, Fall 2016, and Fall 2017

Term	Number Attempted 0111	Number Passed 0111	Percentage Passed 0111	Number Attempted FYC	Number Attempted FYC on First Attempt	Percentage Passed FYC	Fall GPA of 2.0 or Higher	Spring Retention
Fall 2014	0	0	0	0	0	0	0	0
Fall 2015	92	69	75%	91	73	80%	79%	84%
Fall 2016	44	25	57%	44	38	86%	75%	73%
Fall 2017	0	0	0	0	0	0	0	0

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Appendix A

Introductions Module Informational Handout and Exercise

Introductions Module Informational Handout

The Introduction to Introductions!

The introductory paragraph to an essay normally has a two-fold job: to grab the reader's attention while introducing the topic of the essay, and to make clear the writer's focus and perspective of the topic, as shown in the thesis statement, which often appears as the last statement in the introductory paragraph and gives readers a "road map" for the entire essay.

Note on placement of thesis statement: Sometimes, a writer will not want to include the thesis statement in the introduction. For instance, if the thesis statement is highly controversial and the audience is likely to reject it before hearing the facts, a writer may choose to first present the evidence and gradually build up support for his or her point of view before stating the thesis explicitly. Keep in mind that your instructor may have very definite instructions about placement of the thesis statement in any particular assignment. Follow the instructor's instructions.

How does a writer grab the reader's attention and write an engaging introduction?

1. Ask a question related to the topic.
2. Tell a brief story (anecdote) related to the topic.
3. Introduce a surprising fact about the topic.
4. Describe a vivid image related to the topic.
5. Share a quote about the topic.

To write an effective introduction, a writer, for example, may choose to make a general statement about the topic, tell a brief story (anecdote), and then state the thesis. Most importantly, the thesis statement should flow naturally from the question, story, fact, image, or quote.

Introduction Module Discussion Board Assignment

1. Write/revise an introduction to the essay you are working on in your FYC class.
2. Upload your draft to your peer review group.
3. Read the introductions other members of your group have posted to the Discussion Board, hit "reply" to each student's message, and answer the following questions:

a. Does the introduction make you interested, even excited, about reading the rest of the essay? If not, what could you suggest to the writer to help make the introduction more engaging?

b. Does the introduction appear to present a topic to the reader that can be thoroughly discussed in the essay? If not, suggest that the writer further narrow down the focus. Give the writer ideas!

c. Does the introduction give enough information for the reader to understand the grounding for the writer's perspective on the topic? If not, suggest that the writer expand the introduction and include more background material (this could come in many forms!).

d. Let your writer know your overall perspective on his/her introduction!

Appendix B

Suggested Calendar of Module Assignments

Week One Modules: Syllabus, Hybrid Course, Generating Ideas, Using a Dictionary

Week Two Modules: The Writing Process, Thesis Sentences, Paragraphs, Previewing

Week Three Modules: Introductions, Conclusions, Voice, Annotating, APA Format

Week Four Modules: Plagiarism, Audience and Purpose, Description: Showing versus Telling

Week Five Modules: Rhetorical Appeals, Essay Structure, Organizing Information

Week Six Modules: Unity in Writing, Revision, Editing and Proofreading, Eliminating Wordiness

Week Seven Modules: Coherence, Annotated Bibliography, Outlining a Text, Summarizing

Week Eight Modules: Academic Writing Style, Classification, Reflecting

Week Nine Modules: Comparison/Contrast, Process Analysis, Questioning

Week Ten Modules: Argumentation, Argumentative Claims, Argumentative Evidence, Metacognition

Week Eleven Modules: Counter-Argument, Integrating Sources, Interviewing

Week Twelve Modules: Logical Fallacies, Narration/Expression

Week Thirteen Modules: Writing Well

Week Fourteen Modules: Stylistic Literary Techniques, Creating Metaphors

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Promote Critical Thinking Through Online Discussion Forum

Essie Childers

ABOUT THE AUTHOR

Essie Childers *is a professor of education and integrated reading and writing at Blinn College with 31 years of classroom experience. She has served as past president of the Texas Community College Teachers Association and was recently awarded the 2017 Carol Dochen Developmental Educator of the Year Award.*

Are you receiving the comments and questions you desire from your discussion forums? Can you tell when students are fully engaged? Do you look forward to grading discussion forums? If you can answer a strong *yes* to all of the questions, then stop reading now.

The classrooms of the twenty-first century will require faculty to redefine and infuse active learning strategies to the online platform. Students are not actually learning just because they are asked to read a question and respond to two or more students. Often, students respond, "I agree with what was posted" or "Yes, I liked your post." These one-line responses are time-wasters for all readers. The discussion forum can be much more. It can serve not only as a great tool to keep students engaged and connected to the online classroom but also as a space for students to be creative and develop deep critical-thinking skills.

According to Popp (2015), through enticing students to participate in class discussions by consistently asking leading questions that extend student thinking and by contributing relevant, instructive subject-matter expertise, teachers can build a strong foundation for collaboration and engagement. Furthermore, according to Preville (2017), teaching should be less about imparting information to students and more about them developing skills while also engaging them in higher-order thinking, whether by reading or writing about the task at hand or by discussing it.

Therefore, with the words of Popp and Preville echoing in my mind, I began a personal quest to discover and develop discussion forums that were engaging and reflective and that fostered critical thinking. Have you heard of the *PMI* instructional template? DeBono (1994) posited this structure as a very engaging discussion tool. Teachers can create a chart to utilize the *PMI* structure with assigned readings and videos posted online to allow students to reflect on what they have read or heard. The *P* represents what students perceive as positive comments from the article. The *M* represents what students perceive as negative connotations or comments. The *I* represents what students find interesting about the article. A final step could include questions that students would like to ask the author or pose to classmates. After reading the guidelines for the discussion forum, students can download and complete the chart then post their comments. Next, students may read and comment on their classmates' posts. This instructional template can be used with videos, poems, textual readings, et cetera.

Keeping student engaged in online classes requires a great deal of effort from the instructor. However, as Barkley advocated (2010), "Teachers need to feel motivated to teach well. They need to be actively learning from their teaching'' (p. 74). When using the PMI instructional template, I am excited to grade and comment on students' posts to see if they are really diving deep to exhibit the higher-order thinking skills of Bloom's Taxonomy (Bloom, 1956). I am intrigued to see student questions posed to the author. I can truly tell that my students are engaged and that their neurons are firing together to create other neural networks. I am motivated to continue my quest of developing more active online discussions—not only to keep me engaged in my teaching but, more importantly, to keep my students engaged in learning.

. . . teaching should be less about imparting information to students and more about them developing skills . . .

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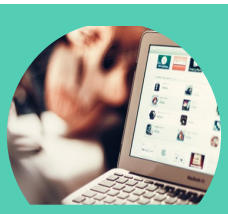

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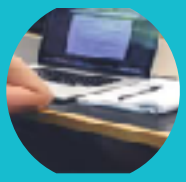

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Rethinking the Corequisite Model: What Is It, Why Remedial[1] English and Mathematics, and What Is Its Net Effect?

Alexandros M. Goudas

ABOUT THE AUTHOR

Alex Goudas *is an Associate Professor of English at Delta College in Michigan and has been an educator for nearly 20 years. He also frequently speaks and writes about postsecondary research, especially on two-year colleges, and is the author of communitycollegedata.com.*

Imagine you are an administrator at a local college and are analyzing first-year fail rates. General Biology I (BIO I) and II (BIO II) are two sequential courses students fail at rates higher than normal. You and your team decide to implement a new reform to deal with the problem. As it is now, only 30 out of 100 students who start in BIO I end up passing BIO II. Part of the problem has to do with students not enrolling in the second course: Only 45 of the 60 who pass BIO I even enroll in BIO II. Success in both is required for most majors.

Your goal is to increase retention and BIO II pass rates, so one part of your reform is to ensure students enroll in it. Therefore, you take 100 students who qualify for BIO I and enroll them in BIO II, but you also double the time of BIO II. That way students are really taking BIO I and II concurrently, and they have a lot of time—eight hours a week—to make sure they understand the material. The BIO I part of the course is termed a *companion course* and exists primarily to help students through the BIO II material. Students cannot stop out after BIO I because both classes are taken simultaneously.

The results of your pilot come in: Students who take BIO I and II concurrently pass both at a rate of 60 out of 100. You effectively doubled the pass rates in BIO II. Because of this, you decide to eliminate stand-alone BIO I courses and enroll all students into the new combined course. Soon you realize students do not need a 4-hour companion course; pass rates remain similar if you reduce that part of the course to two hours a week. Some instructors even run a pilot to replace the two-hour companion course with a mandatory weekly hour in the tutor center. Pass rates remain higher overall, you consider the reform a great success, and you are looking into applying this model to other sequential first-year college-level courses.

If you are an instructor of biology or of any first-year college course, this reform may seem odd. You probably would not agree with it for several reasons, not the least of which is the fact that students require time to understand tiered biology concepts. Additionally, reducing the time in class that much means a lot less material will be covered. You know fail rates are high mainly because students are entering college underprepared in biology. You also realize that most of the time, students stop out of college after the first semester due to reasons unrelated to coursework ("A Matter of Degrees," 2012, p. 7). Finally, you understand that for the majority of students, the answer to underpreparedness in biology or any gateway course is not to fast-track or eliminate it just to increase pass rates in the second of two sequential courses. You want to ensure that the students who pass biology understand the curriculum so they can do well later in other STEM courses and programs.

Nonetheless, this hypothetical scenario is playing out at hundreds of institutions across the nation, except instead of BIO I and II, the courses being modified are almost all remedial English and mathematics. The reform model is called *corequisites,* and the goal of the model is to increase pass rates in the second of two or more tiered English or math courses. Ultimately, as the theory goes, increasing pass rates in initial college-level courses should increase graduation rates as well.

Unsurprisingly, the data almost always show that pass rates rise under the corequisite model. This happens because of how researchers set the goal and analyze the data. First, instead of setting the goal of increasing graduation rates, researchers target raising the pass rates in only one or two college-level courses. If you start students in the second of two sequential courses and give them double the time in that course, and then you compare those pass rates to a group of students who had to take the two courses over two semesters, you will almost always find that the group that takes the one-semester combination will pass at a higher rate than the group that takes both classes sequentially. It is a matter of comparing first-semester pass rates to second-semester pass rates, which of course includes students who do not enroll in the second semester. The theory here is that if students do not have an opportunity to stop out, they will be more likely to persist and pass a class.

[1]The term *remedial* is used deliberately in this paper for two reasons. First, remediation, which refers to stand-alone English and math courses taken to prepare students for college-level gatekeeper courses, should not be confused with developmental education, which is a system of support based on the principles of adult education that includes remedial courses. Second, since most institutions that are implementing versions of corequisites do not actually employ them within models of developmental education, remedial is a more apt term in this case.

As instructors know, students withdraw from and fail courses due to many different reasons, and they tend to fail first-year, first-semester courses at the highest rates (Yeado, Haycock, Johnstone, & Chaplot, 2014; Zeidenberg, Jenkins, & Scott, 2012). Overall attrition is always highest after a student's first semester. Does this mean we should fast-track, combine, and eliminate most first-semester courses simply because they are taken in the first semester? Clearly this would be misguided. Apparently, however, this approach is only acceptable when it comes to remedial English and math.

In spite of the inconsistent application of this idea, the corequisite model is now widely promoted and implemented, and is even mandatory in some state systems: Tennessee, Georgia, Texas, and California are examples of entire state systems mandating that most or all remedial courses be replaced with corequisite models (Scott-Clayton, 2018).

If this acceleration model actually works, why is it being applied inconsistently? Part of the problem is that many decision-makers and researchers do not recognize that remedial English and math are parts of a tiered sequence of learning outcomes in those disciplines, just like BIO I and BIO II. The main issue, however, is that they are also confusing causation with correlation and assuming that the remedial English and math courses are *causing* high fail rates or attrition.

Again, as research shows, a particular course does not cause high fail rates. Instead, what causes high fail rates and attrition are the initial semester and the preparedness levels of students. Indeed, first-semester classes have the highest fail rates. Most importantly, there is no association between any type of first-year course passed and subsequent graduation rates. As Zeidenberg et al. (2012) from the Community College Research Center (CCRC) state, "We found that success in gatekeeper math and English is no more associated with completion than is success in the other courses" (p. 28). Therefore, the problem is not remedial courses, nor is it any specific first-year, first-semester course. It comes down to a lack of prerequisite knowledge and skills, as well as inadequate support in college.

Similarly, the main problem with corequisites is not the model itself, which has been studied by the CCRC and has been shown to modestly increase first- and second-semester college composition pass rates. The Accelerated Learning Program (ALP), which is the original and most thoroughly researched corequisite model, is a comprehensive model that when implemented fully can have some positive temporary benefits for students beneath the college-level cutoff (Cho, Kopko, Jenkins, & Jaggars, 2012).

Rather, the problem is the net effect of the reform movement. Instead of implementing corequisites as they have been studied, institutions and entire states are using the model as a way to implement unresearched reforms, such as enrolling lower-level students in higher-level courses with as little support as a one-hour weekly tutor session. Another negative net effect of the corequisite reform movement is the elimination of prerequisite remedial courses. In the worst cases, limited corequisite research is giving some policy makers the *data* to rationalize moving back to a de facto right-to-fail model (Goudas, 2017).

The answer to underpreparedness should not simply be the acceleration and elimination of remediation, nor should it be the implementation of unstudied corequisite models that lack support. In fact, the model that actually moves the completion needle goes in the opposite direction. It involves *more* support and funding for underprepared students, and it does not cut remediation. The Accelerated Study in Associate Programs (ASAP) model is a holistic reform that combines full support with course design changes, and it results in the doubling of graduation rates for underprepared and prepared students alike ("Significant Increases," 2016). ASAP includes prerequisite remediation as part of a tiered learning process, and students are required to take those courses first. But the important part is that the model involves a comprehensive network of support to mitigate attrition and high fail rates.

The goal should be to increase success rates throughout college for at-risk students by addressing the actual causes of fail rates and attrition instead of eliminating helpful courses.

Perhaps we need to rethink what corequisites are, why they are only applied to remedial coursework, and why they would not work with such courses as BIO I and II. By design, they temporarily increase the pass rates of certain gateway courses. Yet the CCRC notes that many first-year courses have high fail rates. Why aren't we fast-tracking and doubling the time on task in every single gateway course with low pass rates? It appears like a biased application of what is supposed to be sound research on this acceleration model.

What is most disappointing is that no rigorous research exists showing an increase in graduation rates, which is the purported goal of this reform. Surprisingly, the original CCRC research on ALP shows that corequisite students actually had lower certificate attainment rates (Cho et al., 2012, p. 20), yet no one highlights this part of the study. Combine that with the fact that ALP costs double compared to traditional remediation and one begins to wonder why this model is being sold as *the* solution to low graduation rates ("Remediation," 2012). Even more importantly, CCRC researchers themselves are now conceding that corequisites will not increase completion (Jaggars & Bickerstaff, 2018, p. 496). The net effect of this model, however, is that fewer students have access to necessary and helpful remedial courses because entire states and hundreds of institutions are eliminating prerequisite English and math courses completely.

Ironically, we have some recent data on remediation that show positive results. A National Center for Education Statistics study reveals that two-year college remedial students who complete their sequences actually graduate at a rate higher than nonremedial students, 43% compared to 39% (Chen, 2016, p. 35). And 49% of all remedial students complete their sequences (p. v). All of these data were pulled before the corequisite reform movement took hold in the nation. Perhaps labeling remediation as ineffective and doing away with it was premature.

Thinking more holistically, we should not set the goal at temporarily increasing gateway course pass rates. That is short-term thinking. The goal should be to increase success rates throughout college for at-risk students by addressing the actual causes of fail rates and attrition instead of eliminating helpful courses. Indeed, we can do much better for underprepared students, and ASAP is a model which leads the way. All we need to do is commit to holistic reform and fund it. The combination of short-term gain and a mindset of fast, simple, and cheap has never worked well in education. The corequisite reform movement is no different.

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Associate Professor and Director of the Graduate Program in Developmental Education
Texas State University

Jacqueline Harris, Ed.D.

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Ball State University
August 1988–April 2013
Retired Emerita

Janet (Jan) Norton, M.A.

Senior Academic Advisor
University of Iowa
(2012–2015, 2017)
Retired

Director, Center for Academic Resources
University of Wisconsin - Oshkosh
(2005–2011)
Retired

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Journal of College Academic Support Programs

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