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Associations Between Developmental English Models and College Students' Completion and Persistence

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This is to certify that the doctoral study by

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Walden University
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Abstract

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MAT, Indiana University, 2007

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Midwest Community College (a pseudonym) students who do not score high enough in reading and writing on an assessment must take an integrated reading and writing (IRW) developmental English (DEng) course. The college transitioned most of its IRW courses from stand-alone courses, grounded in Vygotsky's scaffolding concept where students first take IRW and then the first-semester English course (ENGL 100), to a corequisite model, grounded in a modification of Tinto's theory of persistence, in which students take the IRW course concurrently with ENGL 100. Even with the corequisite model, too many students are not passing ENGL 100. The purpose of this study was to examine the difference in ENGL 100 completion (passing/failing) and persistence (enrolling/not enrolling) between first-time DEng students who took the IRW course in either the stand-alone or the corequisite model. In this quantitative ex post facto comparative study, 2 chi-square tests on archival completion and persistence rates of 1,247 students were calculated. Stand-alone students had significantly higher completion rates at 69% ($x^2 = 4.403$ with $p = .036$). The corequisite completion rate was 57%. There was no association between the two models and persistence with 87% of the students in the corequisite persisting and 86% of the stand-alone students persisting ($x^2 = .026$ with $p = .871$). A policy paper presented the results and conclusion that the college should not place IRW students in the corequisite model without further investigation of the support needed. Implications for social change include increasing the number of students who pass ENGL 100, which could lead to higher graduation rates because reading and writing skills are fundamental for college success. College graduates earn more income and provide their communities with a skilled workforce.

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Dedication

I dedicate this study to all English educators for promoting literacy.

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Section 1: The Problem

The Local Problem

Students at Midwest Community College (MCC, a pseudonym) who do not score as college-ready on an assessment must pass developmental English (DEng) courses before enrolling in the required first-semester English course (ENGL 100). A portion of DEng students are those taking both reading and writing in an integrated course. All integrated reading and writing (IRW) students are DEng students, but not all DEng students are IRW students. To be clear and accurate, I used IRW for my participants and when researchers indicated this specific group. I used DEng when I discussed all DEng students. The problem investigated in this study is the low completion and persistence rates of IRW students at MCC. The college previously offered IRW courses in reading and writing only as stand-alone (SA) courses, but MCC leadership began transitioning the IRW courses to a corequisite (CR) model. In the SA model, IRW students take prerequisite courses, and if they pass, they would be able to enroll in ENGL 100. In the CR model, the students enter into a learning community IRW course while concurrently enrolled in ENGL 100 in their first semester. Currently, MCC offers both the SA and CR models, and students choose which option to take. However, MCC has been gradually transitioning to offer only the CR model.

With the CR model, the overall completion rate for all DEng students increased from 37% in 2012 to 55% in 2015, according to Complete College America in 2019. However, nearly half of all the DEng students did not pass ENGL 100. Some critics worry that students with significant deficits in English reading and writing skills might

not do well in the CR model. These critics warn that a one-size-fits-all approach to DEng, which MCC will have if it continues to transition to offering only the CR model, is not advisable (see Boatman & Long, 2018; Boylan & Trawick, 2013; Chaplot, Rassen, Jenkins, & Johnstone, 2013; Goudas & Boylan, 2012; Valentine, Konstantopoulos, & Goldrick-Rab, 2017). In both the SA and CR models, MCC offers an IRW course.

Rationale

The number of IRW students completing ENGL 100 and persisting beyond that semester is important to MCC as the state no longer funds colleges by enrollment numbers but by students completing their coursework. According to the state's commission for higher education in 2016, the state implemented this performance-based funding for higher education in 2003, and in 2013, included a remediation metric which awarded funds for students completing their developmental education (DEd) coursework. DEd coursework includes reading, writing, and mathematics. The goal of performance-based funding is to fund higher education institutions by their performance as determined by benchmarks and not solely on enrollment, as was the case in the previous funding model (Hillman, Tandberg, & Fryar, 2015). Therefore, MCC leadership, anticipating the remediation metric, decided in 2012 to revise its DEd program. The state's commission for higher education stated in 2018 that the state removed the remediation metric in 2019. However, IRW students' completion of and persistence beyond ENGL 100 affects the persistence metric. The persistence metric awards funds for students who complete 15, 30, and 45 credit hours towards their degrees, according to the state's commission for higher education in 2018.

Evidence of the Problem at the Local Level

According to a 2012 report from the state's commission for higher education, only 4% of its community college students graduated within 2 years and 12% within 3 years. Also, the report stated that only a quarter of those students enrolled in DEd completed a credential within 6 years. An associate's degree is a 2-year degree, so the DEd students who took 6 years to graduate needed an additional 4 years. In 2019, the National Center for Education Statistics stated that for the fall 2015 semester at MCC, the retention rate for full-time students was 51%, part-time students 44%, and the on-time graduation rate for all students was 19%. These low completion and retention rates affect the students, but the rates also affect the college financially due to the performance funding metrics.

For the remediation metric, according to a 2017 report from the state's commission for higher education, the completion rates for DEng students from 2010-2012 to 2013-2015 increased by only 1.3%, or 48 students, at MCC. According to the state's commission for higher education, in 2015, MCC received its first performance funds for DEng students. However, the college still has to provide courses and services for all DEng students regardless of whether or not they pass ENGL 100 and can continue their studies. The college is spending money on unsuccessful students who are still not bringing in performance funds, and more importantly, are still not persisting towards completion of a credential that affects the student persistence metric. The change in average for the persistence metric for the comparison years 2010-2012 and 2013-2015

showed a decrease of 7,767 students meeting the 15-credit-hour benchmark, according to the state's commission for higher education in 2017.

MCC began using the CR model in pilot sections across the state, and researchers at the college reported some positive developments in 2014 and 2015. After the pilot phase, MCC set a goal to have 100% of its DEng courses offered via the CR model by 2014, according to the state's commission for higher education in 2013; however, the college reported in 2015 that for the spring semester 2015, only 60% of DEng students enrolled in the CR model. According to researchers at MCC in 2015, the college revised its goal to have 100% CR English enrollment by the fall semester 2016; however, for the fall 2018 semester, a search of the course offerings showed that 77.9% of the DEng courses offered were CR. Before MCC reaches 100% CR enrollment, I sought to determine if the CR is the best option for all students.

Furthermore, MCC has not published a statistical analysis of the DEng CR model with the nearing 80% participation in the model, so there is no study of the performance of students in the scaled-up model. The past data which have been shared by the college have focused only on completion of the DEng and ENGL 100 coursework but have not specifically compared SA and CR IRW students' completion and persistence after completing ENGL 100.

Evidence of the Problem from the Professional Literature

According to the National Assessment of Educational Progress (U.S. Department of Education, 2019), only 34% of students in 12th grade are proficient in skills such as reading and writing. Fernandez, Barone, and Klepfer (2014) stated that among

community college students nationally, 40% required DEd. In an issue brief, Ganga, Mazzariello, and Edgecombe (2018) stated the numbers were even higher, reporting that above 66% of community college students needed some DEd. In the state, the majority of students who need DEd enroll at MCC since the major 4-year universities no longer offer remediation courses according to their websites. Students' greatest deficits are in persuasive and argumentative writing (Sacher, 2016). Students need these writing skills to pass ENGL 100. Bailey and Alfonso (2005) reported that nearly 20% of traditional college students fail to complete 10 credits, and only 45% of students enrolled in DEd completed a credential by the age of 30, which is 15% lower than the completion rates of students who were not required to take DEd. Edgecombe (2011) noted that DEng students have additional obstacles to overcome to graduate because they lack skills and have to take additional coursework, which does not count towards their degrees. MCC offers DEd to meet the substantial need of these underprepared students, but also recognized the need to accelerate DEd students. DEd acceleration is important because Edgecombe showed that the longer a student remains in DEd coursework, the less likely the student is to persist and earn a degree. However, as stated earlier, nearly half the DEng students are not passing ENGL 100 even with the IRW and CR options.

Specific to my study, state officials reported that two-thirds of its community college students enrolled in DEd, according to the National Council of Teachers of English in 2014. The state's commission for higher education reported in 2012 that for high school graduates in the state, 66.4% of students receiving the general diploma and 37.9% of students earning the Core 40 diploma required DEd. The same report stated that

the state was ranked 42nd in degree completion in 2012. Griffin (2018) noted that

misalignment between high school and college curriculum is one contributing factor to

college readiness. In a study of high school transition programs, Griffin noted that most

transition programs align with Common Core standards. The state where my study site is

located does not use Common Core standards.

Because of these low completion and persistence rates locally, it was important to

determine if IRW students were completing and persisting at higher rates in the SA or CR

models. Therefore, the purpose of this study was to examine the difference in ENGL 100

completion (passing/failing) and persistence (enrolling/not enrolling) between first-time

IRW students who took the IRW course in two different models (SA/CR) at MCC. My

findings can be used by MCC to determine the best course placement for IRW students.

Definition of Terms

Assessment score: The students' ACCUPLACER assessment scores in reading

and writing, which advisors use to determine student course placements (Mattern &

Packman, 2009). MCC uses ACCUPLACER to determine college readiness. According

to MCC's assessment web page, as of 2019, there is a minimum score required for

enrollment, and there is a high-end cutoff score between DEd coursework and the

program-level ENGL 100 course. MCC used ACCUPLACER scores to place my

participants.

Corequisite (CR): The DEng model in which students enroll in the DEng course

while concurrently taking ENGL 100. In the model, students requiring DEng coursework

may enroll in ENGL 100 only if they also enrolled in the same semester in the corequisite

DEng course. The DEng course may be on reading or writing, or an IRW course, according to MCC's assessment web page as of 2019. Placement depends on student assessment scores in reading and writing. This study only focused on the IRW course.

Developmental education (DEd): An integrated model that provides students supports and courses to assist students in completing gateway courses in English and mathematics (Boylan, Calderwood, & Bonham, 2017). Many researchers used this term to discuss both remediation and developmental education, including English and mathematics courses. For clarity, in the literature reviews, I used this term as those researchers did. I referred to MCC's remediation and developmental education models as SA IRW or CR IRW. I used DEd when I discussed all developmental education including mathematics.

Gateway: The degree-required English course. The term gateway means the degree programs' courses require completion of ENGL 100 as a prerequisite to enroll in courses required for their degrees, indicated on MCC's faculty reporting document. For clarity in this study, gateway describes other colleges' lowest level degree-required English composition courses. When referring to the gateway course, I used the term ENGL 100.

Integrated reading and writing (IRW): A course that includes material on both reading and writing skills instead of separating them into separate classes (Barhoum, 2017).

Persistence: Sometimes called retention, students enrolled in the following semester after completing ENGL 100 are considered persisting (Crosta, 2012). For the

CR students, persistence means enrolling in the spring semester after taking ENGL 100 in the fall. For the SA students, persistence could be enrolling in the summer or fall semester after passing ENGL 100 in the previous spring semester.

Remediation: The SA, prerequisite courses in reading and writing, which students must pass before enrolling in ENGL 100 (Boylan et al., 2017).

Stand-Alone (SA): The consecutive English courses required as prerequisites for enrolling in ENGL 100 before the option of the CR model (Boylan et al., 2017). The focus of this study was on the IRW course. Students taking SA remedial English will need at least two semesters to complete the college composition requirement: one semester for the remedial course, and one semester for ENGL 100.

Significance of the Study

DEng students pay for additional developmental classes that do not count towards their degrees. These additional courses slow or stop their progression towards earning a degree (Bailey & Alfonso, 2005). Federal financial aid guidelines limit the number of DEd credit hours that can be covered by aid to 30 hours (U.S. Department of Education, 2018). DEng students who reach the limit without passing have to repay their loans but cannot continue in college unless they take out private loans or pay out of pocket.

Critics have argued that remedial and DEd programs are costly. Breneman and Haarlow's (1998) study estimated the national cost of DEd to be $1 billion. Pretlow and Wathington (2012) updated the Breneman and Haarlow study and figured the cost to be at $1.13 billion. Pretlow and Wathington notably added that states need to provide more transparency on the cost of DEd. In addition to the high cost and low completion rates,

there is mixed evidence about the effect of DEd on students' earnings. In their study of DEd and labor market outcomes, Hodara and Xu (2016) found positive effects on an individual's earnings from earning DEng credits. However, the researchers found an inverse result for DEd mathematics. Despite the cost of DEd, some researchers argue that DEd is a small percentage of the total higher education budget. Vandal and Wellman (2011) provided an example from Ohio, where DEd represented only 3.6% of the state's higher education costs. Regardless of the actual cost of DEd to MCC, if nearly half the DEng students are not passing ENGL 100, then it is easy to see why some scholars and researchers are critical of DEd. However, there are some issues with the arguments against DEd.

       Some critics have failed to recognize that many of these studies are of remediation, usually SA models, and not DEd, as explained in the updated definition of DEd as integrated supports for students (see Boylan et al., 2017). In a study of students enrolled in remediation during 2003-2004, about half of DEd students did not complete remediation coursework in 6 years (King, McIntosh, & Bell-Ellwanger, 2017). However, the researchers used the term DEd when they were analyzing SA remedial courses (Boylan et al., 2017). Because the CR model is not remediation but DEd, many of the studies from critics do not consider DEd models such as the DEng CR. Furthermore, the DEng CR model addresses some of the criticisms of inefficiency and cost by accelerating students and supporting them concurrently in gateway courses. The intention is to reduce the number of semesters needed and increase the number of students passing ENGL 100 to avoid retaking the course. However, DEng students who do not pass the CR model

have paid for two classes instead of one, and they will have to pay again for two classes to retake the CR model.

Nationally, the CR model has shown success with DEng students passing gateway courses; however, this has shown only mild improvements in college completion (Boylan et al., 2017). There are still nonacademic issues that interfere with student completions, especially in the case of DEng students. Therefore, the design of DEng can neither solve all issues nor bear the full blame regarding student completion. However, the designers of the CR model intended to address the specific need of accelerating and supporting students in passing the gateway course. Acceleration shortens the time that DEng students have to drop out, affecting persistence (Edgecombe, 2011; Xu, 2016).

The low DEng student completions and persistence affect the college's funding under the performance-funding model adopted by the state. According to the state's commission for higher education in 2018, from 2013-2018, the state set an award amount for students completing DEd. However, according to budget documents from the state's commission for higher education, lawmakers also decided to set the remediation metric's weight at 0%. This weight meant that the remediation metric would not be included in the budget calculations for the 2015-2017 budget because legislators found little improvement in DEd completions to award funds for this metric. Lawmakers then removed the remediation metric in 2019, according to the state's commission for higher education. Therefore, the persistence metric is now the main benchmark affected by DEng students. Students completing ENGL 100 earn three credit hours. A student then persisting into the next semester could add 12 more credit hours if the student is full-time

and passes all of the classes in that semester. Documents from the state's higher

education commission in 2017 stated that the first award tier of the persistence metric

counts students earning 15 credit hours. IRW students, who complete ENGL 100 and

persist, have the potential to improve MCC's performance in the persistence metric. For

my study, I looked for associations between the DEng models and student completion

and persistence so that the college can make informed decisions about how best to

provide DEng for students to improve their chances of completing their degrees.

Finally, the state's higher education commission places a large part of the

responsibility for the state's economic growth on its higher education systems. The

commission stated in a 2017 report that two-thirds of the new jobs in the current decade

will require some posthigh school education, and the state will need at least 1 million new

workers. These jobs will require at least an associate's degree, and some of the students

who begin their higher education at the community college will transfer to a 4-year

university. MCC students who are seeking an associate's degree or wanting to transfer

need to pass ENGL 100 to progress. According to the state's higher education

commission in 2017, fewer than 10% of students enrolled in associate degree programs in

the state complete their degrees on time, and for the state's economy, that number must

increase. The higher education commission stated in a 2011 report that meeting the

state's goal by 2025 means the state needs to increase the number of credentials earned

by more than 3,500 a year. Given the low numbers of community college students

graduating, if MCC continues to increase the number of DEng students who can pass

ENGL 100, the college has a large pool of potential graduates to meet the state's goal and bring performance funds to the college.

Research Questions and Hypotheses

There are two research questions (RQ):

RQ1: What is the association between developmental course type (SA/CR) and ENGL 100 course outcome (pass/fail) for first-time IRW students at MCC?

$H_0 1$: There is no statistically significant association between developmental course type (SA/CR) and ENGL 100 course outcome (pass/fail) for first-time IRW students at MCC.

$H_a 1$: There is a statistically significant association between developmental course type (SA/CR) and ENGL 100 course outcome (pass/fail) for first-time IRW students at MCC.

RQ2: What is the association between developmental course type (SA/CR) and persistence (enrolled/not enrolled) to their second semester for first-time IRW students at MCC?

$H_0 2$: There is no statistically significant association between developmental course type (SA/CR) and persistence (enrolled/not enrolled) to their second semester for first-time IRW students at MCC.

$H_a 2$: There is a statistically significant association between developmental course type (SA/CR) and persistence (enrolled/not enrolled) to their second semester for first-time IRW students at MCC.

Review of the Literature

   In this literature review, I discussed the theoretical foundation for the variables and the study overall. Following the theoretical foundation are sections in which I discussed DEd and the independent variable, the DEng models, selected for this study. In the review, I included the importance of DEd in higher education and current trends in accelerating students through DEd programs. Also, I presented elements of community college students' persistence and connected these elements to the CR model. I discussed the effects of student integration and learning communities in connection with the CR model, as well. Finally, I discussed a core criticism of remediation and DEd and connected this to my study.

   My study is of the social sciences, and therefore, involved many aspects. I covered a variety of related topics, including the college completion agenda, DEd programs' connection to open admissions, accelerated remediation including IRW and the CR model, assessment and placement, persistence, learning communities, and critics of DEd. I opened my discussion with the lenses of collective affiliation theory and Vygotsky's scaffolding. I conducted searches using various databases, including Academic Search Complete, The Chronicle of Higher Education, EBSCOhost and EBSCO books, Education Source, ERIC, PsychARTICLES, the SAGE databases, SocINDEX, and the Teacher Reference Center. Also, to find reports local to the state, I used Google and Google Scholar to find state or federally-sponsored sources and evaluated the sources for credibility. I checked the domain name, publishers, and authors, with a particular focus on sources referenced by my sources from the scholarly databases.

I initially limited my searches to the most current sources, those from 2016-2020, and expanded the time limits as needed by 2 years at a time. My search terms included *developmental education, developmental English, corequisite, remediation, remedial acceleration, student completion, student performance, learning communities,* and *persistence*. The following literature review is the product of this research.

Theoretical Foundation

For my theoretical foundation, I included Davidson's (2011) collective affiliation theory and Vygotsky's concept of scaffolding (Khaliliaqdam, 2014). In this subsection, I explained how the CR model aligns with the collective affiliation theory and how the SA model aligns with scaffolding. I also provided details on how each theory supported the development of this study.

The collective affiliation theory entails heightened cultivation of students' connection, and thus, integration, to a larger learning community. The collective affiliation theory is a modification of part of Tinto's model of student persistence, which focused on integration (Davidson, 2011). Tinto and Cullen (1973) based their model, commonly referred to as Tinto's model of persistence, on the work of Durkheim (1951). In his theory of suicide, Durkheim stated that failure to integrate into society was a cause of suicide, which was a departure from the belief that a person's temperament was the sole cause. Theorizing student attrition as another type of failed integration, Tinto and Cullen presented a theory of integration for college students as a part of the model of persistence. Tinto and Cullen posited that failure to integrate into the college community played a role in student attrition. However, some scholars criticized the first iteration of

the theory because it placed greater value on students abandoning their previous communities to integrate into college (Davidson, 2011). Instead of focusing on students' integration into a learning environment, Davidson (2011) addressed the criticism in his collective affiliation theory by focusing on the responsibility of the college in integrating itself into the students' lives. Students do not see themselves as college students only, but being a college student is one meaningful part of their larger identity.

The CR model aligned with collective affiliation. Students taking only DEd coursework are not earning transferable college credits and are not yet taking courses specific to their degrees. Thus, they do not fully immerse themselves in the college culture or their programs of study, which can affect how much they identify as college students. On the other hand, CR students join a learning community and do have the opportunity to earn college credits for ENGL 100 in the same semester as they complete their DEng coursework. If they pass ENGL 100, they can begin taking courses in their majors the following semester. Conversely, SA students take an additional semester to complete ENGL 100 before truly entering their degree programs' coursework.

There are two aspects of Tinto's theory: academic and social integration (Tinto & Cullen, 1973). Academic integration means the level of contact between students and faculty, student satisfaction with coursework, and student performance meeting their expectations (Tinto & Cullen, 1973). Social integration means the level of extracurricular engagement of students at formal and informal events (Tinto & Cullen, 1973). Kember (1989) explained that the quality and quantity of student-organization contact comprised

the academic aspect of collective affiliation. Due to the different designs of the SA and CR models, they have different qualities and quantities of contact.

Scaffolding differs from collective affiliation. Scaffolding is related to Vygotsky's concept of the zone of proximal development. The zone of proximal development is a stage of development between where a student can complete a task or demonstrate a skill independently but also still needs guidance (Khaliliaqdam, 2014). Vygotsky posited that students learn best when experts, such as teachers, guide them (Khaliliaqdam, 2014). Scaffolding works within the zone of proximal development to guide learners who need assistance so that they can eventually demonstrate the skills independently (Khaliliaqdam, 2014). Scaffolding is primarily a method for pedagogy. However, in their study, Brower et al. (2018) stated that scaffolding could be used for adults in DEd and specifically discussed three ways to use scaffolding via course sequencing, instruction, and support services. The SA model is a consecutive model, so it has course sequencing. The instruction in these courses is focused on individual skills. Although support services are available at MCC, currently, there is no requirement that SA DEng students use them.

Scaffolding is the basis for the SA model. In the SA model, instructors guide students in reading and writing tasks so that IRW students are prepared to demonstrate these skills independently in ENGL 100. SA instructors provide scaffolded tasks that students complete without the high stakes of ENGL 100 assignments. The SA model at MCC does not require that students use additional scaffolding support services such as writing and tutoring centers.

Given that the SA and CR models are so different, I designed this study to determine if there are associations between students' completion and persistence and the model of DEng in which they enroll. In the SA model, students complete assignments that use the same skills as the ENGL 100 assignments, such as incorporating and citing research. However, the SA assignments do not directly connect to the ENGL 100 assignments. In contrast, the assignments in the CR model are directly connected to the ENGL 100 assignments as lessons to support the work concurrently done in ENGL 100. For example, a lesson in the DEng course on finding credible sources will allow CR students to find sources they will use on their ENGL 100 assignments. The CR model, by design, integrates students more fully into the academic community. Also, the SA students may not take ENGL 100 with the same classmates they had in their SA DEng course. The CR students are all enrolled in the same section of ENGL 100, creating a learning community that spends more time together and can support each other in ENGL 100. CR sections are small, generally half the size of the ENGL 100 course, which allows more individual attention from instructors (Gabriel & Gallagher, n.d.).

Review of the Broader Problem

In this review of the broader problem, I presented subsections on the college-completion agenda, the importance of DEd programs, accelerated remediation, assessment and placement, student persistence, and learning communities. I began the review with the broad topic of college completion as a foundation for the topics that follow. From there, the topics in my review are narrower. In my discussion, I provided definitions, examples, and connections to my study.

College completion. College completion is an important issue in the United States. Former President Obama set a national goal to increase the number of college graduates by 2020 to be the largest in the world (White House, 2015). Evidence that America is falling behind other countries fuels the need to increase the number of college graduates. Thirty years ago, the United States was ranked first globally in bachelor's degree attainment for 25-34-year olds, but today, the United States is ranked 12th (White House, 2015). According to Obama, postsecondary education is necessary for many of the fastest-growing industries in the United States, such as energy, advanced manufacturing, and informational technology (White House, 2015). Additionally, the Obama administration asserted that the United States needed college graduates to meet the changing job market and to ensure a robust middle class, on which the capitalist economy is dependent.

Though the federal government can call for an increase in the number of college graduates, it cannot make that happen without the cooperation of colleges and universities. The task of producing more graduates falls to the institutions of higher education, and it is incumbent on each to determine areas for improvement and methods to achieve the degree-attainment goals. There is no single solution that can address college completion and persistence, but colleges can investigate their problem areas and enact specific changes. At MCC, the implementation of the CR model was one of the targeted approaches to address the particular problem of low completion and persistence rates of DEng students. DEd programs are key to providing access to higher education for many Americans, which I discussed next.

Importance of DEd programs. DEd programs provide a necessary service for helping academically underprepared students enter higher education. The community colleges' open admissions policies provide access to higher education for many adults who would otherwise not have access (Ginsberg & Wlodkowski, 2010). These adult students may have limited access for several reasons, including nonacademic issues, but often lack the academic history or foundational skills required for admission to many 4-year colleges and universities (Griffin, 2018). Open admissions policies can exist because of DEd. Without these programs, a large portion of Americans would not be able to receive the education needed to meet the nation's college completion agenda (Ginsberg & Wlodkowski, 2010; White House, 2015). For example, according to MCC's admissions web page, last updated in 2019, MCC has neither grade point average (GPA) nor standardized testing, such as the Scholastic Aptitude Test (SAT), requirements for admission. Because of the open admissions policy and DEd programs, MCC provides a pathway into higher education for underprepared students, unlike the study state's 4-year institutions.

On the other hand, according to the study state's largest 4-year universities' admissions websites, as of 2016, these universities require standardized test scores for admission and can be more selective regarding GPA. Many students not accepted to 4-year institutions in the state can enroll at the community college to earn a degree or certificate or transfer to a 4-year school after earning some college credits. According to documents from both MCC and the state's commission for higher education, MCC has

transfer agreements with its 4-year institutions. These agreements ensure that credits students earned at MCC are accepted by the 4-year institutions.

DEd programs also have a history of serving minority and disadvantaged students. Bailey and Alfonso (2005) noted that populations at risk of attrition, such as racial and ethnic minorities, those from lower-income families, first-generation college students, and community colleges have overrepresentations of students referred to DEd. According to the National Center for Education Statistics in 2019, 71.1% of MCC students are white, and 28.9% are minorities or mixed race; also, 39% of students are over the age of 24. Too many of these students historically never make it past DEd and into program-level courses, or if they do enter gateway courses, many do not succeed and do not earn credits towards a degree or certificate (Complete College America, 2012; Pfahl, McClenney, O'Banion, Sullivan, & Wilson, 2010). Bailey and Alfonso identified the effectiveness of DEd programs as a concern for community colleges. The IRW courses and CR model are ways that MCC is trying to change the historical trend by accelerating students through DEng and supporting them in ENGL 100.

Researchers noted the importance of reading and writing skills for college success. Hill, Maier-Katkin, Ladny, and Kinsley (2018) found that student participants reported that a writing-intensive freshman seminar course improved their critical thinking, argumentative, and research skills. The researchers noted that the participants who took the writing-intensive courses had higher GPAs, though they also pointed out that this did not connect to higher graduation rates (Hill et al., 2018). Hill et al. suggested that nonacademic issues could have been responsible for the missing connection between

the gained skills and graduation rates. VanOra (2019) found that even though the student

participants in his study had initial concerns about taking developmental courses, 80% of

the participants stated that developing their writing, reading, and thinking skills would

have more value than graduating faster by skipping any remediation. Elliott et al. (2019)

found that scaffolding writing tasks within the students' disciplines improved the

students' confidence in their writing. Allen, DeLauro, Perry, and Carman's (2017)

suggested that increased literacy skills make students more likely to complete other

content courses that require a lot of reading and writing. In their study, Sala-Bubare and

Castello (2018) stated that struggling writers are not adept at applying writing processes

specific to their chosen disciplines. To ensure that college composition courses prepare

students for these writing tasks, researchers need to study writing regulation processes.

College composition instructors would then need to incorporate these regulation

processes into the curriculum. However, for students to engage in such higher-level

analyses, they would need to have strong reading and writing skills.

 Accelerated remediation. To discuss accelerated remediation, I first needed to

discuss the terminology. Though often used interchangeably, the terms remediation and

DEd are not the same. Traditionally, researchers used the term *remediation* to refer to

models such as the SA courses (Boylan et al., 2017), which accurately described the

community college's previous approach with the SA model. On the other hand,

researchers used the term DEd to describe a model that combines supports and

coursework (Boylan et al., 2017), and this aligns with the CR model. Therefore, based on

these definitions, the MCC previously only offered remediation but now offers DEd, as well.

Remediation acceleration is a research-supported trend in redesigning DEd programs. Researchers showed that longer remediation sequences not only slow college progression and completion but also provide more time for students to drop out (Edgecombe, 2011; Vandal, 2014). Hodara and Jaggars' (2014) found that accelerating students through remediation and DEd has had positive effects on college persistence and completion of credentials. Because the IRW course combines two courses into one, this combination course accelerates the coursework for IRW students.

Researchers have supported acceleration through IRW courses. Barhoum's (2017) study named IRW courses as one of the most promising practices. Hodara and Xu (2018) found that students whose first language was not English benefitted more from taking IRW courses compared to just writing courses. However, in their study, Hodara and Xu found no effect on native-speaking students in IRW courses when compared to just writing courses. Pierce (2017) found increased passing rates for IRW students when compared to passing rates from separate reading and writing courses. Pierce also found that student perceptions of IRW were positive. According to Doherty (2016), educators at Rasmussen College began using SA IRW courses. Although Rasmussen saw some success with the acceleration, students described as disengaged still failed courses or dropped out (Doherty, 2016). With the addition of the CR model to IRW, educators at MCC have the potential to address the issue of disengagement through learning community aspects, discussed later in this review.

Despite the support for IRW courses, there are some critics. Boylan et al. (2017) noted that although IRW courses may help students whose Lexile is at least at a high school level, students with much lower Lexile scores likely need more reading instruction than integrated courses can incorporate into the limited instruction time. Lexile refers to a student's reading level, as determined by the Scholastic Reading Inventory (Scholastic, n.d.). However, Boylan et al. also recommended that instruction in reading should be a part of the course curriculum in all courses for students with lower starting Lexile levels. Faculty at community colleges should receive training to teach reading skills (Boylan et al., 2017). In addition, faculty need to make careful choices about reading materials.

Specific to reading instruction, researchers connected the reading material to student achievement. Armstrong, Stahl, and Kantner (2016) found that some developmental reading courses used workbooks and novels to teach reading skills, but these texts did not support college-text readiness. Students in general education college courses need to be able to analyze nonfiction texts and demonstrate their understanding of course concepts on assessments and in essays (Armstrong et al., 2016). In Zimmerer, Skidmore, Chuppa-Cornell, Sindel-Arrington, and Beilman's (2018) study, they replaced reading textbooks and workbooks with library database sources. The researchers found that although both the traditional book and database groups showed similar growth in reading skills, the database group showed more information literacy skills. Zimmerer et al. also noted the decreased cost to the database group students since they did not have to purchase a textbook. Perin, Lauterbach, Raufman, and Kalamkarian (2017) found a statistically significant correlation between writing and reading comprehension. The

researchers suggested that reading comprehension is vital for text-based writing common in many college courses. They also stated that improved general writing skills enabled DEng students to produce stronger persuasive writing. Students in the CR model read college-level texts to support the work done in ENGL 100, which eliminates the issue noted by Armstrong et al.

Researchers also produced findings that supported accelerated remediation through the CR model. Cho, Kopko, Jenkins, and Jaggars (2012) studied the Community College of Baltimore County's Accelerated Learning Program (ALP) model, the basis of the CR model, and noted increases in English course completions and persistence of DEng students. This finding meant that the DEng CR model could affect students beyond their gateway courses, which was the basis of my research question on persistence. Jaggars, Hodara, Cho, and Xu (2015) examined three accelerated DEd models, including the CR model. Their findings indicated that the CR model was a successful delivery model for increasing the number of students passing gateway courses. Schnee and Shakoor (2016), though critical of acceleration for all DEng students, found student exposure to college-level standards and rigor essential to success for basic writers. Barhoum (2017) noted the CR model as a best practice. In another study, Barhoum (2018) surveyed administrators and faculty and found strong support from respondents for the CR model as one major theme. Minor themes from Barhoum included small CR class sizes, use of computer labs, and acceleration. King et al. (2017) studied DEd reforms, including the CR model, in West Virginia, Georgia, Tennessee, Indiana, and Colorado, and found increases in students passing gateway English and math courses.

King et al. discussed colleges that implemented the CR model with changes such as accepting students with lower assessment scores into their CR courses to analyze the one-size-fits-all approach. However, King et al. only provide descriptive statistics without quantitative analysis. The researchers viewed student completions as a whole instead of being broken down into groups, such as those in IRW courses, to determine if the CR model worked for all students. MCC's redesign aligned with much of this research, though the college still offers SA IRW courses and separate CR reading and writing courses.

However, not all researchers' findings support the CR model. In one of the earliest studies of the CR, Jenkins, Speroni, Belfield, Jaggars, and Edgecombe (2010) found minor improvements in completion and retention rates, but also noted that the CR costs twice as much if you count all students enrolled. In addition to concerns about cost, critics note that some students need more time to develop their reading and writing skills (Schnee & Shakoor, 2016). Boylan and Trawick (2013) criticized a report from Complete College America (2012), a nonprofit organization based out of Indianapolis, Indiana. The researchers stated that the organization should be cautious of one-size-fits-all approaches such as the CR as there is no evidence of the program's effectiveness for DEng students of all skill levels. Researchers have not only been critical of the CR model, but have also criticized studies of DEd.

Researchers expressed concerns about the methodologies of studies of DEd. Goudas and Boylan (2012) noted that many studies of SA DEd used regression discontinuity to compare DEd students who scored just below and just above the college

readiness cutoff scores. Goudas and Boylan discussed two key issues with these studies. First, there is an assumption that the DEd students should perform better in the gateway courses than students not enrolled in DEd. The second issue that Goudas and Boylan noted is that researchers have cited these studies as evidence that DEd is ineffective for all DEd students even though the studies' results only applied to students close to the cutoff score.

In response to Goudas and Boylan (2012), Bailey, Jaggars, and Scott-Clayton (2013) defended the previous regression discontinuity studies. Bailey et al. stated that the students in the sample scored within a narrow range and are virtually identical. Therefore, if SA models of DEd were effective, the DEd students should have better performance. In response to Goudas and Boylan's second point about generalizing results, Bailey et al. conceded that results could not be generalized to include students scoring much lower than the cutoff score; however, they point out that assessments and cutoff scores vary across colleges. Despite differences of opinion on DEd study methodologies, Bailey et al. agreed with Goudas and Boylan that DEd should not be a one-size-fits-all model.

Other researchers have raised concerns about a one-size-fits-all approach to DEd. Using a meta-analysis method, Valentine et al. (2017) concluded that administrators should consider other approaches to DEd. The researchers supported one example of a remediation-embedded course model, similar to the CR. However, they also concluded that summer bridge programs, shorter one-credit DEd courses, and mandatory tutoring sessions were viable options for some students otherwise assigned to DEd (Valentine et al., 2017). Schnee and Shakoor (2016) also warned against accelerating all DEng

students. The researchers found that some basic writers need enough time to learn to evaluate their writing and revise without negative consequences of damaging their GPA or confidence by failing college-level courses (Schnee & Shakoor, 2016). Boatman and Long (2018) studied the effects of DEd on students assessed at different skill levels. While Boatman and Long found that DEd can have negative effects on students scoring near the cutoff score, they also found positive effects for low-scoring DEng students. The researchers concluded, like Goudas and Boylan (2012) and Bailey et al. (2013), that DEd approaches should vary according to the diverse needs of the students.

Many researchers supported acceleration, integrated reading and writing courses, and the CR model. However, there are legitimate concerns about time and colleges offering only one DEng model. This debate about whether or not the CR model is the best model for all students informed my research question on completion.

Assessment and placement. Because students place in DEd based on assessment measures, DEd and placement assessments are inexorably linked. MCC's assessment and placement procedures. When assessing students for enrollment, MCC advisors use multiple measures for assessment. Advisors consider students' past standardized testing scores, high school performance, and earned credits from other colleges when placing students (Bracco et al., 2014). However, many incoming students at MCC must take the ACCUPLACER placement assessment because they do not have the requirements set forth by the multiple measures. According to MCC's assessment web page, updated in 2019, students may enroll without taking the ACCUPLACER if their SAT or American College Testing (ACT) scores were above a benchmark, if their high school GPA was a

2.6 or higher on a 4.0 scale, if they previously earned a degree from another institution, or if they earned college credits from another institution with a passing grade of at least C-. However, students needing DEd are less likely to meet those criteria because they have skills deficits, so many of those students will need to take the ACCUPLACER assessment. Assessing students solely on a single placement assessment is problematic. Enrollment decisions should include other factors, but such measures are more easily said than done, which is why testing is commonly used.

Despite critics of standardized testing, these tests are the most widely used assessment measures. According to Saxon and Morante (2014), 97% of community colleges use ACCUPLACER or Compass assessment tests. Researchers have data that suggested higher assessment scores, including those from ACCUPLACER, lead to higher retention of students (DeNicco, Harrington, & Fogg, 2015). Students with lower assessment scores, and therefore placed into DEd, are less likely to persist (Stewart, Lim, & Kim, 2015).

Though these assessments are common and their results are valid, researchers have found issues with their use for placing students. Based on assessment scores, advisors can assign students to DEd when they do not need it and can assess students as college-ready when they are not (Hassel & Giordano, 2015). Scott-Clayton, Crosta, and Belfield (2014) found that under placements in DEd are more likely than over placements in program-level coursework when students are placed based on cutoff-score assessments. Jaggars and Hodara's (2013) case study of the City Colleges of New York indicated that DEd programs need to consistently assess and place students into

remediation as inconsistencies were affecting student progression. Further complicating

the issue is the fact that the definition of remediation and DEd has changed over time and

has evolved differently at different institutions. Thus, comparisons of DEd programs can

be unreliable (King et al., 2017). However, as a statewide college, MCC is a good

candidate for studies to eliminate that specific complication of different institutions

within a state.

The CR model may address some of the misplacement issues. Students may still

be placed in DEd incorrectly, but these students will not have to complete a semester of

coursework before taking the college composition course. Furthermore, the benefit of the

supplemental instruction of the CR course could improve their overall performance in the

college composition course.

There are also concerns about using assessment measures as predictors of student

success. Hodara and Cox (2016) found that high school GPA was a better indicator of

college success than SAT, ACT, or ACCUPLACER scores for college students in

Alaska. However, GPA may not be a strong indicator for some groups. Hodara and Lewis

(2017) and Hodara and Cox pointed out that some scholars argued the reliability of GPA

as a predictor, stating that for recent high school graduates, GPA is a more accurate

assessment than it is for adults who have delayed enrolling in college. Hodara and Lewis

noted that there was only a 1% difference in college English grades when comparing

performance predictions of high school GPA and ACCUPLACER scores. Before Hodara

and Lewis' study, Saxon and Morante (2014) pointed out an issue with using

ACCUPLACER to make predictions. Assessment tests provided colleges with data on

students' current skills and were not intended as predictors of student performance in college as these assessments do not address affective or other cognitive aptitudes that can contribute to or hinder student success (Saxon & Morante, 2014).

One recent approach to addressing these placement issues is test-optional admissions. Proponents claimed this approach allows a more holistic evaluation of students' skills and eliminates the barrier of DEd, which is promoted by standardized assessment tests (Belasco, Rosinger, & Hearn, 2015). Scott-Clayton and Rodriguez (2015) provided some support for Belasco et al.'s (2015) argument. Scott-Clayton and Rodriguez found that nearly three-fourths of students enrolled in DEng reading courses would have passed college-level coursework with a grade of B or higher without the diversion to DEng.

However, researchers expressed concerns about test-optional policies. Despite supporting these policies, Belasco et al. (2015) also noted that test-optional policies could have an opposite effect because some of these policies have resulted in increased cost to students. The increased cost could be a factor limiting access to low-income students. Therefore, the researchers recommended that schools using test-optional practices still consider test scores, such as those from the SAT, as helpful in advising students to opt into DEd (Belasco et al., 2015). MCC does not have a test-optional policy, but for IRW students who pass ENGL 100 on their first attempt, the CR model does minimize the barrier noted by Belasco et al. Also, Saxon and Morante (2014) cautioned that test-optional placement could be failing to provide needed supports to some students. Furthermore, test-optional policies could result in a broader range of student abilities in a

course, which complicates the instructor's task. This broader range could lead to lowering standards or assessing relative student performance as opposed to assessing if students have met the course standards (Saxon & Morante, 2014). These possibilities would be a disservice to students.

The Florida legislature instituted a statewide test-optional admissions policy, which has gotten a lot of attention. Hu et al. (2016) found that after instituting the policy, DEd enrollment in Florida went down, and the passing rates in those courses increased by an average of 2% for all subjects. However, passing rates for gateway courses declined (Hu et al., 2016). The test-optional policy came from Florida Senate Bill 1720, which also removed the requirement to take an assessment test (Woods et al., 2017). Faculty and staff in the Florida colleges criticized Senate Bill 1720 because they felt it was not in the students' best interest to determine if they needed DEd (Brower, Jones, Tandberg, Hu, & Park, 2017).

There are issues with assessing and placing students correctly. Though standardized tests are highly criticized, they are currently the most efficient way to assess incoming students. The state's commission for higher education, at present, has no plans to move to a test-optional policy. As I mentioned, the CR model may address some of the concerns about placement. However, for the CR model to be part of the assessment solution, the model would need to be the best pathway for all DEng students.

Student persistence. Various definitions of student persistence exist. For the CR students, the definition from the Center for Community College Student Engagement (2012) fits, which defined persistence as students enrolling in the following semester.

This definition applied because the CR students in my study took ENGL 100 in the fall semester and enrolled in the following spring semester if they persisted. However, the SA students who passed the SA course in the same fall semester took ENGL 100 in the following spring semester. For SA IRW students, persistence beyond ENGL 100 meant enrollment in either the following summer or fall semester. This definition of persistence, sometimes called fall-to-fall persistence or retention, more closely aligned with Crosta's (2012) definition of persistence. Crosta considered students as persisting if they enrolled in at least two of the first four semesters. The definition was modified to mean enrollment in at least three of the four semesters for my study because the consecutive courses for SA and ENGL 100 would already cover two semesters.

Before I discussed persistence, I wanted to point out a few important things to keep in mind for this discussion. Persistence of community college students differs from the persistence of students in 4-year institutions and has many aspects that affect students' decisions to persist (Stuart, Rios-Aguilar, & Deil-Amen, 2014). Studies of student persistence have produced mixed and inconsistent results and have mainly focused on 4-year colleges (Latz, 2015; Liao, Edlin, & Ferdenzi, 2014). To study community college student persistence, Latz (2015) suggested that colleges conduct their studies of their unique populations. For these reasons, I limited my discussion to focus on persistence and DEd.

Three areas affect persistence: individual, institutional, and social (Jensen, 2011). The design of the DEng CR addressed each of these areas. One of the aspects of the individual level is academic performance, and the DEng CR provides academic support

for students as they take ENGL 100. If the CR model is successful, it could positively affect this individual level noted by Jensen. The institutional and social areas connect to collective affiliation theory. At the institutional level, academic engagement is a factor, and the CR allows IRW students to take credit-earning coursework in ENGL 100 in their first semester as part of a learning community. At the social level, the DEng CR creates a learning community of students and helps foster connections between students, and between students and their instructors (Gabriel & Gallagher, n.d.). However, Stuart et al. (2014) noted that an emerging body of research suggests that the social level is less important than the academic supports in increasing persistence. Instead, Stuart et al. highlighted the need for a cost-benefit approach to understand why community college students do not persist. Though only one aspect of the cost, additional semesters in college to complete DEd can play a role in a student's decision to stop out or drop out. Like Stuart et al., Latz (2015) also found that academic connections were more important to community college students than social connections. Latz noted that even those connections initially seen as social were found to have an academic connection. Given that the CR addresses all these areas of persistence, I focused my second research question on persistence of CR and SA students.

Researchers studying the effects of DEd on student persistence found varying results. Some researchers found minor or short-term positive effects on student persistence, yet others found no positive relationship between student persistence and remediation (Stewart et al., 2015). Baez, Rodriguez, and Suarez-Espinal (2016) noted that enrollment in DEd programs and lacking academic skills are among the factors

negatively affecting the persistence of community college students. Unfortunately, it is common for DEd programs to slow students' progress and contribute to attrition (Edgecombe, 2011). Hawley and Chiang (2017), on the other hand, found students in DEd had higher persistence rates in Ohio. However, Hawley and Chiang also noted that the persistence of these students did not show an association with performance and completion. Hatch and Garcia (2017) focused on the importance of academic advising and enrollment processes on persistence, noting that community college attrition can happen in the students' first semester or even before the actual start of the term.

Crisp and Delgado (2014) found no difference in community college student persistence when they compared DEd students with students not requiring DEd. However, Crisp and Delgado found a negative effect on transfer rates to 4-year colleges. Crisp and Delgado's study used a national sample and not a local one, was limited to students under 24 years of age, and could not be generalized to students not seeking transfer to a 4-year college. Furthermore, Crisp and Delgado could not control nor measure other factors that affected their results, such as policies or programs like the DEng CR model. For my study, I was not concerned with persistence rates of students not requiring DEd, but I did address some of the issues with Crisp and Delgado's study by using a local sample specific to one college, and there are no limitations on the age of the participants. I chose to compare persistence rates of the IRW SA and IRW CR DEng students because of the mixed results from other researchers. I also wanted to see if the learning community aspects of the CR contributed to higher persistence rates.

Learning communities. Though the concept of learning communities is not new, there has been a recent resurgence in the application of learning communities, especially in community colleges (Young & Keup, 2016). Learning communities group students together, often in small groups, to take courses together to allow them to bond through their shared experiences and challenges (Flynn, James, Mathien, Mitchell, & Whalen, 2017). Learning communities have been promoted for many years. Gardner (1999), from the Institute for Excellence in Undergraduate Education, praised learning communities as the most promising practice for increasing first-year student performance as well as retention. More recently, Romanoff (2016) noted that learning communities could strengthen the student's purpose and provide support such as peer mentoring. The Achieving the Dream (ATD) initiative, started in 2004 by the Lumina Foundation, included the use of learning communities and piloted the program at 26 community colleges (Brock, Mayer, & Rutschow, 2016). According to the college's 2018 profile on the ATD website, MCC joined the ATD initiative in 2009.

There is support for the CR model's learning community aspects. In their study of learning communities at a Brooklyn, New York, community college, Bonet and Walters (2016) found that students in the communities were more connected to and engaged with not just their classmates and instructors but also with the course material. Bonet and Walters additionally found students in the learning communities had fewer absences, and the researchers connected the improved attendance to better grades. Gabriel and Gallagher (n.d.) stated on the ALP website that the connections created in the CR model are considered a key to the success of the model. Conradson (2016) noted that learning

communities could help students feel connected, especially in small groups, and highlighted how learning communities address the social and emotional needs of students, which connect to collective affiliation theory. The connections are not only between students but between students and their instructors, as well. Karp (2016) discussed the initial success of learning communities for student outcomes. However, Karp also noted that the connection between students in learning communities could weaken once the students no longer enrolled in linked courses.

Regarding the CR courses, Karp's (2016) findings could mean that students in these courses would not maintain the strength of the sense of community after completing ENGL 100. However, the creators did not design the DEng CR to address all factors connected to student retention and completion after ENGL 100. The goal of DEng CR is only to accelerate students through DEng and support completion of ENGL 100. New learning communities within degree programs have to fill the role after students enroll in their programs' coursework.

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Implications

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As the literature showed, accelerating IRW students through remediation is a research-supported trend in community colleges. Though researchers disagree on the best way to accelerate IRW students, the overall consensuses are that acceleration is necessary, and colleges need to find the best approach for their populations. I addressed these points of agreement. I provided data about the associations between IRW students' completion and persistence for students enrolled in the SA and CR models. I considered

the possible products of the study and chose a position paper as the best way to present the findings to the stakeholders at the site.

Summary

MCC implemented the CR model for DEng course delivery to accelerate students, including IRW students, through DEng and support them in ENGL 100 to increase DEng students' completion. Furthermore, researchers have shown that shortening the length of time DEng students spend in DEng coursework affects persistence. In my quantitative ex post facto comparative study, I looked for associations between SA and CR IRW students' completion of and persistence beyond ENGL 100. My study is useful to the site because research has noted missing data analyses (Fulton, Gianneschi, Blanco, & DeMaria, 2014). In Section 2, I discussed the methodology for the study. In Section 3, I presented the project resulting from the study, and in Section 4, I presented reflections on and conclusions to the study.

Section 2: The Methodology

Completing ENGL 100 is necessary for earning a degree at MCC. Accelerating

DEng increases the likelihood that students will persist to graduation. However, too much

acceleration may not allow enough time for IRW students to develop their skills. The

purpose of this study was to examine the difference in ENGL 100 completion

(passing/failing) and persistence (enrolling/not enrolling) between first-time IRW

students who took the IRW course in two different models (SA/CR) at MCC.

Research Design and Approach

The study was quantitative with an ex post facto comparative design. An in-depth

investigation into the reasons IRW students may fail is not the purpose of this study;

therefore, the study is not qualitative. The categorical independent variable was the IRW

model. The dependent variable for RQ1 was ENGL 100 course completion measured by

the categories passing or failing. At the college, a student must earn a grade of D or

higher to pass ENGL 100, according to MCC's student grading policy updated in 2017.

The dependent variable for RQ2 was persistence with the categories of enrolled or not

enrolled in the semester following ENGL 100.

Rationale

Researchers have conducted similar studies using the methodology chosen for this

study. For example, Connolly, Flynn, Jemmott, and Oestreicher (2017) studied a first-

year experience designed for at-risk students. The dependent variables were program

effectiveness, class participation, academic probation, and retention; the independent

variable included the categories of students in the first-year experience program and those

not in the program (Connolly et al., 2017). The researchers used the dependent variables to divide participants into groups of those on academic probation and those not on probation, and students retained and those not retained (Connolly et al., 2017). Connolly et al.'s study is similar to mine in that the independent variable had two categories of students and that the authors looked at performance and retention. However, performance was defined differently in my study as students passing or failing instead of being on academic probation or not.

My study was also similar to studies by M. S. Wilson (2014) and Bishop (2016), which used chi-square tests. M. S. Wilson used a chi-square test in a similar study of DEd and compared graduation rates of two groups at historically African-American colleges: those taking DEd and those not. M. S. Wilson had categorical and ordinal variables, and random sampling was not feasible. Therefore, M. S. Wilson chose an ex post facto comparative design. Because I also had categorical and ordinal variables, looked to compare groups, used archival data, and random sampling was not possible, I used the same design. Bishop used archival data and the chi-square test to analyze associations between retention and counseling services for students grouped as high risk of attrition and low risk of attrition. Bishop used three chi-square tests: one for each hypothesis using different combinations of the independent variables. The dependent variable in all tests was student retention. The independent variables were categorical: high-risk students using counseling services and low-risk students using counseling services, and high-risk students using and not using counseling services.

My study was also similar to comparative studies by Briggs (2016) and Garayta (2017). Briggs studied student performance in DEd math courses with categories for the independent variable of students receiving and not receiving student coaching. Briggs's comparative study analyzed two approaches to supporting DEd students, similar to my study. However, because Briggs's dependent variable was an interval variable, a t test and analysis of variance (ANOVA) were used to analyze the data. A numerical variable, such as Briggs used, would allow for a more sophisticated data analysis; however, the availability of the data limits researchers. At MCC, course grades are intervals without exact distance between grades that do not produce accurate measures. Consequently, I used a dependent variable with the two categories of pass or fail, similar to a study by Garayta.

In a comparative analysis of DEng students using categorical variables, Garayta (2017) used a chi-square test to analyze the archival data for four dependent variables: course completion, persistence, retention, and credential completion. For the dependent variables of course completion and persistence, Garayta used the categories of pass/fail and persisted yes/no, respectively. Garayta distinguished persistence from retention by counting enrollment in the semester immediately following the DEng program as persistence, whereas fall-to-fall enrollment counted as retention. Because the SA model requires two semesters to complete ENGL 100 and the CR only requires one semester, for my study, I used the term persistence even though the SA students would technically fall into the definition of retention as used by Garayta.

Setting and Sample

The setting for the study was MCC, a single community college, divided into 15

regions with more than 30 campuses, which serves the entire state under the same

executive leadership. Campuses of the college range from rural to urban. According to

the English department chair at one of the campuses and MCC's 2017 curriculum

development document, the DEng program is managed at each campus by program chairs

or department chairs, all of whom meet regularly to make decisions that they implement

statewide.

The sample for this study included all IRW students who first enrolled in the fall

2016 semester. The total sample included 1,247 IRW students identified through the

ACCUPLACER test as lacking college-ready reading and writing skills. As students

could select the SA or CR option, random assignment was not possible. The recruitment

of participants was not required because the study used archival data. Table 1 shows the

numbers of participants in each of the study's models for the questions of completion and

persistence.

Table 1

Numbers of Participants

Model	SA	CR	Total
Completion	84	1163	1247
Persistence	58	667	725

According to Cohen (1992), for the standard educational settings of a medium

effect size, power of .80, and the alpha set to .05, a minimum sample size of 64 in each

group was needed for a chi-square analysis with one degree of freedom and hence, the sample was sufficient.

Instrumentation and Materials

The participants in this study placed into DEng based on their ACCUPLACER assessment scores in reading and writing. The ACCUPLACER assessment test is recognized as a well-established method (Fields, 2013). The College Board, which publishes the ACCUPLACER test, conducts research such as surveys and validity studies (Fields, 2013). For example, Mattern and Packman (2009) found a moderate to strong predictive validity relationship and 70% correct course placements. However, Mattern and Packman's focus was on the ACCUPLACER as the sole method of placement and not multiple measures.

For the first dependent variable of completion, determined by ENGL 100 final grades, course instructors assigned grades based on student performance on essay writing with an emphasis on the final assessment argumentative essay. According to MCC's ENGL 100 assessment handbook, updated in 2017, the English curriculum committee at MCC established an outcomes-based assessment for ENGL 100 starting in 2012. The purpose of the assessment is to determine whether ENGL 100 students demonstrate the application of the course goals as outlined in the course outline of record. According to the 2017 ENGL 100 assessment handbook, the curriculum committee outlined six reasons for conducting the statewide assessment, including accountability to the state's core transfer agreement library, which guarantees the state's 4-year schools will accept ENGL 100 as a freshman composition credit.

The assessment requires students to submit a researched argumentative essay to a database. Two raters score each essay on a standardized rubric created after the committee voted on the six most essential objectives of the course: focus, organization, support, critical thinking, writing conventions, and documentation. Of the essays collected, a portion is randomly selected by an algorithm for evaluation. According to MCC's 2017 ENGL 100 assessment handbook, the college's office of institutional research determined that a minimum of 100 essays would be scored. The data are then distributed to the English department chairs at each campus for review. The assessment project has a 2-year cycle with 1 year of rating the essays followed by 1 year of responding to the data.

The second dependent variable of persistence was determined by whether or not IRW students who passed ENGL 100 enrolled in the following semester. For the CR group, I defined the following semester as the spring semester 2017. For the SA group, I defined the following semester as either summer semester 2017 or fall semester 2017 with duplicates removed.

Data Collection and Analysis

Upon receiving approval from the Institutional Review Board of Walden University (approval number 01-04-19-0339284), the data-request form from the site's Office of Institutional Research was completed and submitted. The data requested were archival and available through the college's database. For my dependent variable of completion, I requested the numbers of students enrolled in the SA and CR models in the fall semester 2016 and how many IRW students in each model passed and failed ENGL

100 on their first attempt. For my dependent variable of persistence, I requested the numbers of IRW students in each model who enrolled or did not enroll in the following semester. I only included the IRW students who passed ENGL 100 in the analysis for persistence. The aggregated data had no identifiers and were also nonparametric. I presented the complete raw data in Tables 1, 3, and 6.

I entered the data into an Excel spreadsheet and uploaded the spreadsheet to the Statistical Package for the Social Sciences' (SPSS). I used the SPSS chi-square function to produce the p value needed to test the two null hypotheses. Pearson's chi-square test was appropriate for analyzing associations in nonparametric data to determine the probability of independence of the variables. The probability of independence determines if the observed frequencies differ from the expected frequencies in a way not attributed to chance (University of Pennsylvania, 2008). I used two chi-square tests in the study: both with the independent categorical variable of SA or CR and one test each for the dependent ordinal variables of passing or failing ENGL 100 (completion) and enrolled or not enrolled after ENGL 100 (persistence). The chi-square test determined if the variables were independent, which is the null hypothesis.

The variables must be mutually exclusive to use the chi-square test (University of Pennsylvania, 2008). My variables were mutually exclusive. Furthermore, the chi-square test cannot be used for small data sets. A small data set is generally less than five sets in any cell of the chi square (University of Pennsylvania, 2008), and this study had a large data set as it used the entire population of IRW students from the college and not a representative sample.

I calculated the degree of freedom to test the probability of independence or *p* value. Triola (2012) defined the degree of freedom as the "number of sample values that can vary after restrictions have been imposed" (p. 356). The degree of freedom was 1 for both chi-square tests. Multiplying the number of rows minus one by the number of columns minus one produced the degree of freedom: (R - 1) × (C - 1); thus, (2 - 1) × (2 - 1) = 1. Next, I calculated the estimated distribution for each cell if the distribution showed no association, which is the null hypothesis. The expected distribution required calculating the expected value of each cell of the chi square. Multiplying the total of each row by the total of each column produced the expected value.

After calculating the expected distribution, I applied the chi-square formula to attain the chi-square value. I used the chi-square value and degree of freedom to calculate the *p* value, or calculated probability, which determined the rejection or failure to reject the null hypothesis. The *p* value for significance for this study, by convention, was 0.05 (see University of Pennsylvania, 2008), so the null hypothesis was rejected if the *p* value was less than 0.05. A *p* value higher than 0.05 failed to reject the null hypothesis. I also calculated the phi coefficient to measure the effect size.

Assumptions, Limitations, Scope, and Delimitations

For this study, I assumed that the students in each group, SA and CR, were similarly assessed for placement and course completion. All participants scored below college readiness on the reading and writing skill portions of the ACCUPLACER, and thus, all were required to enroll in DEd at MCC. Further, I assumed that MCC faculty assigned the statewide assessment argument essay and properly reported the grades, and

that faculty followed the statewide course outline for the course. A final assumption was that students made sincere efforts to pass the class.

One limitation of the study was the time frame. The most recent semesters possible for the study were selected. However, different campuses implemented the CR model at different times and to different extents. It is possible that some instructors had more experience teaching the CR than instructors at other campuses. Selecting the most recent possible semesters allows the most time available for instructors to have gained experience teaching the CR. However, because MCC has been gradually reducing the number of SA courses, selecting the most recent semesters would not have provided enough SA IRW students in the sample. Due to the reduction in SA courses, another limitation is that the groups for comparison were not equal. The SA groups for completion and persistence were less than 10% of the CR group's sizes.

Another limitation of the study was that random assignment to the groups for comparison was not possible because the data were archival, hence the ex post facto design. Mortality of participants was not a limitation in this study. Because the data provided by the study site only included students who did not drop the course, the number of students in the CR who dropped the course was not known. For students in the SA course, any student not enrolling in ENGL 100 in the following semester was known. I did not count the SA students who passed the DEng course but did not enroll in ENGL 100 in the following semester as participant mortality but rather as students not persisting. My reason for still including these students in the study data was Edgecombe's

(2011) study, which showed that the longer students take before enrolling in ENGL 100, the less likely those students are to persist and complete.

The scope of my study covered what associations exist between student completion and persistence in consecutive (SA) and concurrent (CR) IRW models at MCC. I sought to determine if an association that is stronger than chance exists between the independent and dependent variables. The chi-square test can provide information about associations but cannot imply causality (Triola, 2012). The chi-square test cannot show that a DEng model caused an increase in student completions, nor can the test identify elements of the model affecting student completions. My study does not include specific factors of the participants, which may affect their completion or persistence.

I delimited my study to archival data from one statewide community college. Also, I delimited my study to four semesters at most, from fall 2016 to fall 2017. Only first-semester students were included in the sample, removing any students retaking either the SA or CR courses.

Protection of Participants' Rights

My contact at the institutional research office at MCC sent the de-identified data from a secure email server to a secure email server at Walden University. I saved the data on a password-protected removable drive, which was locked in a file cabinet when not being used. I will destroy the drive at the end of 5 years after the completion of this study. There were no risks to the participants associated with this study.

Data Analysis

Completion

I conducted a chi-square analysis for each contingency table. For the variable of

completion, the data included the numbers of CR and SA IRW students initially enrolled

in the fall semester 2016 who passed or failed ENGL 100 on the first attempt. I presented

the expected frequency of completion in Table 2 and the observed frequency in Table 3.

Table 2

Expected Frequency of Dependent Variable of Completion

	Passed	Failed	Total
SA	49	35	84
CR	676	487	1163
Total	725	522	1247

Each cell was above an expected frequency count of 5 and hence, the chi-square

could be conducted.

Table 3

Observed Frequency of Dependent Variable of Completion

	Passed	Failed	Total
SA	58	26	84
CR	667	496	1163
Total	725	522	1247

Note. $x^2 = 4.403$; $p = .036$

The chi-square analysis showed that 57% of CR students passed ENGL 100 on their first try, and 69% of SA students passed ENGL 100 on their first try. The chi-square value was 4.403 (x^2 = 4.403) with p = .036. I rejected the null hypothesis because the p value was less than .05. IRW students who passed the SA course completed ENGL 100 at a higher rate than IRW students enrolled in the CR course. There is a statistically significant association of students passing or failing ENGL 100 between MCC students enrolled in consecutive SA IRW courses and students enrolled in concurrent CR IRW courses. I presented the significance in Table 4. The phi coefficient was .059, indicating a strong positive relationship. Though the collective affiliation aspects of the CR model may help many students, the analysis results suggested that the students requiring both reading and writing development might need the scaffolding, slower pace, or added time provided by the SA model.

Table 4

Significance for Dependent Variable of Completion

		Value	Approximate Significance
Nominal by Nominal	Phi	.059	.036
N of Valid Cases		1247	

Because I focused on IRW students completing ENGL 100, the number of SA students who failed to pass the SA course is unknown. However, the analysis results showed that students who do pass the SA IRW course completed ENGL 100 at a higher

rate than CR IRW students. Whether similar results would be found for the separate reading SA and writing SA courses is unknown.

The CR IRW students who did not pass ENGL 100 on their first attempt had to retake ENGL 100 and possibly the CR course. These students ended up paying for three to four courses in two semesters. Though students in the SA model had to take an additional semester of coursework before enrolling in ENGL 100, SA students who passed are at the same point in their progression as the CR students who did not pass. Also, SA students who passed only had to pay for two courses.

Both the IRW SA and IRW CR models accelerate students through DEng by combining reading and writing into one course. This type of integrated acceleration has empirical support (Barhoum, 2017; Doherty, 2016; Pierce, 2017). The lowest completion percentage that I found was 57% for the CR students, which is 20% higher than the 37% DEng passing rate, reported by Complete College America in 2019, at MCC before implementing the CR model. Given these numbers, I found the IRW can be effective for students. However, the model for delivering IRW coursework mattered in my study.

My results for completion may be surprising because other researchers found CR students complete at higher rates. However, some other researchers only included higher-assessing students in their sample. Cho et al. (2012) found CR students completed gateway English at a significantly higher rate than SA students. However, the participants in Cho et al.'s study were placed into the higher-level DEng writing course. Cho et al. did not study students placed into lower writing levels or that needed DEng reading. Similarly, Jaggars et al. (2015) only included participants who placed into a higher-level

DEng writing course. Because these researchers did not have the IRW students, my findings do not contradict their findings. Rather, my results highlight the need for more research on the CR, and especially on IRW students and lower-assessing students.

In 2019, Complete College America reported that the percent of MCC DEng students passing ENGL 100 increased from 37% to 55% using the CR model. However, these numbers included all CR DEng students regardless of assessment scores. Complete College America did not break down the data into subgroups, such as the sample I used in my study. Though more students overall may be passing ENGL 100 in the CR model, their data did not indicate if the model is the best option for all students. The increase in completions is good, but nearly half the students are still not passing. Given my results, it would be interesting to see how our results would compare if I could isolate the IRW students in the Complete College America data. The academic and social integration of collective affiliation may be positive aspects of the CR (see Claybrooks & Taylor, 2017; Davidson, 2011). However, I found that IRW students at MCC perform better in SA courses. Theses IRW students may need the scaffolding of the SA model (see Khaliliaqdam, 2014).

With my results, I provided empirical data that supports some researchers' concerns about one-size-fits-all models of DEng. In response to the Complete College America (2012) data, Boylan and Trawick (2013) noted a lack of evidence indicating that the CR was effective for all students. My results showed that this was the case for IRW students at MCC. Schnee and Shakoor (2016) expressed concerns that the CR model would not provide enough time for DEng students to develop their skills. I cannot say

that this was the reason the IRW students in my study failed ENGL 100, but time could

be one factor. In their discussion of IRW courses, Boylan et al. (2017) noted that DEng

students with lower Lexile scores might need more time to focus on reading skills than an

IRW course could provide. However, I found that SA IRW students completed ENGL

100 at a rate 12% higher than the CR IRW students. The combined workload of the CR

model may not allow enough time for IRW students, but based on my findings, the SA

model's acceleration does. Goudas and Boylan (2012), Bailey et al. (2013), Schnee and

Shakoor (2016), Valentine et al., (2017), and Boatman and Long (2018) all suggested that

colleges offer different options for DEng students. Based on my results, I recommended

two guided pathways for IRW students in Section 3 and my policy paper.

Persistence

I conducted the chi-square analysis for the dependent variable of persistence after

completing the analysis for completion. For the variable of persistence, the data included

the numbers of CR and SA IRW students who passed ENGL 100 on their first attempt

and persisted to the next semester. I presented the expected frequency of completion in

Table 5 and the observed frequency in Table 6.

Table 5

Expected Frequency of Dependent Variable of Persistence

	Enrolled Yes	Enrolled No	Total
SA	50	8	58
CR	580	87	667
Total	630	95	725

Each cell was above an expected frequency count of 5 and hence, the chi-square

could be conducted.

Table 6

Observed Frequency of Dependent Variable of Persistence

	Enrolled Yes	Enrolled No	Total
SA	50	8	58
CR	580	87	667
Total	630	95	725

Note. $x^2 = .026$; $p = .871$

The chi-square analysis showed that 87% of CR students persisted, and 86% of

SA students persisted. The chi-square value was .026 ($x^2 = .026$) with $p = .871$. The p

value was greater than .05, which failed to reject the null hypothesis. I presented the

significance in Table 7. The phi coefficient value was -.006, indicating no relationship or

a negligible relationship.

Table 7

Significance for Dependent Variable of Persistence

		Value	Approximate Significance
Nominal by Nominal	Phi	-.006	.871
N of Valid Cases		725	

Though a goal of collective affiliation is to retain students by incorporating them

into the college community, my results showed that both the CR model, based on

collective affiliation, and the SA model, based on scaffolding, produced similar results for persistence. Researchers have found mixed results on the effects of DEd on persistence (Stewart et al., 2015). Baez et al. (2016) found that DEd had a negative effect on persistence. Hawley and Chiang (2017) found a positive effect. Crisp and Delgado (2014) found no effect. For my study, I did not compare DEng students to students not needing DEng, so my findings do not support nor refute the researchers' findings. However, I found that for IRW students at MCC who pass ENGL 100, the persistence rates are the same regardless of the DEng model.

The DEng model did not affect the students' persistence after completion of ENGL 100 despite researchers' suggestions that the learning community aspects of the CR could increase persistence rates (see Bonet & Walters, 2016; Conradson, 2016; Gabriel & Gallagher, n. d.). There may be a difference in persistence for SA students who did not pass the DEng course (Edgecombe, 2011), but that possibility was outside the scope of my study. I found an association between the DEng model and completion of ENGL 100, but no association between model and persistence. Therefore, I focused my policy paper on the guided pathways based on my completion results. Had my results for persistence contradicted my results for completion, I may have needed to add another pathway or split the two pathways into four. Fortunately, I was able to recommend only two pathways. My two pathways avoided the one-size-fits-all approach but also will not overwhelm students with too many options (see Bailey, Jaggars, & Jenkins, 2015; Chaplot et al., 2013).

Summary

Using an ex post facto comparative design and chi-square tests of SA and CR IRW students' completion and persistence, I looked for associations between the variables. For the dependent variable of completion, I found an association between the models and IRW students' completion of ENGL 100 with more IRW students completing in the SA model. For the dependent variable of persistence, the results showed no association between the DEng model and persistence. As placement into DEng courses at MCC is a matter of policy, a policy paper is a logical project resulting from the study. In Section 3, I discussed the policy paper project. In the policy paper, I recommended that IRW students enroll in the SA model whenever possible. When enrollment the SA model is not possible, I recommended requiring additional support from a writing or tutoring center for IRW students in the CR model.

Section 3: The Project

Introduction

My project resulting from this study was a policy paper. The study results and research that I discussed in the review of the literature in this section informed the recommendations. The policy paper included the needed background, a summary of the study's findings, and the recommendations. Appendix A is the policy paper.

Rationale

I produced results that could be used to guide DEng model enrollment and DEng course requirement policy at MCC; therefore, a policy paper was the most appropriate product. I considered other products, but the study's focus does not support a curriculum plan or a professional development activity. The data analysis results indicated that the CR model might not be the best option for all IRW students. Therefore, I recommended that MCC not enroll all IRW students in the CR model. In the policy paper, I addressed the problem of IRW students' completion of ENGL 100 through the recommendation that students enroll in the DEng model in which they have the best chance of completion. Furthermore, I recommended additional supports to increase CR IRW students' completion of ENGL 100. Because my results failed to reject the null hypothesis for the RQ of persistence, I did not offer any specific recommendations regarding persistence.

Review of the Literature

First, in this review, I discussed the policy paper genre. I covered policy papers, accountability, and data-driven decision making. Second, I discussed specific policy recommendations for IRW students. The topics I covered here included guided pathways

for IRW students, advising, and writing centers. I searched using Academic Search

Complete, EBSCOhost and EBSCO books, Education Source, ERIC, PsychARTICLES,

the SAGE databases, SocINDEX, and the Teacher Reference Center. I used Google and

Google Scholar with care taken to ensure websites were scholarly and credible. I initially

limited my searches to the most current peer-reviewed sources available and expanded by

2 years at a time to find additional sources. My search terms included *policy paper, white*

paper, accountability in education, data-driven decision making, higher education policy,

guided pathway, advising, and *writing center.*

Policy Papers

I chose a soft-policy paper for my project. Researchers use policy papers to

present research findings to stakeholders with specific recommendations (Herman, 2013;

Kennedy, Chan, & Fok, 2011), which is the goal of my project. There are hard-policy and

soft-policy papers. A hard-policy paper is one that requires actions with consequences if

the administration does not enact the policy and a soft-policy paper makes

recommendations but cannot force compliance (Kennedy et al., 2011). The policy paper I

produced from my study is a soft-policy paper as I am only able to make

recommendations but not to enforce them. The most important part of the policy paper is

the executive summary, which the writer should structure to lead to the recommendations

(Herman, 2013). An executive summary includes the problem statement, the

methodology, the results of the study, and the recommendations (Herman, 2013). The

writer must acknowledge the stakeholders' needs in writing the policy paper (Herman,

2013; Kennedy et al., 2011). After the executive summary, the policy paper contains the

background, a more detailed discussion of the methodology, a literature review, policy

options, an analysis of the results, an implementation plan, and a conclusion (Herman,

2013). For my policy paper, I included these elements.

Accountability

MCC is held accountable by the state for students' performance through

performance funding; therefore, accountability principles support my project.

Accountability measures often include macrolevel policies from the state and changes to

funding models (Hora, Bouwma-Gearhart, & Park, 2017). The cost of going to college

has increased substantially in the last few decades, and this increase combined with

regulation led to a culture of accountability for higher education (Brown, 2017). The

components of higher education accountability are learning, curriculum, faculty,

facilities, funding, and research (Al Kadri, 2015). However, the component of research

does not apply to community colleges. The applicable components interconnect to

produce results and work best when supported by leadership (Al Kadri, 2015). My

project's recommendations affect learning, curriculum, faculty, facilities, and funding.

There are seven silos of accountability (Brown, 2017). Among the seven, four

connect to DEd: assessment, institutional effectiveness, educational measurement, and

institutional research. The first, the assessment silo, focuses on student outcomes (Brown,

2017). For my study, the student outcomes that I analyzed were gateway English course

completion and persistence beyond that course. Colleges use the second silo, institutional

effectiveness, when they examine the overall effectiveness of an institution, as opposed to

assessment, which examines specific student outcomes (Brown, 2017). This silo connects

to DEd because students who complete DEd and persist beyond affect other areas measured for accountability. Third, the educational measurement silo refers to the use of standardized testing. Brown (2017) noted that standardized testing predates accountability and has evolved since its origins in the early 20th Century. Hora et al. (2017) stated that the modern iteration of high-stakes testing began in the 1970s. Finally, according to Brown, colleges use the institutional research silo to inform planning and policymaking. According to Brown, much of the current literature on accountability presented these silos as separate and even conflicting. However, because education is a social science, researchers should view the silos as connected. Brown also stated the importance of data collection and usage for all seven of the silos.

Some researchers connected accountability and school autonomy. Klein's (2017) study of school autonomy and accountability focused on schools that serve disadvantaged communities. Though Klein studied secondary schools in Europe and the United States, the findings are worth considering in the context of American community colleges. Klein found that large school systems with a higher population of disadvantaged students were more likely to reduce an individual school's autonomy. MCC fits this description of a large school with many disadvantaged students. Of the countries studied, only the American schools with higher rates of disadvantaged students showed less autonomy (Klein, 2017). Klein suggested that negative consequences and too much oversight were not improving schools' performance. Ziskin, Rabourn, and Hossler (2018) found that an institution's level of autonomy affects its ability to respond to accountability measures such as performance-based funding. This finding could apply to an institution's response

to macrolevel policies from government bodies or other oversight systems. For MCC, the increased accountability lead administrators to find new models for DEng. However, my results indicated that IRW students are not as successful in the CR model. Though MCC is one college, each campus should have the autonomy to provide DEng model options based on the needs of their students. I considered this principle when writing the policy paper, which is why I presented options. Local administrators should use assessment and completion data for each campus to determine the best approach for their student populations.

For accountability, many state governments enacted external policies that impacted colleges. Levin, Martin, Damian, and Hoggatt (2018) studied policy effects in California, Washington, and Hawai'i. In all three states, community colleges faced budget cuts and performance funding. The researchers found that the writers of external policies pushed political and economic agendas on the colleges and required the use of business models to adhere to the policies (Levin et al., 2018). Similarly, MCC faced budget cuts after the recession in 2008, according to the state's commission for higher education. When the study state transitioned to performance funding, MCC had to meet the accountability measures to receive the additional funding for the metrics. Huber and Bassen (2018) also noted the use of business models for education accountability. Huber and Bassen's study of sustainability guidelines for higher education focused on business sustainability principles to build a reporting model for higher education. The researchers noted that there was no recognized framework for higher education sustainability. Still, using the business model, many of the same aspects of accountability were present,

including data reporting and process management (Huber & Bassen, 2018). The recommendations in my policy paper include enrollment process management. The community colleges in Levin et al.'s study responded to the external pressures while maintaining their institutional logics. Institutional logics included the college's mission, identity, and culture (Levin et al., 2018). Levin et al. cautioned states to consider the specific missions and student populations of community colleges when enacting accountability measures. The performance metrics in the study state changed how MCC was held accountable, but the college still had to consider its mission and students when making decisions.

In their study of impacts on developmental education from a state policy change in Florida, researchers Park, Tandberg, Hu, and Hankerson (2016a) found that there were some positive unintended changes from the policy, including increased collaboration and communication. The proposed changes from the policy included an added focus on DEd processes in Florida (Park et al., 2016a). MCC experienced the same focus on DEd when the state changed to performance funding. Park et al. noted that how institutions implement macrolevel policies is situated in the local context by focusing on the needs of unique student populations. I focused my policy paper on individual student needs and specific policies.

Some researchers focused their studies of accountability on minority-serving institutions with mixed results. In Gasman, Nguyen, Samayoa, and Corral's (2017) study of minority-serving institutions and accountability, the researchers found that these institutions are too often assessed unfairly through metrics that do not account for the

educational and socioeconomic deficits of their student populations (Gasman et al.,

2017). However, Li, Gandara, and Assalone (2018) studied performance funding in two

states to determine if minority-serving institutions are disadvantaged under the funding

models. The researchers found that the funding models in these two states did not

disadvantage these institutions because the funding models accounted for the student

populations and DEd (Li et al., 2018). In one state, the institutions had an advantage due

to their DEd courses; however, in both states, the institutions received less performance

funding for the degree completion metrics (Li et al., 2018). MCC received little funding

from the remediation metric, and since the metric was removed, the persistence metric is

the first benchmark where IRW students could bring funds to the college. I intended for

my recommendations to increase the number of IRW students who reach the persistence

benchmarks.

Accountability measures often lead to mandates from states and administrators,

but policymakers must use caution when mandating policies. The lessons of the data-

driven policy movement in K-12 education should inform high education accountability

policies and practices (Hora et al., 2017). In the case of the No Child Left Behind policy,

there were assumptions made about the body of evidence, how informed educators were

about the evidence, how prepared educators were to enact the policy, and the resources

available (Detrich, Keyworth, & States, 2016). Policymakers need to recognize that the

process must be recursive and reflective, and they must be willing to change policy when

indicated by further evidence (Detrich et al., 2016). Furthermore, despite the culture of

accountability, college administrators need to focus on using the data to advance student

outcomes and not solely for accountability (Hora et al., 2017). Researchers must also collect data with specific goals in mind (Hora et al., 2017).

As an accredited college, MCC was held accountable by its accrediting body and its internal leadership. The external performance-funding policies from the state's commission for higher education added accountability metrics. The college needs data to make data-driven decisions about how to best serve the students.

Data-Driven Decision Making

I used my study's findings in my policy paper to write recommendations for data-driven decision making at MCC. Detrich et al. (2016) noted that writing policy without data is a guess at best, and gathering data without applying it to policy can create stagnation. Policymakers in education use data-driven decision making to evaluate their practices and make changes when necessary (Hora et al., 2017). Administrators must use the data to create actionable practices for the data to be effective (Hora et al., 2017). Legislators enact some policies through laws and regulations, but college administrators can also enact policies locally. The challenge for colleges is to balance accountability with their educational goals for their students, and this balance requires collecting, analyzing, and using data to create policies. Regardless of whom is creating the policy, not considering evidence when making policies can have significant negative consequences (Detrich et al., 2016).

A focus on data-driven decision making grew in recent years due to pressure from the U.S. Department of Education and the Institute of Education Sciences (Kerrigan, 2015; Mandinach, 2012). MCC also had local pressure as it must report data to the state

for budgeting, but the use of data should not be only to justify the college's activities. Hojlund (2014) noted that justificatory evaluations or studies only serve to justify policies that stakeholders have already put in place. The real value of policy recommendations comes from implementing change when data support it. MCC began implementing the CR model due to external and internal pressures. Externally, the state's change to performance funding could be an example of coercive adoption (Hojlund, 2014). However, because of the college's internal pressure to see its students succeed, the change to the CR was more accurately a mimetic adoption (Hojlund, 2014). Mimetic adoption legitimizes processes to satisfy external pressures but also serves to increase effectiveness and efficiency at institutions (Hojlund, 2014). MCC's mimetic adoption of evaluative practices aligns with a paradigm shift, which Mandinach (2012) promoted. Mandinach noted that data should inform practice and promote dialogue instead of only holding educators accountable. Through my study and policy paper, I provided MCC with data. By distributing my policy paper to the stakeholders, I will promote dialogue between myself and the stakeholders, and hopefully among the stakeholders, as well.

Though researchers and college administrators often focus on outcomes data, there are other types of data that are important. The demographics of a student population are considered input data and can affect outcomes (Hora et al., 2017). Students' satisfaction with their educational experience is another type of data (Hora et al., 2017). Finally, there are process data on the quality of processes, such as teaching and advising (Hora et al., 2017). Policymakers should consider all of these data when making significant changes in an institution. My recommendations addressed only process data

due to the limited scope of the study. I did not address student demographics and satisfaction.

The implementation of a data-driven decision affects the success of the policy. Dunn (2016) found that preservice public-school teachers are resistant to data-driven decision making because they connect data with their evaluations instead of using data to drive instruction. To address this resistance, I needed to clearly communicate my study and recommendations in my policy paper. Communication between and across departments facilitates effective data use (Hora et al., 2017; Kerrigan, 2015). To facilitate this communication, my policy paper will be distributed to various departments at the college who are involved in processes for DEng students. In Kerrigan and Jenkins' (2013) study of Washington state colleges that had joined ATD, they found college administrators were more likely to use data to inform decisions than staff members closer to students. Reddy et al. (2014) focused their study on three states, including the state from my study. Notably, one participant from the state of my study said that although all staff members knew of the policy changes, higher administration made all the decisions. Ultimately, the administration at MCC will make the decisions. However, I am distributing my policy paper to administration, faculty, and staff members so that all involved will have the data and understand any decisions made.

College administrators should use various data to inform their policies; however, they should also allow enough time and research to be confident in their policies. For example, D. A. Wilson, Dondlinger, Parsons, and Niu (2018) compared traditional developmental writing courses with redesigned courses. Their redesigned courses

included contextualized learning and were a hybrid of face-to-face and online instruction.

Although the researchers were not able to provide significant results due to issues during

their study, they stated that their redesign showed promise. D. A. Wilson et al. noted that

the chance to revisit their study has passed because the college fully implemented the

redesign based on results from studies in other states and anecdotal evidence. Whether or

not their redesign is showing positive results for their students is currently not known.

MCC first piloted the CR model before implementing it on a larger scale. MCC gathered

some early data and implemented the model in stages; however, I found that more

research and some policy changes are advisable as administrators still report a goal of

moving to only CR courses.

To support faculty and staff buy-in, I recommended that the administration share

the policy paper with all faculty and staff involved in DEng and advising and request

feedback. The DEd faculty and advisors at MCC could hold regular meetings to share

new data on the effectiveness of the CR and SA models and discuss the best placements

for IRW students. When advising students about the CR and SA models, advisors should

take an incentive approach by sharing evidence with students. Coercive policies often

include negative consequences, but incentive policies focus on the positive outcomes if

the policy is followed (Detrich et al., 2016). Though administrators decide policies,

advisors could use data to help students make informed decisions regarding DEng options

or to support a guided DEd pathway. The CR may be a popular choice for students

because it accelerates students. However, students could make an informed choice if

presented with data about completion rates for both models while considering their assessment data. Acceleration is moot if the students do not pass the coursework.

Guided Pathways and Advising

In my policy paper, I included recommendations on guided pathways and advising for IRW students. Chaplot et al. (2013) promoted guided pathways for degree programs at community colleges. I recommended that guided pathways apply to DEng, as well. One pathway would be enrolling in the CR model, and another pathway would be enrolling in the SA model, depending on the students' assessment scores and needs. According to Bailey et al. (2015) and Chaplot et al., too many choices could overwhelm community college students and lead to confusion. However, these researchers also noted that a one-size-fits-all approach was not advisable either.

In Tennessee, several community colleges instituted a reform using guided pathways (Jenkins, Brown, Fink, Lahr, & Yanagiura, 2018). These colleges have changed their student intake processes to require students to prepare a college and career plan (Jenkins et al., 2018). Also, advisors monitor student progress and help the student design a completion plan with the students' end goal in mind (Jenkins et al., 2018). For IRW students, the first goal is to pass ENGL 100. In Tennessee, there were two pathways. One pathway is a CR model, and the other pathway requires intensive support for students whom the college deemed not ready for the CR (Jenkins et al., 2018). These Tennessee colleges recognize that not all DEd students are suited for one path.

For the IRW students at MCC, advisors should make the recommended DEng pathways clear. To do this, IRW students need to understand the different DEng models

and the data about completion rates. Bailey et al. (2015) noted that community colleges too often focus completion efforts on a single aspect instead of reforming the complete experience from intake to graduation. Incoming students at MCC should have a required advising session before taking any assessments to ensure students understand the consequences of the assessment and the DEng pathways.

Guided pathways could resolve some of the issues that arise when students self-advise into DEng programs. IRW students at MCC choose in which DEng model to enroll at campuses where both models are offered. When making enrollment decisions, students may not consider all of the information available to them (Park et al., 2016b). These poor choices can lead to students dropping out (Bailey et al., 2015). However, the solution to simplifying choice is not to create a single pathway for all students because students have different needs and goals. Perin et al. (2017) noted discrepancies in students' self-efficacy of writing skills and instructor judgments of these skills, indicating that students are not always able to accurately assess their skills and academic needs. Self-assessment can have positive effects on students if facilitated well. However, if students over-rate their skills, they can miss material which can hurt their performance, or if students underrate their skills, it can lead to lower self-esteem (J. Wilson, 2018).

One possible issue with guided DEd pathways at MCC is course scheduling, especially if there are fewer students recommended to SA courses. In their study of guided pathways and technical programs, Van Noy, Trimble, Jenkins, Barnett, and Wachen (2016) stated that intentionality in course scheduling matters. The researchers also considered block scheduling as a solution. Although some degree programs could

offer block scheduling to accommodate working adult students, block scheduling may be more difficult for IRW students, who may also need DEd math or be limited by prerequisites.

Long recognized as critical to student success, advising services are especially important for DEd students, but there are issues that limit advisors' abilities (Klempin & Karp, 2018). Too often, advising centers are underfunded and understaffed, which results in little contact between students and advisors (Karp, 2013; Klempin & Karp, 2018; Woods et al., 2017). In 2017, MCC reported to *U.S. News and World Report* that the ratio of advisors to students was 750:1, and the college has a goal of lowering the ratio to 500:1. This issue is especially noticeable during fall semester enrollment periods when students experience longer wait times and quicker sessions. These advising sessions can result in students receiving a lot of information to dig through as the focus in these peak times is to get the students enrolled in classes before the term begins. Carter's (2018) qualitative study of CR DEng courses had mixed responses from advisors about the amount of time spent advising. Carter's study included several community colleges in Texas, where the sites used advisors to place students in their CR DEng model or the SA model. Some advisors in the study noted that they had to shorten the time spent with each student to manage the number of students needing advising during peak times, and these shorter advising sessions could result in misplacement (Carter, 2018). However, other advisors from a different college did not find time constraints an issue, noting that they spent up to half an hour with incoming students to evaluate where the students should be placed (Carter, 2018). Longer sessions are better, but not all community colleges have

enough staff to accommodate spending 30 minutes with each incoming student during peak times.

Advisors could consider group advising as a more efficient approach, but there are some drawbacks. In Florida, the policy which made DEd optional also required additional advising. Advisors in Florida noted that they had to use group advising because advising now required additional time to discuss the DEd policy and options (Brower et al., 2017). In a qualitative study, one advisor in Florida noted long wait times for students to meet individually with advisors, which caused some students to leave instead of waiting (Brower et al., 2017). Finnie et al. (2017) found a 2.5% increase in retention for students who participated in the group advising compared to the control group, while individual advising showed no effect on retention compared to the control group. However, these advising sessions were proactive. The sessions occurred over a month before the start of the fall semester. Group advising is more efficient, but it does not enable advisors to focus on students' individual needs. Also, it is not clear if Finnie et al. would have found the same results if the advising sessions occurred in peak times. Van Noy et al. (2016) noted in their study that group advising was often used but only for specific programs.

Changes in registration practices could address the issues seen at the usual peak times. Gurantz (2015) found that students who registered after the semester began did not understand the registration process, were less dedicated to their education, or tended towards procrastination. Gurantz also found that the association between late registration and retention may be weaker than previous studies found. The main factor in late-

registering students' retention is not when they registered but rather if students were able to enroll in enough courses that met their time constraints and academic needs (Gurantz, 2015). Gurantz found that there were many available seats in the DEng courses, but these late-filling sections were more likely to be at off-campus sites or at less desirable times. For adult students, early morning or late afternoon classes can conflict with jobs or childcare. Gurantz recommended measures to address late registration such as email or text reminders for incoming students to register for classes, discounts for registering early, and improved technologies to guide students through course registration. Though Gurantz focused on students registering for courses after the semester began, some of these approaches could be useful to address the peak times.

Another possibility to manage the peak enrollment periods could be late-start classes, which run for fewer than 16 weeks. MCC offers several 8-week and 12-week courses; however, for IRW students, having fewer weeks means less time to research and write essays. Boylan et al. (2017) noted that these students might need more support and time than can be provided in a late-start class.

Intrusive advising is gaining popularity as a best practice to increase student retention and completion. Intrusive advising is a practice where students are required to meet regularly with advisors. Donaldson, McKinney, Lee, and Pino (2016) conducted a study on intrusive advising practices at a community college. The study participants were first-semester students enrolled in a student success course. Benefits of the intrusive advising practice included early planning to complete a degree, researching transfer requirements, and career exploration (Donaldson et al., 2016; Park et al., 2016b). The

intrusive advising also removed the motivational barrier in which students did not seek advising help (Donaldson et al., 2016). Van Noy et al. (2016) stated that even within guided pathways, intrusive advising was essential.

Researchers also found some limitations of intrusive advising. Some student participants had negative responses to the added time required to meet with advisors and found it challenging to schedule meetings due to advisors' limited availability (Donaldson et al., 2016). In Tennessee, the guided pathways reform included intrusive advising, where advisors consistently monitor student progress and are alerted when student performance causes the students' degree plans to change (Jenkins et al., 2018). Advisors at these colleges included professional advisors, faculty-member advisors, and success coaches, but professional advisors and success coaches handled the initial student intake and degree planning processes (Jenkins et al., 2018). Many colleges rely on faculty-member advisors, but these advisors have the added time constraint of managing their teaching load, including class instruction, planning, and grading (Klempin & Karp, 2018). In the Tennessee study, professional advisors and success coaches handled the bulk of the planning and intake advising. Thus, the faculty advisors could focus sessions with the students on their performance and progress instead of only having time to register for classes. The caseload for the success coaches at one of the Tennessee colleges averaged 200 students per coach, and the students remained with the coach until they completed 24 credits (Jenkins et al., 2018).

For schools without a sufficient advising staff or ones which rely heavily on faculty-member advisors, advising technology can track degree-plan progression and

initiate early alerts. However, Klempin and Karp (2018) found that these technologies worked best if there were process and structural changes, and if all staff involved had a positive attitude. One administrator in Klempin and Karp's study stated that the use of alerts allowed for a triage approach. The triage approach enabled the effective management of the 17,000 alerts raised for 4,000 students (Klempin & Karp, 2018). The technology required faculty to report the alerts in the system. All types of advisors reached out to the students about the alerts. These processes produced positive results but required additional time (Klempin & Karp, 2018).

I recommended two guided pathways for IRW students because too many options can be overwhelming and only one path is not the best for all students. Advisors and course schedulers may have to adjust their practices to advise IRW students into a path. Advisors can use technology to track students for feedback on how the pathways are working for students. In addition to advising services, I also recommended IRW students use writing centers.

Writing Centers

I recommended that MCC require IRW students to use academic supports such as a writing or tutoring center. Supports like these may be the key element in DEng students' success (Carter, 2018). Barhoum's (2018) study included recommendations for mandatory writing lab tutoring to support CR students. Writing ability is key to retention and completion, and writing-center staff can personalize instruction for students (J. Wilson, 2018). The benefits of requiring students to use writing centers include clarifying college-writing expectations, supporting student control over their performance in writing

classes, better use of the writing process, and increased student accountability (J. Wilson, 2018). Missakian, Olson, Black, and Matuchniak (2016) found that writing-center staff strived to provide individualized instruction in one-on-one conferences, which focused more on revision strategies than editing. Abba, Zhang, and Joshi (2018) found that students understood and used production procedures as part of their writing process, but the students did not place enough emphasis on revision, review, and editing. The all-female participants in the study had either completed their college composition courses or were currently enrolled.

Students may not voluntarily seek out these supports for various reasons, including not knowing about the resources, not recognizing that they need additional support, or lack of motivation (Chaplot et al., 2013; Karp, 2013). Also, students often assume that writing centers, especially at community colleges, are only for editing papers (Giaimo, 2017; Missakian et al., 2016). Another assumption of some students is that only weak writers go to writing centers (Leary, 2017), which can make IRW students feel stigmatized if writing center appointments are required. In a study of UK college writers, Elliott et al. (2019) found that students felt vulnerable and anxious about writing in their disciplines. The researchers suggested that their results could support previous studies, which found that students hesitated to contact writing centers for help due to embarrassment.

To ensure students find writing centers useful in developing their skills, staff need to use nondirective approaches that focus on student-directed learning and meta-cognition of students' reading and writing (Giaimo, 2017). Writing center tutors need to be well

versed in writing characteristics specific to the disciplines (Elliott et al., 2019). Students'
perceptions of writing centers will not change until the students have experiences that
counter the negative assumptions.

If MCC administrators choose to implement a CR-only policy or if campuses
cannot support SA courses, adding a mandatory writing center component could provide
the additional support needed by IRW students. The negative assumptions about writing
centers and the students who use them need to be addressed and dismissed to support
such an initiative. Faculty, advisors, and writing center staff need to communicate the
benefits of writing centers to change IRW students' attitudes and misconceptions.

Project Description and Goals

My project will begin within a month after I graduate. The administration has
agreed to an initial meeting to discuss my results and to schedule additional meetings as
appropriate. I will meet first with the vice president in charge of new student transitions
and placement services. The vice president agreed to share the paper with the English
curriculum committee, placement testing staff, and advising staff. I will analyze the
feedback upon receipt. The goal of the policy paper is to provide recommendations
regarding IRW students' course placement.

Potential Resources and Barriers

The main resource for writing the policy paper was time. Because I will distribute
the policy paper electronically, no paper or ink resources are needed. The only resources
needed for distribution are the stakeholders' email accounts. The stakeholders will email
their evaluation responses to me, of if they wish to remain anonymous, they can give an

unsigned hard copy to the vice president. I will pick up the hard copies from the vice president's office. I will also need time to review the responses. The existing support for distributing the policy paper is the vice president.

There were no barriers to writing the policy paper. Potential barriers in the distribution include the staff members choosing not to read the paper or respond to the evaluation survey. I am not in a position where I can require the employees to review or respond, but I can write the email containing the policy paper attachment in a manner that is encouraging. I can point out the usefulness of the policy paper for potentially improving processes and student success as well as a resource to support budget requests.

Project Evaluation Plan

The evaluation plan is qualitative and goal-based. I did not choose an outcomes-based evaluation because I do not have the authority to enact policy changes at MCC. An outcomes-based evaluation is also time prohibitive. I will provide a feedback form with open-ended questions where the stakeholders can provide their feedback. The administrator distributing the policy paper has agreed to collect the feedback so that respondents can remain anonymous to me. The feedback form is in Appendix B. The questions will cover the feasibility of the policy recommendations, staff responses to the study and its findings, and suggestions from the stakeholders on both the study and the recommendations. There are specific and general questions. The specific questions cover the policy recommendations about advising practices, guided pathways, and use of the writing or tutoring center. The general questions allow stakeholders to give additional feedback not covered by the specific questions. I will analyze the feedback by coding for

themes. This type of evaluation provides me with feedback on my study but also on the recommendations I propose. My recommendation may change or need to be revised back on feedback I was unable to consider in my limited role.

The goal of the policy paper is to communicate my findings and recommendations to the stakeholders. The goal of the evaluation is for the stakeholders to provide feedback on my study and my recommendations. The feedback will provide me with external insight. Through the feedback process, the stakeholders will also benefit from considering the recommendations, which have the potential to open discussions on the problems, recommendations, and other possible solutions. The key stakeholders include members of the administration, staff, and faculty. The administrative members are the vice president over placement policies and the chairs of DEng and English programs and departments. The staff includes those in advising services, testing services, and writing or tutoring centers. The key faculty stakeholders are those teaching DEng and ENGL 100.

Project Implications

The project resulting from this study will support the stakeholders' efforts to increase IRW students' completion and persistence. The project asks the stakeholders to reflect on their practices, including DEng pathways, advising, and support services. Reflective practitioners evaluate their methods to promote efficiency and effectiveness (Johns, 2017). The reflection and subsequent responses will benefit IRW students by providing the best placement policies and support to ensure they are successful. Completing ENGL 100 and persisting towards credential completion has the potential to improve the IRW students' economic situations. Completing a degree enables IRW

students to seek higher-paying jobs, which could lead to social change. Many of these jobs could also provide benefits such as health insurance and retirement plans. MCC will benefit through increased student completion and persistence, which has the potential to increase performance funds to the college. Better performance rates can also positively change the college's ranking, and support continued accreditation. Finally, the state's economy will benefit from the increase in an educated workforce.

Section 4: Reflections and Conclusions

Project Strengths and Limitations

A strength of the project is that it will summarize the findings and focus on the information which the stakeholders will find most valuable (Herman, 2013; Kennedy et al., 2011). The author of a policy paper makes a persuasive argument for the recommendations and writes for the intended audience (Herman, 2013; Kennedy et al., 2011). The local problem in the study was IRW students' completion and persistence, and my project specifically addressed completion, though I was not able to address persistence due to my findings.

A limitation of my policy paper is that it is a soft-policy paper (see Kennedy et al., 2011). Though I presented recommendations, there is no way for the project to require or enforce policies. The project is also limited to making recommendations but not detailing how the stakeholders implement the recommendations. Changing advising practices could take a lot of time and the staff would have to work out the details appropriate for each campus. The incorporation of mandatory writing or tutoring center attendance could face similar challenges.

Recommendations for Alternative Approaches

An alternate definition of the problem could be low completion and persistence rates of all DEng students instead of just the IRW students. This definition would provide a larger sample. This larger sample would likely still have the issue of the two groups being unequal because there are more CR courses than SA courses. An alternate approach to this study could include assessment scores as an independent variable. Another

approach could include final grades reported as percentages instead of letter grades. In this case, regression might be the correct method for analysis. However, this approach would also require instructors to report the final grades as percentages. Also, the data for this study did not include the number of SA IRW students who did not pass the SA course on their first try. Therefore, I did not discuss the problem of SA IRW students not passing the SA course. For the dependent variable of persistence, a longitudinal study could determine if persistence changes over time as CR IRW students are a semester ahead of SA IRW students. The solutions from these alternative approaches would be similar to the recommendations in the white paper in that the solutions would involve course placement and advising.

Scholarship, Project Development, Leadership, and Change

Completing this project study taught me a lot about my topic, the process of research, and quantitative methods. I went through several possible quantitative methods before deciding on the chi-square test. Examining these methods taught me about the nature of variables and statistical analyses. My knowledge of both of these was weak before this process. I also learned about my writing style. I had not realized how much I used passive voice and anthropomorphism before editing my paper.

Developing the project deliverable allowed me to reflect on the process and made me focus on the most salient points appropriate for my audience. I had to put myself in the stakeholders' positions to consider what information would be most useful and to think carefully about the recommendations. I had to write the policy paper in a realistic

way considering the staff members, time, and funding limitations. My recommendations are not useful if they are not pragmatic.

I improved my leadership skills during the research process. To complete the project study, I had to consider the problem and my recommendations from every angle. I had to keep my research questions in mind to ensure the details aligned with the problem I investigated in my study. My lack of previous knowledge of quantitative methods caused problems for me early on, but I persisted. Keeping the study's goals and my personal goals in mind helped me keep going. I learned from my mistakes and never gave up.

Reflection on the Importance of the Work

This study is important because it addresses a specific problem that is underrepresented in other studies, as demonstrated in the literature review. Increasing IRW students' completion and persistence support marginalized students. From conducting this study, I learned that institutions need to research their student populations to determine what works for them. Most of the research on the CR supports and praises the model. My results showed that even though an instructional model may increase overall completion numbers, the results may not be as positive when a specific group is analyzed.

Implications, Applications, and Directions for Future Research

Increasing the number of IRW students who complete ENGL 100 and persist towards degree completion has the potential to affect positive social changes for the students and their communities. Reading and writing are fundamental skills for college

success (VanOra, 2019). Students who pass ENGL 100 demonstrate literacy skills needed for college success. According to the state's higher education commission in 2017, for the individual student, completing a college degree will strengthen their employability and broaden their options given that more than half of the state's forecasted jobs will require posthigh school education. Also, Biglan (2015) noted the connection between education and quality of life, stating that poor educational outcomes increase risks for obesity, smoking, and incarceration. Locally, increased incomes mean higher spending and increased taxes, which benefit the communities by growing local economies and improving tax-funded commodities like roads and schools. MCC will benefit from gaining a better understanding of how certain groups of students perform in different DEd models, which can inform advising and instruction. Increasing the number of students who complete ENGL 100 also has the potential to bring performance funds to the college.

The implications of my study connect to the fact that the population studied is underrepresented in the current literature. Many studies of DEng focus on the students close to the cutoff score; whereas, this study did not look at the cutoff score but rather students requiring both reading and writing DEng. This study also differs from other studies of the CR model because many of those studies support the full implementation of the CR model.

Future research could analyze assessment scores for IRW students enrolled in the CR and SA models and ENGL 100 course completion. This research could provide greater detail for placing IRW students. Because this study did not address the reasons

IRW students fail the SA courses, future research could include qualitative methods to understand why some SA IRW students are successful, and others are not.

Conclusion

Low completion and persistence rates of DEng students have been an issue for a long time. The recent research on this issue and innovative approaches are positive signs that educators are actively seeking solutions. However, there is still a lot of work to do before DEng is no longer a barrier to credential completion. Other studies have proven that the CR model shows higher completion rates than previous models, but it would be unwise to assume that this model is the appropriate solution for all DEng students. With the results of my study, I showed that MCC should consider another option for IRW students. The model is relatively new, and further research is needed for long-term effects and on specific groups of DEng students. I provided some results, but more needs to be done to help all DEng students meet their education goals.

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Appendix A: The Project

Increasing Completion and Persistence for Developmental

English Students Needing Reading and Writing

by

Deanna Lynn Surfus

2020

Policy Recommendations

Executive Summary

Midwest Community College (MCC) began using the corequisite (CR) model for developmental English (DEng) to accelerate students through developmental coursework, increase students' completion of DEng, and increase the number of DEng students who complete ENGL 100. MCC has reported that the CR model has increased student completions of ENGL 100 from 37% under the previous stand-alone (SA) model to 55% under the CR model. Despite this significant improvement, many DEng students are still not completing ENGL 100. Also, some critics argued that a one-size-fits-all approach to DEng might not be the best option especially for students requiring remediation in both reading and writing (Boatman & Long, 2018; Boylan & Trawick, 2013; Chaplot, Rassen, Jenkins, & Johnstone, 2013; Goudas & Boylan, 2012; Valentine, Konstantopoulos, & Goldrick-Rab, 2017). The purpose of this study was to examine the difference in ENGL 100 completion (passing/failing) and persistence (enrolling/not enrolling) between first-time IRW students who took the IRW course in two different models (SA/CR) at MCC.

The study was quantitative with an ex post facto comparative design. Two Pearson's chi-square tests were used to analyze the completion and persistence of DEng students requiring reading and writing in the CR and SA models. The first research question (RQ1) was as follows: What is the association between developmental course type (SA/CR) and ENGL 100 course outcome (pass/fail) for first-time integrated reading and writing (IRW) DEng students at MCC? The dependent variable for RQ1 is ENGL 100 course completion measured by the categories passing or failing. The second research question (RQ2) was as follows: What is the association between developmental

course type (SA/CR) and persistence (enrolled/not enrolled) to their second semester for

first-time IRW students at MCC? The dependent variable for RQ2 is persistence with the

categories of enrolled or not enrolled in the semester following ENGL 100. For RQ1, I

found a significant association between completion and model, with the SA group

showing higher success rates. For RQ2, I found no significant association between

persistence and model.

Given the results from RQ1, I do not recommend the college offering only CR

courses. Specifically, DEng students requiring both reading and writing remediation

should be placed in SA IRW courses. At campuses where this enrollment policy is not

feasible, I recommend requiring IRW students in the CR use the writing or tutoring

center regularly.

Background

MCC decided to institute the CR model because the college recognized that its completion and persistence rates were low. The state's higher education commission reported in 2012 that the 2-year graduation rate was 4%, within 3 years the rate was 12%, and only about a quarter of developmental education (DEd) students graduated within 6 years. The state's commission for higher education's performance-funding data documents showed an increase in DEng students' completions of 1.3% from the 2010-2012 data to 2013-2015. According to the National Council of Teachers of English in 2014, two-thirds of community college students in the state enrolled in DEd, so improving the college's DEng program would impact a large number of students.

Critics have argued against DEd programs noting the low completion rates and the high cost (Bailey & Alfonso, 2005; Breneman & Haarlow, 1998; Edgecombe, 2011; King, McIntosh, & Bell-Ellwanger, 2017; Pretlow & Wathington, 2012; Xu, 2016). After noting the success of the CR model at the Community College of Baltimore County, colleges began piloting the CR model to address the low completion rates and the criticisms. Many researchers have reported the CR model is successful (Barhoum, 2017; Cho, Kopko, Jenkins, & Jaggars, 2012; Doherty, 2016; Jaggars, Hodara, Cho, & Xu, 2015). Other studies have shown mixed results. Jenkins, Speroni, Belfield, Jaggars, and Edgecombe (2010) found some increases in DEng students' completion and persistence rates; however, the researchers also found an increase in cost. Also, some studies warn that low-assessing students or those requiring reading and writing remediation may need more instruction that accelerated or integrated courses provide (Boylan, Calderwood, &

Bonham, 2017; Boylan & Trawick, 2013; Schnee & Shakoor, 2016). Given the results of

these studies and the concerns about one-size-fits-all remediation (Bailey, Jaggars, &

Scott-Clayton, 2013; Boylan & Trawick, 2013; Chaplot et al., 2013; King et al., 2017), I

conducted my study to determine if there were associations between DEng model and

IRW students' completion and persistence.

Methodology

The study was quantitative with an ex post facto design using archival data. The independent variable of the IRW model is categorical. The dependent variables of completion and persistence were also categorical. Due to the nature of the variables and data, Pearson's' chi-square tests were used to determine if there were associations between the variables.

The setting for the study was MCC. The sample for the study included all IRW students who first enrolled in the fall 2016 semester. In Table A1, I presented the numbers of participants for each RQ.

Table A1

Numbers of Participants

Model	SA	CR	Total
Completion	84	1163	1247
Persistence	58	667	725

By convention, the study used the settings of a medium effect size, power of .80, and the alpha set to .05. According to Cohen (1992), for a chi-square analysis with 1 degree of freedom, a minimum sample size of 64 is needed in each group. The study was sufficiently powered because the smallest group size was 725. Though, the two groups for the independent variable of DEng model were not equal with the CR group significantly larger. The p value for the study was 0.05. Thus, a p value less than 0.05 rejected the null hypothesis, and a p value higher than 0.05 failed to reject the null hypothesis. I measured the effect size by calculating the phi coefficient. I conducted all

these calculations using the Statistical Package for the Social Sciences (SPSS). I also

calculated the expected frequencies and reported them in tables along with the observed

frequencies. I entered these frequencies into SPSS for the chi-square analysis.

Review of the Literature

In this literature review, I first discussed the theoretical foundations. Next, I presented the current trends in DEd, including acceleration, the CR model, and learning communities. I next discussed placement and assessment and finally, persistence. Recent, primary studies were used whenever possible as well as foundational studies, other peer-reviewed articles, and data from the state.

Theoretical Foundation

The two DEng models compared in the study have different theoretical foundations. The CR model aligns with the collective affiliation theory. In this theory, the college has to integrate itself into the students' lives (Davidson, 2011). In the CR model, students take credit-bearing coursework, so the students are more fully integrated into the college community. Enrolling in ENGL 100 right away integrates students into the academic community. The other aspect of the theory is social integration. The CR model creates a learning community which supports social integration. The SA model is based on scaffolding which is related to Vygotsky's zone of proximal development. In the zone of proximal development, students need guidance on specific skills from instructors before the students can independently develop the skill (Khaliliaqdam, 2014). Instructors remove the scaffolding guidance as the students gain the skills.

Developmental Education Current Trends

DEd programs are access points for many adults who would otherwise not have access to college (Ginsberg & Wlodkowski, 2010). Many of the DEd students are from at-risk populations including racial and ethnic minorities, lower-income households, and

first-generation students (Bailey & Alfonso, 2005). Unfortunately, too many DEd

students historically do not move beyond DEd coursework. To address the poor

performance of these students, many colleges are accelerating their DEd programs.

One way to accelerate DEng students is to integrate reading and writing into one

course. Studies of IRW courses have shown positive results (Barhoum, 2017; Pierce,

2017). Hodara and Xu (2018) also found benefits for non-native speakers taking IRW

courses, but the researchers did not find an effect on native speakers. Pierce (2017) found

positive student perceptions of IRW courses.

The CR model further accelerates students by allowing IRW students to take their

DEd coursework in the same semester as they take ENGL 100. At MCC, the CR model

pairs ENGL 100 with reading, with writing, and notably, IRW which was the focus of

this study. The CR IRW model provides the most acceleration which provides fewer

points for students to exit the program. This acceleration is important because the longer

students remain in DEng, the more likely they are to not complete (Edgecombe, 2011).

The learning community of IRW students in the CR provides a support system for

students to share experiences and meets challenges together. Studies have supported the

use of learning communities for the academic and social supports they provide (Flynn,

James, Mathien, Mitchell, & Whalen, 2017; Gardner, 1999).

As I stated earlier, many studies support the use of the CR model. However,

critics also have raised concerns about the model for lower-assessing students or those

requiring reading and writing. Boylan et al. (2017) stated that these students likely need

more instruction than IRW courses provide. Schnee and Shakoor (2016) stated that more

time is needed for basic writers to learn how to evaluate their writing for revision. Boylan and Trawick (2013) criticized the 2012 Complete College America report stating that there was no evidence supporting the effectiveness of the CR model for students of all skill levels. King et al. (2017) responded to the criticism by analyzing the one-size-fits-all approach and found increases in DEng students' completion of gateway courses. However, their study did not provide a quantitative analysis of the data and offered no descriptive statistics. To determine if the criticisms and concerns from these studies applied to MCC, I conducted my study to see if IRW students showed higher completion and persistence rates in the SA or CR model.

Placement and Assessment

MCC uses multiple measures for placing students which includes high-school performance, earned credits from other colleges or programs, and past standardized test scores. However, many DEng students still must take the ACCUPLACER assessment test because they are less likely to meet the criteria for exemption. Critics of standardized tests such as ACCUPLACER cite studies which show placement errors (Hassel & Giordano, 2015; Jaggars & Hodara, 2013; King et al., 2017; Scott-Clayton, Crosta, & Belfield, 2014; Xu, 2016). The CR model addresses some of the placement-error concerns because students who might be incorrectly placed in DEng would not be delayed from taking ENGL 100 and could benefit from the additional instruction. On the other hand, students incorrectly placed in DEng who are enrolled in the SA model would be delayed from taking ENGL 100 and have a higher risk of not completing due to the

larger window for dropping out (Xu, 2016). These results inform placement policies, but do not support a one-size-fits-all placement policy.

Persistence

Persistence was chosen as a variable for my study because community college students' persistence differs from the persistence of 4-year colleges' students (Stuart, Rios-Aguilar, & Deil-Amen, 2014), and persistence studies have shown mixed results and focused mainly on 4-year colleges (Latz, 2015; Liao, Edlin, & Ferdenzi, 2014). There are a few studies on the effects of DEd on student persistence, but the results are varied (Stewart, Lim, & Kim, 2015). Baez, Rodriguez, and Suarez-Espinal (2016) found DEd programs negatively affected persistence, yet Hawley and Chiang (2017) found DEd students showed higher persistence rates. Crisp and Delgado (2014) found no difference in persistence rates when they compared DEd students to nondevelopmental students. Given these varied results and the fact that those studies cannot be generalized to MCC's population, I chose to include persistence as a dependent variable.

Advising

Though advising is recognized as key to DEng students' success (Klempin & Karp, 2018), advising centers are regularly underfunded and understaffed due to budget limitations (Karp, 2013; Klempin & Karp, 2018; Woods et al., 2017). For initial student intake during peak enrollment times, group advising could be an option to counter the limitations. Another possibility to manage the peak enrollment periods could be late-start classes. However, for IRW students, having fewer weeks means less time to research and write essays. Boylan et al. (2017) noted that these students might need more support than

can be provided in a shortened time. Whether in groups or individually, advisors need to place DEng students into the best pathway based on their academic skills. My recommendations for these pathways are presented in the Policy Recommendations section.

After the semester begins, intrusive advising is important to supporting IRW students and ensuring they are progressing. Donaldson, McKinney, Lee, and Pino (2016) found benefits of the intrusive advising practice included early planning to complete a degree, researching transfer requirements, and career exploration. Also, intrusive advising removed the motivational barrier because students did not have to seek advisors for assistance.

Writing Centers

Students may avoid using writing or tutoring centers due to a lack of time, not knowing about the resources, or not realizing they need additional support (Chaplot et al., 2013; Karp, 2013). However, Wilson (2018) found several benefits for students using writing centers because instruction is personalized. In addition to strengthening writing skills, writing centers help students recognize college expectations, increase student accountability, and give students more control over their performance in writing-heavy courses (Wilson, 2018). Barhoum (2018) recommended mandatory writing or tutoring center support for CR students. I echo this recommendation in my policy recommendations.

Findings

For the dependent variable of IRW students' completion of ENGL 100, the data

analysis showed that 57% of CR students passed ENGL 100 on their first attempt. For the

SA students, 69% passed ENGL 100 on their first attempt. The IRW students in the SA

group had higher completion rates which were statistically significant. The p value was

.036 with a chi-square value of 4.403 ($x^2 = 4.403$). The phi coefficient value was .059,

indicating a strong positive relationship. Tables A2 and A3 show the expected and

observed frequencies.

Table A2

Expected Frequency of Dependent Variable of Completion

	Passed	Failed	Total
SA	49	35	84
CR	676	487	1163
Total	725	522	1247

Table A3

Observed Frequency of Dependent Variable of Completion

	Passed	Failed	Total
SA	58	26	84
CR	667	496	1163
Total	725	522	1247

Note. $x^2 = 4.403$; $p = .036$

For the dependent variable of persistence, 87% of CR students persisted, and 86% of SA students persisted. The *p* value was .871 which failed to reject the null hypothesis. The chi-square value was .026 (x^2 = .026). I found no statistically significant association between model type and IRW students' persistence. The phi coefficient value was -.006, which indicated no relationship or a negligible relationship. Tables A4 and A5 show the expected and observed frequencies which were notably identical.

Table A4

Expected Frequency of Dependent Variable of Persistence

	Enrolled Yes	Enrolled No	Total
SA	50	8	58
CR	580	87	667
Total	630	95	725

Table A5

Observed Frequency of Dependent Variable of Persistence

	Enrolled Yes	Enrolled No	Total
SA	50	8	58
CR	580	87	667
Total	630	95	725

Note. x^2 = .026; *p* = .871

Because I did not find an association for the dependent variable of persistence, the recommendations that follow focus on the dependent variable of completion. The data

analysis results showed that the CR model might not be the best option for all DEng

students at MCC. My recommendations discussed options for IRW students at MCC.

Policy Recommendations

I recommend two options for IRW students. The reason I have options is that MCC is a statewide college with many different campuses and varied student populations at those campuses. An option that may be feasible at the largest urban campus may not be feasible at the smallest rural campus.

Option #1

DEng students should be placed into a developmental education idea of a guided pathway. The first option would be to enroll IRW students in the SA IRW course followed by ENGL 100 in the following semester if they pass. I found that IRW students completed ENGL 100 at a higher rate when they completed the SA course as compared to the CR course. If the purpose of DEng is to help students pass ENGL 100, for IRW students, the SA showed better results. However, this pathway will only help students who passed the SA course. My study did not address SA IRW students who failed the SA course. My study also did not address the reasons some students passed the SA course when others did not.

Option #2

The second option would be to enroll IRW students in the CR IRW model with the additional requirement that the students visit a writing or tutoring center regularly. My study did not conclude that IRW students would pass the CR at a higher rate with additional supports. However, the research presented in the literature review supports this as a viable option. At smaller campuses where there are not enough IRW students to fill

SA courses, the CR course with additional supports could be used to see if course completions increase.

Intrusive Advising

For all DEng students, but especially IRW students, I recommend a focus on intrusive advising. MCC has employed methods for intrusive advising, but extra attention should be given to DEng students as a high-risk population. This may require additional advising staff. Even with new technological programs to track students, it is important that an advisor reach out personally to DEng students. If time to meet is a constraint for students, the advisors could schedule quick chats during DEng classes to talk or set up phone conferences when students have more time.

Future Study

For future study, I recommend further data analyses to see if ACCUPLACER or Lexile scores show an association with completion of DEng and ENGL 100 for students requiring reading and writing. Furthermore, it would be informational to analyze SA IRW students' scores and demographics to look for associations to investigate the reasons some of these students do not pass the SA course.

Personnel

These recommendations would have to be implemented by the English curriculum committee and instructors, advising centers, and writing or tutoring centers. Though additional advisors and tutors might be needed to meet the needs of these students, the cost could be offset some by the performance funds under the persistence metric and the degree-completion metrics.

Conclusion

The purpose of this study was to examine the difference in ENGL 100 completion (passing/failing) and persistence (enrolling/not enrolling) between first-time IRW students who took the DEng course in two different models (SA/CR) at MCC. Though there is a lot of research supporting the CR model, there are also critics who warn against enrolling all DEng students in the model. In my study, I found that IRW students had higher ENGL 100 completion rates in the SA model than in the CR model. I found no difference in persistence between SA and CR IRW students. I based my recommendations in this policy paper on my findings and an extensive review of the current literature. I would be happy to share my complete study with you upon request.

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Appendix B: Feedback Form

You may type or write responses on this form if you wish to remain anonymous. Please send or give your anonymous feedback to the vice president. I will collect the feedback from the vice president.

1. What do you think about the advising recommendations and guided pathways for integrated reading and writing developmental English students? Are these recommendations feasible?

2. What do you think about requiring integrated reading and writing developmental English students in the CR attend writing or tutoring centers? Is this feasible?

3. What do you think about the study's methodology?

4. What do you think about the study's findings?

5. What other feedback would you like to share about the study or policy paper?

6. Do you have any additional comments not addressed by the questions above?