Teaching College Writing to High School Students: A Mixed Methods Investigation of Dual Enrollment Composition Students' Writing Curriculum and Writing Self-Efficacy

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TEACHING COLLEGE WRITING TO HIGH SCHOOL STUDENTS: A MIXED METHODS INVESTIGATION OF DUAL ENROLLMENT COMPOSITION STUDENTS' WRITING CURRICULUM AND WRITING SELF-EFFICACY

A Dissertation
Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in The School of Education

by
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May 2018
This work is dedicated to my grandparents - Benjamin and Hazel Scott and Ernest and Mary Lee Albert – who taught me devotion to God and family.

It is also dedicated to the memory of my soror, Syreeta Adrienne Allums, who has been and who will forever be a great inspiration to me.
ACKNOWLEDGEMENTS

“For nothing will be impossible with God.”
- Luke 1:37

I am eternally grateful to God, who has blessed me tremendously; it is in His grace, strength, and wisdom that I have been able to reach this milestone.

When I entered this program, I was not sure of my direction, but it was in Dr. Keena Arbuthnot’s courses that I began to find my way. Dr. Arbuthnot, you operate in a spirit of excellence, and I appreciate the expertise, kindness, and ingenuity you have lent to this complicated process.

Dr. Bach, I thank you for the straightforward guidance you offered even before I entered the program; you were instrumental in my pursuit of an uncommon path. Dr. Eugene Kennedy, I will be forever grateful for your kindness, your listening ear, and of course, your statistics expertise. I am sure that I floated every single dissertation idea that I ever had by you. Dr. Gaines Foster, your presence, questions, and support were welcome and appreciated. Dr. Stephen Triche, it was our work at Nicholls that set me on this journey.

I also extend gratitude to my husband, Leron, who has been loving and encouraging from the very beginning and to my son, Lathan, who keeps us laughing. Thank you to my parents, Marilyn and Barry Scott, and my brother, Blair, who have never wavered in their love and support. To the rest of my family, I truly appreciate the prayers, encouragement, and babysitting. To my family in Christ at King Solomon Baptist Church, every word of encouragement, every inquiry about my progress, and every prayer said on my behalf has led to this achievement. Thank you.

Dr. Kristy Brumfield, you are my soror, my front door, and my role model. As Deltas do, you paved my way with your example.
To Yvette Hyde, Liuli Huang, Guadelupe LaMadrid, and Adam Elder - being in the trenches with you made the journey a little easier.
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ABSTRACT

The purpose of this mixed methods study was to use a quantitative survey to assess the relationships between the credit pathways students choose to earn first-year, first-semester (FYFS) university writing credit (i.e. dual enrollment, Advanced Placement, university courses, and ACT/SAT exemptions) and several writing experiences and outcomes, including writing curriculum, self-efficacy, self-regulatory strategy use, and course performance. The same survey was also used to explore relationships between these writing experiences and outcomes and preexisting student characteristics (i.e. race/ethnicity, gender, and parents’ education). For dual enrollment (DE) students only, the following aspects of the participants’ writing experiences were also investigated using qualitative analysis of responses to open-ended survey items and one-on-one interviews: motivation and outcomes, feedback received, curriculum experienced, and impact on academic and career choices.

Literature on this topic has focused on students at every level of education but has been typically qualitative and has not involved surveying such a large sample of undergraduates. In an effort to improve writing and general academic outcomes for students, this study advances the knowledge about DE composition studies in relation to other composition credit pathways, specifically with regard to writing self-efficacy and writing curriculum.

Key findings from the quantitative analyses include inconsistencies between curriculum in DE versus curriculum in AP and on-campus writing courses that are further supported by the qualitative findings; these differences in curriculum are related to the type and number of writing assignments and feedback received from instructors and peers. The quantitative findings also suggest a racial achievement gap between black students and non-black students taking advanced English courses. In addition, the qualitative findings related to motivation and outcomes are very
similar to those discussed in the existing literature. Overall, the findings suggest that while most participants view their DE writing experiences as helpful in preparing them for subsequent college writing, program administrators and instructors must communicate and collaborate to ensure appropriate content and adequate rigor are available to all students.
CHAPTER ONE. STATEMENT OF THE PROBLEM

Introduction

During the 2010-2011 academic year, almost 1.3 million students participated in dual enrollment (DE) programs for college credit; this is a sizable increase of 58% percent from the 680,000 who participated in the same types of programs during the 2002-2003 academic year (Kleiner & Lewis, 2005; Marken, Gray, & Lewis, 2013). DE programs are “collaborative efforts between high schools and colleges in which high school students…are permitted to take college courses” and “earn college credit prior to high school graduation” (Karp & Hughes, 2008, p. 14). Thus, students earn high school credit and college credit simultaneously (Hughes, Karp, Bunting, & Friedel, 2005; Karp, Calcagno, Hughes, Jeong, & Bailey, 2007). Programs vary by location – college campus, high school, or online – and by instructor; instructors include college faculty and high school teachers who have the “same credentials as [college faculty] and [are] certified as adjunct” (Karp & Hughes, 2008, p. 14). These credentials typically include a master’s degree in English or a master’s degree in another subject plus eighteen hours of graduate level English coursework. Because programs tend to vary from state to state and even from one collaborative effort to another within the same state, DE programs across the United States can be characterized as highly variable; in addition to variations in location and instructors, programs also vary based on course content and course standards (Hughes et al., 2005; Karp et al., 2007). These programs exist in all fifty states, and although they were traditionally open to high-achieving students with plans to seek degrees from four-year institutions of higher learning, they are increasingly being made available to students aspiring to earn degrees in two-year career and technical programs and students who are more likely to be disadvantaged, including students from poor families and rural students (Karp & Hughes, 2008; Venezia & Jaeger, 2013).
DE courses are different from Advanced Placement (AP) and International Baccalaureate (IB) courses because DE courses allow students to earn college credits while still in high school and they do not require students to pass a separate assessment; AP and IB students typically do not earn any college credits until after high school graduation (Allen, 2010). Other potential benefits of DE that are related to high school achievement include increased probability of earning a high school diploma, being more likely to have a higher HS grade point average (GPA), and having a greater chance of reporting higher satisfaction with the high school experience (Andrews, 2004; S. Z. Hanson, 2001; Karp et al., 2007). According to several other studies, taking DE courses provides students with opportunities to practice the behaviors associated with being a college student and with chances to experience authentic course work in higher education (Burns & Lewis, 2008; Karp, 2007; Zeidenberg, Jenkins, & Calcagno, 2007).

In addition to research that supports DE’s role in high school achievement and college readiness, there are an increasing number of larger-scale research studies that indicate positive postsecondary outcomes – increased rates of entry, higher rates of persistence, decreased time to attain degree, role rehearsal, and higher rates of degree attainment – for DE students; in addition, more research is also being conducted that focuses on content-specific outcomes – or how students perform in subsequent coursework after taking DE in specific subjects (Adelman, 2006; Allen, 2010; An, 2013b; Shapiro, Dundar, Ziskin, Yuan, & Harrell, 2013; Swanson, 2008). For example, the results of Hebert's research on Florida high school graduates who had completed DE math course work show that the dual enrollees had “significantly higher grades” and had “more high grades” than their non-DE counterparts (2001, p. 33).
Research Problem

Despite extensive research that focuses on academic outcomes for students who participate in DE, there are relatively few studies relating directly to DE composition courses and students’ ability to write in and beyond college (Hansen, Jackson, McInelly, & Eggett, 2015). This lack of in-depth content-area research in DE composition is important because despite the aforementioned improvements in postsecondary student outcomes, other research indicates that students are graduating from high school and college without the writing skills they need to communicate effectively in the workforce and achieve upward social mobility. According to Quible & Griffin (2007), “American firms may spend as much as $3.1 billion annually to remediate their employees’ writing deficiencies.” In another study that utilized survey research, employers indicated that high school and college graduates entering the “21st century U.S. workforce” lack skills in “writing in English” and “written communication” (Casner-Lotto & Barrington, 2006). Although DE composition courses proliferate the U.S. high school landscape and although colleges and universities across the United States have instituted communication intensive and writing intensive courses to address these issues, the writing deficiencies persist.

Preliminary data from two studies conducted at Brigham Young University suggest that even in optimal academic and socioeconomic circumstances, the writing of many college students is mediocre (Hansen et al., 2006, 2015). In suggesting inadequate writing capabilities of college students and college graduates in the workplace, it remains imperative to also understand that writing cannot simply be reduced to a “marketable” post-college “survival” skill (J. Alexander, 2016). According to Jonathan Alexander, editor of the National Council of Teachers of English’s College Composition and Communication, it is that very reduction of composition and rhetoric that has resulted in a “rebranding of education” and the teaching of writing and
rhetoric as “job prep” (2016, p. 6). Additionally, that reframing of writing as a mere “survival” skill necessary for “competitive job markets” might also be the underlying cause of K-20 educators and administrators as well as writing students themselves approaching composition courses as hurdles that students must cross as quickly as possible on a faster track to a degree and a career (Alexander, 2016, p. 6; Hansen et al., 2015). According Hansen and associates (2015), one focus group participant said that although participating in DE might make college “faster and cheaper,” she was not sure if “that is a good thing” (p. 79).

Thus, the problem is that there is a lack of research that focuses on writing outcomes for DE composition students. As a result, stakeholders are not equipped with the information required to make effective policy decisions and curricular determinations to ensure that DE composition is, at a minimum, not exacerbating the current writing deficiencies that are evident in college graduates’ writing skills, and ideally, providing appropriate instruction to bridge the gap between high school English language arts and college-level writing for DE participants. The writing outcomes that are the main focus of this investigation are self-efficacy for writing, since research indicates that high levels of writing self-efficacy are associated with successful writing performance and other positive writing-related outcomes (Martinez, Kock, Cass, Knock, & Cass, 2011; Pajares, 2003; Merce Prat-Sala & Redford, 2012; Sanders-Reio, Alexander, Reio, & Newman, 2014), and writing performance as measured by grades in post-DE writing intensive courses. In addition, this research will also investigate the use of self-regulated strategies for writing, which is also an indicator of writing self-efficacy and writing performance (P. A. Alexander, Graham, & Harris, 1998; Graham & Harris, 2000; Schunk & Swartz, 1993; Zimmerman & Kitsantas, 1999; Zimmerman & Risemberg, 1997).
Audiences

Lukes (2014, p. 17) lists the interested parties in DE research as “students, parents, college faculty and administrators, high school faculty and administrators, as well as universities that accept DE credit.” All of these parties must be aware of the advantages and disadvantages of DE programs; students and parents must be cognizant so that they can make optimal decisions about participation and persistence in DE programs and about college matriculation and graduation. K-12 and higher education faculty and administrators can use knowledge to help counsel students in addition to helping provide instruction and to evaluate and improve DE programs and policies. Universities that accept credit must be sure of the quality of the instruction provided in the programs to ensure retention, persistence, and degree attainment for their students.

Further interested parties include school districts and state and federal legislators who make laws and pass budgets that supply funding for DE and other college readiness programs. Additionally, state boards of education that set parameters for school performance must also be aware of the advantages and disadvantages of DE – especially as they relate to short-term outcomes, such as high school graduation rates and high school course completion. Hanson (2001) also details the interest taxpayers have in DE programs; the annual progress report on the state of Washington’s Running Start DE program indicates that taxpayers saved “$28.8 million dollars since students take high school and college courses simultaneously” (p. 1).

Research Purpose

The purpose of this embedded mixed method investigation is to use survey research to determine if there are differences between DE composition students and non-DE composition students in writing instruction, self-efficacy for writing, and use of self-regulatory writing
strategies, and writing performance. In other words, this research aims to establish – from a student perspective – what students are doing and learning in DE writing classes and how they feel about their own ability to complete academic writing tasks and to compare the data for students who selected the DE pathway for earning credit for first-year, first-semester (FYFS) writing to students who used other, non-DE composition credit pathways. The composition credit pathways include (1) DE, (2) taking FYFS writing at the university, (3) transferring credit from another institution, (4) earning credit based on ACT or SAT scores, and (5) taking an AP course and earning sufficient AP test scores. In this investigation, grades earned by DE composition students in post-DE writing intensive (WI) courses will also be compared to the WI course grades of non-DE composition students. In addition, the goals of this research include using the survey data to determine if there are differences related to preexisting students characteristics, including gender, race/ethnicity, and socioeconomic status. Finally, through the use of embedded qualitative methods, student experiences in DE will also be investigated. Specifically, the qualitative data will be used to explore descriptions of student’s writing experiences as well as their motivations for selecting DE to earn composition credit, beliefs about the effectiveness of their DE courses, and general beliefs about the impact taking DE composition has had on their academic decisions and career plans.

**Research Questions**

This research aims to address the following overarching research questions and sub-questions. (1) Are there differences in writing instruction, students’ perceptions of their own writing ability, and performance outcomes (grades) for undergraduates who completed DE composition versus students who chose other pathways for earning FYFS writing credit?
1. Are there differences in writing instruction for undergraduates based on credit pathway for earning FYFS writing credit and on preexisting student characteristics (i.e. gender, race/ethnicity, and parents’ education)?

2. Are there differences in students’ self-efficacy for writing and use of self-regulatory writing strategies based on credit pathway for earning FYFS writing credit and on pre-existing student characteristics (i.e. gender, race/ethnicity, and parents’ education)?

3. Are there differences in performance outcomes in advanced English courses (i.e. grades) based on credit pathway for earning FYFS writing credit and on pre-existing student characteristics (i.e. gender, race/ethnicity, and parents’ education)?

4. How do students who have completed DE composition courses describe their DE writing experiences with regard to motivation, course feedback, curriculum, self-efficacy, and impact?

5. How do the qualitative findings from the analysis of responses to the open-ended survey items and the one-on-one interviews enhance the understanding gained from analysis of the quantitative survey results?
CHAPTER TWO. THEORETICAL FRAMEWORK AND REVIEW OF THE LITERATURE

Theoretical Framework

As one of the main goals of this research is to investigate dual enrollment writer’s self-efficacy for writing, the theoretical framework of this research lies in Alfred Bandura’s social cognitive theory as it relates to sources of self-efficacy. In addition, this investigation seeks to utilize different research methods to collect data and answer different research questions. In relation to DE composition studies, the pragmatic use of mixed methods will begin to illuminate what writing instruction works based on the perspectives of DE writing students.

Bandura (1997) defines self-efficacy, which is a component of social cognitive theory, as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). Individuals with a strong sense of self-efficacy are more likely to view tasks as “challenges to be mastered” instead of “threats to be avoided” (Bandura, 1993). Bandura asserts and other studies also suggest that those with high self-efficacy are more likely to set higher goals for themselves and to persist when they encounter difficulty in those tasks; in addition, those with high self-efficacy more frequently use effective strategies for completing tasks and experience lower anxiety (Bandura, 1993; 1997; Shell, Murphy & Bruning, 1989; Pajares & Johnson, 1996; Zimmerman, Bandura & Martinez-Pons, 1992). In relation to writing tasks for undergraduate students, several studies suggest that self-efficacy for writing is the strongest predictor of actual writing performance (Meier, 1984; Pajares, 2003; Shell, Murphy & Bruning, 1989: Pajares & Johnson, 1994).

Bandura further explains that self-efficacy changes as the result of four different types of experiences that individuals have: enactive mastery experiences, vicarious experiences, social persuasion, and physiological and affective states (Bandura, 1994, 1997).
Enactive mastery experiences are the “most influential” of the four; they involve taking on actual challenges (Bandura, 1997, p. 80). Simply stated, successes result in increased self-efficacy while failures can cause decreases; failures that come before self-efficacy has been “firmly established” can undermine a person’s belief in their ability to accomplish a task (Bandura, 1994). An individual’s self-efficacy can be weak or strong depending on the difficulty of the obstacles they overcome and how much effort they expend on the tasks (Bandura, 1994, 1997). When challenges are overcome too easily, one can develop a weak sense of self-efficacy that collapses under the weight of more authentic challenging experiences and can be less likely to persevere in the face of the more difficult challenges; conversely, when individuals build a strong sense of efficacy by overcoming difficulty with much effort, they are more likely to persevere when facing tasks that are more challenging (Bandura, 1994, 1997).

Secondly, vicarious experiences take place as a result of a person seeing other people – called “social models” - succeed or fail (Bandura, 1994, p. 3). The amount of influence that a social model has on an individual depends on how similarly that person believes that they are to the model; the more an individual believes that they are similar to the model, the more the model’s successes and failures will affect the individual’s belief in their own ability to successfully complete a task (Bandura, 1994, 1997).

The third influencer of personal self-efficacy is social persuasion. In the case of learning, one might think of it as feedback, which can be negative or positive and can be general or specifically based on the abilities of the learner. It is difficult to increase self-efficacy with social persuasion when an individual is not actually capable of overcoming an obstacle because subsequent, contrary mastery experiences will quickly subvert self-efficacy. However, if negative social persuasion precedes mastery experience, it can cause individuals to quit during
challenges or prevent them from confronting challenges altogether. Social persuasion is most effective when it relates directly to the capabilities of the learner and when it accompanies appropriately scaffolded learning experiences.

The fourth influencer of self-efficacy is physiological and affective states, such as anxiety and tension. These states influence self-efficacy in different ways based on the existing self-efficacy of the individual. For example, a learner with a low sense of self-efficacy might perceive an anxious reaction as being related to their inability to meet a challenge while someone with higher self-efficacy might view the anxiety as “an energizing facilitator of performance” (Bandura, 1994, p. 3).

In writing courses, all four of the sources of self-efficacy information are present, and they work together through different processes to help students develop their actual and perceived capability to compose written assignments. The results of various studies suggest that self-efficacy for writing is the strongest predictor of actual writing performance for college undergraduates (Martinez et al., 2011; Pajares, 2003; Merce Prat-Sala & Redford, 2012; Sanders-Reio et al., 2014). According to Pajares (2003), research “results reveal that writing self-efficacy makes an independent contribution to the prediction of writing outcomes and plays the meditational role that social cognitive theorists [like Bandura] hypothesize” (p. 145). Further, mastery experiences and social persuasion can be combined to contribute to self-efficacy for writing when learning writing strategies and receiving feedback are combined in writing instruction; in these cases, students are more likely to use these self-regulated writing strategies and experience an increase in perceived writing self-efficacy and actual writing performance (Pajares, 2003).
The Pragmatism of Mixed Methods Research

The research paradigm of pragmatism circumvents adherence to the strict philosophical assumptions associated with post-positivism and constructivism by focusing on what Patton (2002) refers to as methodological appropriateness (Creswell, 2013; Creswell & Plano Clark, 2007; Feilzer, 2010). Specifically, the ontological belief about the nature of reality is that what is real is what is “useful,” “practical,” and “what works” (Creswell, 2013). Epistemologically, reality can be known through the use of tools that are objective as well as ones that are subjective; additionally, the values embedded in pragmatism involve the perspectives of participants and researchers (Creswell, 2013; Feilzer, 2010). When taking the ontological, epistemological, and axiological beliefs of pragmatism into consideration, an investigator is likely to approach the inquiry process by using combinations of quantitative and qualitative methods to collect data and answer different research questions (Creswell, 2013; Patton, 2002).

Specifically, quantitative surveys (with institutional data) and qualitative interviews (with qualitative survey data), all of which will be used in the current research, are methods that were born from what theorists and researchers might consider to be opposing theoretical frameworks: post positivism and constructivism, respectively (Kvale & Brinkmann, 2009; Patton, 2002). However, even though the two methods are typically thought of as divergent, it is pragmatic to combine them into a mixed research design so they can complement each other, providing a more comprehensive interpretation of the results; Harris and Brown (2010) similarly point out that using multiple methods can provide “rich complementary data” when each method is “[analyzed] in its own right.” Also, mixed methods can be used to answer different research questions (Creswell, 2013; Kvale & Brinkmann, 2009; Plano Clark & Ivankova; 2016). In addition to providing complementarity to answer different research questions, employing mixed
methods affords an opportunity to offset the limitations of one method with the strengths of another method (Bryman, 2006; Greene, Caracelli & Graham, 1989; Plano Clark & Ivankova; 2016).

Complementarity. According to Plano Clark and Ivankova (2016), complementarity is “an argument for using mixed methods to obtain more complete conclusions by using quantitative and qualitative methods to get complementary results about different facets of a phenomenon” (p. 81). In the current research, quantitative survey data and institutional data will be complemented with qualitative survey data and qualitative interview data to provide a clearer picture of undergraduate students’ self-efficacy for writing and the experiences that informed that self-efficacy. First, the qualitative data can illustrate and confirm the findings from the survey data analysis by “adding a degree of textual nuance that is impossible to extract from…a statistical analysis” by “[enriching] the analysis” (Wolff et al., 1993, p. 124). Second, the data from the individual interviews can clarify and elaborate survey data the might be confusing or contradictory (Wolff et al., 1993). In the survey data referenced by Wolff and associates (1993), Chayovan, Kamnuansilpa, and Knodel (1988) found contradictory data about the “relationship of family size to material wealth accumulation,” but were able to clarify and elaborate on those differences using the data collected from focus group interviews and reveal weaknesses in the survey design. Collecting interview data from former DE composition students might provide the same opportunities to clarify and elaborate while revealing issues with the survey that can be rectified before the instrument is utilized in other studies.

Although Wolff and associates (1993) discuss the complementarity of surveys and focus groups, the complementary data in this study comes from two quantitative sources, survey data and institutional data, and two qualitative sources, responses to open-ended survey questions and
responses acquired during semi-structured interviews. In addition, because there is alignment between the survey items (quantitative and qualitative) and the interview protocol and because there is a “minimal time gap” in collection, it is more likely that the mixed types of data will yield “confirmatory” results (Harris & Brown, 2010).

Further, research problems have different layers that can be addressed by different research questions and, consequently, by different research methods; this ability to use a mixed methods design allows investigators to address the different layers of an issue within the same research project (Bryman, 2006; Plano Clark & Ivankova, 2013). The current research includes questions related to students’ writing attitudes, behaviors, and performance; these questions can be addressed with quantitative methods. Conversely, the current research has also been designed to provide undergraduates with an opportunity to share their writing experiences and how those experiences informed their perceived self-efficacy for writing; these research questions can best be answered with qualitative methods.

Offsetting limitations. All research methods have inherent limitations and strengths; through the utilization of different methods, a researcher can offset the limitations of one with the strength of another and avoid the trade-offs that must be made as a result of selecting a single method (Bryman, 2006; Plano Clark & Ivankova, 2016; Visser, Krosnick & Lavrakas, 2000; Wolff et al., 1993). Surveys are limited in their ability to capture the complex nature of human attitudes and behavior (Morgan & Krueger, 1993; Wolff et al., 1993). Specifically, quantitative surveys can only provide data based on constructs that are set to be measured by the instrument; there is no quantitative mechanism within the instruments themselves to capture the complexity of respondents’ explanations for the scores they generate when completing surveys (Wolff et al., 1993). Although quantitative research seeks to avoid bias, it must be noted that bias is present in
all research, including the ways in which a survey researcher controls what a survey measures and how the resulting data is analyzed and interpreted (Patton, 2002). Thus, despite the fact that participants lend their voices to the research process by completing the survey, survey research does not provide opportunities for participants to share their different perspectives – the viewpoints that might provide confirmation, elaboration, expansion, or contradiction of those developed by the researcher in his or analysis of the qualitative data (Wolff et al., 1993).

However, interviews can offset these limitations of survey research because they are designed to “explore and probe for additional information,” they give the researcher the ability to “clarify meaning of questions, and “unanticipated answers can occur” and “[lead] to new, unexpected findings” (Nardi, 2006).

The main limitation of interviews is that they are “limited to smaller samples” that are the result of purposive (and sometimes convenience) sampling (Nardi, 2006, p. 18; Wolff et al., 1993). Several researchers point out that the depth of analysis required to interpret interview transcripts and field notes is what typically constrains researchers to interviewing a much smaller number of participants, and while investigators typically use the same protocols for each group, they are never able to standardize the participants’ responses or even the researchers’ probes (Nardi, 2006; Wolff et al., 1993). On the other hand, surveys do allow researchers to capture data that might be generalized from a larger, representative sample to a population and that is standardized. Also, although statistical analysis can be complicated, it does allow for a large dataset to be analyzed all at once (Visser, Krosnick & Lavrakas, 2000). Thus, for this research, it is pragmatic to use mixed methods to provide greater understanding of the problem under investigation, to use the strengths of each method to offset the limitations of the other, and to address different research questions with corresponding research methods.
Literature Review

Introduction

According to Allen (2010), “dual enrollment programs (DE) are collaborative efforts between high schools and colleges in which high school students are permitted to enroll in college courses and, in most cases, earn college credit that is placed on a college transcript.” Also called concurrent enrollment and dual credit, these programs vary based on where the classes are taught and taken, who teaches the courses, which subjects are involved, how credit is received, how much parents and students pay, and other factors (Karp et al., 2007; Marken et al., 2013; Speroni, 2011). The primary goal of DE is to increase college graduation rates across the United States by preparing students for the academic and role requirements of higher education and helping students to persist in college while earning higher post-secondary GPAs in 2-year and 4-year institutions (An, 2015; Karp et al., 2007; Speroni, 2011). Although the number of studies focused on short-term high school outcomes and long-term college outcomes is gradually increasing, it is the more recent investigations that control for preexisting characteristics of students, which can then make it easier to determine if college graduation rates and other post-secondary related outcomes have increased in numbers that are statistically significant and that are a direct (or even mediated) result of DE program proliferation (Allen, 2010; Karp et al., 2007). Moreover, much of the data that is available to study the efficacy of DE differs greatly from state to state and/or within states and differs from secondary to post-secondary institutions; this further complicates attempts to measure DE-related outcomes on a larger scale (Karp et al., 2007).

The National Center for Education Statistics report from Marken, Gray, and Lewis (2013) indicates that more than half of post-secondary institutions participated in DE as of the 2010-11
academic year, which amounts to approximately 1.3 million high school students earning college credit (Marken et al., 2013). These numbers have risen drastically from their 2002-03 levels, which included 48% of institutions and less than 700,000 high school students (Kleiner & Lewis, 2005). It should also be noted that in the 2002-03 school year, 133,000 high school students completed college courses outside of DE programs, while in 2010-11, there were 136,000 non-DE high school students who took college courses (Kleiner & Lewis, 2005; Marken et al., 2013). These numbers mark an 88% increase in DE participation and a 2.3% increase for students who are not dually enrolled. This rise in participation might be likely due the actions of policymakers, educators, and researchers, who cite some of the following benefits as the underlying causes of the purposeful growth: improving high school and college outcomes for many students, including underserved minority participants; “increasing the rigor of secondary education,” and “strengthening links between secondary and postsecondary sectors” (Karp et al., 2007, p. 1).

As previously mentioned, current research is promising, but does not definitively indicate that the goals of DE are being met effectively for all students. Thus, there are also some concerns associated with DE programs. First, disadvantaged students as well as those from typically underrepresented minorities are also underrepresented in DE programs, and as such, researchers and policy makers desire to make DE available to serve a wider range of students (Hoffman, 2003, 2005; Lerner & Brand, 2006). In addition, the variability of programs and the lack of available K-16 program and student data make it difficult for researchers to engage in investigations that yield generalizable results and conclusions (Allen, 2010; Karp et al., 2007; Speroni, 2011). Further, DE student efficacy in various subject areas, in this case writing, has not been subject to extensive, rigorous research. This review of the literature will address short-term
outcomes and long-term outcomes of DE participation as well research that specifically involves
DE composition programs. In addition, it will include a discussion of investigations related to
writing self-efficacy for students of higher education.

This investigation is specifically focused on outcomes related to participation in DE
composition courses; therefore, the existing literature of interest also includes studies related to
self-efficacy for writing and use of self-regulatory strategies for writing. Self-efficacy, in relation
to writing and other academic pursuits, has been extensively studied. The current literature
suggests that self-efficacy greatly influences writing outcomes but also that college students –
even after they have engaged in college writing – overestimate their writing ability (Hansen et
al., 2006; Martinez et al., 2011; Pajares, 2003; Merce Prat-Sala & Redford, 2012; Sanders-Reio
et al., 2014; Usher & Pajares, 2008). Additionally, existing research points to crucial
inconsistencies in the rigor of DE composition courses; classes taught on high school campuses
are particularly vulnerable to being less rigorous, and as a result less effective in the teaching of
writing and the increasing of students’ college readiness, than other methods of earning college
writing credit, including Advanced Placement (AP) and the traditional on-campus composition
course (Hansen et al., 2015; Taczak & Thelin, 2009; Tinberg & Nadeau, 2013). Finally, research
also suggests that students’ ability to use self-regulatory strategies also positively influences
writing outcomes (Graham & Harris, 2000; Kellogg & Raulerson, 2007; Kellogg & Whiteford,
2009; Zimmerman & Bandura, 1994).

**Short-term Outcomes**

The short-term goals for DE are related to students’ academic outcomes in high school,
including high school GPA, earning a high school diploma, grades in DE courses, and
satisfaction with the high school experience. The results of many studies in this area are varied
because DE programs themselves vary so much in delivery method, location, and instructor credentials. Further, the results are limited by a lack of information and lack of random assignment that does not allow investigators to control for variables, such as SES, motivation, and other differences that might exist between DE students and non-DE students (Allen, 2010; Karp, Calcagno, Hughes, Jeong, & Bailey, 2007).

Using ordinary least squares and logistic regressions, Karp and associates (2007) investigated short-term and long-term outcomes for DE students using datasets from Florida and New York City; one of the main short-term outcomes under investigation was high school graduation rates for the Florida dataset. When controlling for “students’ high school academic performance, socioeconomic status, and high school experiences,” the researchers found that Florida DE students in the complete sample of almost 300,000 students from Florida were 4.3% more likely to graduate from high school than their non-DE counterparts; for Career and Technical Education (CTE) students from Florida, DE participants were 1% more likely graduate from high school than CTE students who did not take DE courses (Karp et al., 2007). Both differences in the non-random study were statistically significant, but no effect sizes were provided for the high school diploma results (Karp et al., 2007).

In 2012, McDonald and Farrell published qualitative research that included 31 student participants in an Early College High School (ECHS). The ECHS was a small school that operated within a community college and that allowed underserved students to be fully integrated within that community college campus (McDonald & Farrell, 2012). Using focus groups in their grounded theory investigation, the researchers found that the sample of disadvantaged students’ shared experiences that were consistent with those of participants from other, similar studies; overall, the students reported that their ECHS experiences involved role
rehearsal, meaning that they learned what it means to be a successful college student, and that it help them to develop a “collegiate identity” (McDonald & Farrell, 2012). Further, there were also findings that were unique to this particular sample: in the focus group interviews, students expressed a “hardiness of character” in which “stressful changes imposed by external circumstance give rise to courage to deal effectively with challenging situations” (McDonald & Farrell, 2012). Another unique finding of this study is the students communicating delayed gratification, which the researchers point out is typically associated with the baby boomer generation, not “millennial culture” (McDonald & Farrell, 2012). Although the ECHS model might be more involved with and connected to an institution of higher learning, this research is important to note for DE circumstances because the ECHS includes students taking DE classes on a community college campus; a major difference in this particular study is that the students are fully integrated into the community college campus, and they have a built-in support system that provides counseling and other forms of academic assistance (McDonald & Farrell, 2012).

Karp (2012) used case-construction method to determine if DE could be used as an intervention to help students acquire certain “nonacademic knowledge and skills” (p. 22) they would need for college. The researcher interviewed a diverse group of 26 first-time DE juniors and seniors who were taking DE courses at their HS with HS teachers who were qualified to have college adjunct status. Each student was interviewed three times – once each at the beginning, middle, and end of the semester – and the investigator conducted 18 classroom observations (Karp, 2012). From the observations, the researcher determined that some classes mirrored college courses more authentically than others; it was in these courses that more students -80% compared to 45% - intimated increased understanding of their role as a college student (Karp, 2012). Specifically, authentic DE courses provided more opportunities for
students to engage in “anticipatory socialization and role rehearsal” (p. 27) while participants are still HS students; this supports an argument for administrators and teachers to ensure that DE courses – even when they are taught by credentialed HS instructors on HS campuses – match their “well-implemented” college campus counterparts in “normative, behavioral, and attitudinal expectations” (Karp et al., 2007, p. 27).

Within the limited number of quantitative studies related to short-term outcomes for DE students, there are few that control for participants preexisting characteristics, such as high school achievement, race, gender, and socioeconomic status (Crouse & Allen, 2013; Karp et al., 2007). Among the studies that do include these controls, the methods are not experimental, and thus, the investigators were unable to control for other characteristics, such as students’ motivation and their preexisting plans to attend a 2-year or 4-year institution of higher learning (Crouse & Allen, 2013; Karp et al., 2007). Qualitative studies are also few in number; they typically focus more on role rehearsal opportunities provided by DE and other early college course work (Karp, 2012; McDonald & Farrell, 2012). Overall, the research seems to support the idea that DE programs can certainly be a route for increasing academic rigor for high school students, but the effectiveness of each individual program is largely dependent upon how closely the courses emulate traditional college courses and what supports are provided for students who find themselves unable to independently navigate the demands of college-level work. Because data connected to college students is more readily available, studies related to the long-term outcomes of DE proliferate the literature. Several of these studies will be detailed in the next section of this literature review.
**Long-term Outcomes**

Investigations that focus on long-term outcomes related to DE programs and participation are primarily concerned with academic achievement in college and college degree attainment. Since there are other variables that occur between post-secondary matriculation and college degree attainment that are indicators of a student’s likelihood to earn a college degree, those variables have also been and are being extensively researched. Investigators typically measure academic performance in course grades and GPA, and they typically measure persistence as a students remaining in college for certain periods of time (Allen & Dadger, 2012; An, 2013a, 2013b; An & Taylor, 2015; Karp et al., 2007; Saltarelli, 2010; Speroni, 2011; Swanson, 2008). However, from one investigation to the next, researchers use varying data points to measure college readiness (An, 2013b; An & Taylor, 2015; Karp, 2012; Tobolowsky & Allen, 2016). In addition, even though it is not typically feasible to conduct DE research with pure experimental designs, some researchers have been able to obtain data that allowed them to control for preexisting student characteristics, such as race/ethnicity, gender, socioeconomic status, language spoken at home, and first generation status (Allen & Dadger, 2012; An, 2013a, 2013b, 2015; An & Taylor, 2015; Geise & Knight, 2011; Karp et al., 2007; Speroni, 2011; Swanson, 2008).

In addition to addressing short-term outcomes for DE students in Florida, Karp and associates (2007) also conducted investigations related to long-term outcomes for participants in Florida and New York. Those variables representing long-term outcomes include college enrollment, enrollment intensity, first-semester GPA, persistence to the second semester, persistence to the second year, GPA at the third year, and credit accumulation at the end of the third year (Karp et al., 2007). With the available data, the investigators were able to control for
pre-existing characteristics of the students, which included school-level data (Karp et al., 2007). For the Florida dataset, which included data for 299,685 students, there were positive, statistically significant differences related to all of the long-term outcomes in question (Karp et al., 2007). The New York dataset was much smaller with 2,303 students and with less available data points; however, the statistical procedures did reveal positive, statistically significant differences in enrollment in four-year institutions, first-semester GPA, and credit accumulation in the third year (Karp et al., 2007).

An (2013) used a 2000 dataset for college participants from the National Education Longitudinal Study of 1998 to determine if DE participation influenced degree attainment and if there were differences in benefits by SES that might indicate usefulness of DE to reduce socioeconomic achievement gaps in college degree attainment. The dataset included information for 8,800 students who were eighth graders in 1988 (An, 2013a). Using preexisting student characteristics as controls, An (2013a) used propensity score matching models to address the research question and determined that for the national dataset, first generation college students experienced a higher benefit from DE than their counterparts with at least one college-educated parent; however, students with a college-educated parent were still more likely to attend college and earn a degree even if they did not participate in DE courses. The research suggests that even though DE has a positive influence on degree attainment, it does not seem to reduce achievement gaps (An, 2013a). Further, An (2013) suggests that DE programs should be designed in such a way that more students from socioeconomically underserved populations have access with supports that will provide a bridge to college admission and degree attainment (An, 2013a). The same investigator makes a similar suggestion in this next study, which also uses propensity score matching models but includes an additional sensitivity analysis (An, 2013b).
Instead of degree attainment, An’s second study (2013b) focuses on DE for low-SES students as it relates to academic achievement as evidenced by first-semester GPA (n=13,230) and college readiness as evidenced by remediation (n=14,090). The researcher analyzed two datasets available from NCES and found that, like other students, DE participation positively influences academic achievement in college and seems to result in students requiring fewer remediation courses once they enter college (An, 2013b). Other researchers have mentioned unobservable confounders as limitations in their studies, and here An (2013b) has determined that an unknown confounding variable would have to exert an influence as strong as that of completing a high school calculus course “to undermine the relationship between [DE] and remediation” (p. 425). The data also suggests that while taking DE does exert influence on first-year GPA and college readiness, it does not close any achievement gaps that exist between first-generation students and students who have at least one parent with a college degree (An, 2013b). It is recommended by the researcher that program administrators should focus on low-income schools for DE participation in order to reduce SES achievement gaps that exist based on parental education (An, 2013b).

In additional DE research, An (2015) sought to determine if academic motivation and academic engagement act as mediators between dual enrollment participation and academic performance (college GPA). The researcher used sequential equation modeling while controlling for preexisting student characteristics, including selectivity of the college attended (An, 2015). The data for the academic motivation and engagement was obtained from specific items from the Wabash National Study of Liberal Arts Education (WNSLAE), which surveyed 3,779 first-time college students who entered one of nineteen colleges and universities in the Northwest and Midwest United States (An, 2015). An (2015) found that participation in DE has a “positive
direct effect on first-year GPA” in college (p. 115), DE “[increases] academic motivation” even after controlling for “precollege motivation” (p. 120), and academic motivation and engagement are mediators between participation in DE and academic performance as measured by college GPA; however, the mediator effect is modest, and “a large portion of the dual enrollment effect remains direct” (p. 121).

Using the same dataset, WNSLAE 2008 (N = 4,213), An and Taylor (2015) used “institutional level fixed-effects models” to determine if DE participation has any effect on longer-term college readiness, which was measured at the end of the students’ first year college (p. 11). Although college readiness has typically been measured based on “participation or placement in remedial courses,” for this research, college readiness was measured based on “cognitive factors (e.g., academic achievement and coursework) and non-cognitive factors (e.g., commitment to academic goals and effort) that are required to transition to and succeed in college without the need for course remediation” (An & Taylor, 2015, p. 16). As in previous studies by An (2013a, 2013b, 2015), the investigators controlled for preexisting student characteristics that “[might have influenced] both participation in accelerated programs and college readiness” (An & Taylor, 2015, p. 16). The results of An and Taylor’s statistical analysis (2015) revealed that, for the sample, students who participated in DE (and those who participated in AP and passed AP tests) were statistically significantly more likely to exhibit college readiness (cognitive and non-cognitive) than their non-accelerating counterparts. The effect size of this statistically significant difference was moderate; however, the researchers point out that the effect size might be larger if the sample were more representative of the college population in the U.S., which does not include as large a proportion of AP participants (An & Taylor, 2015).
According to the Kentucky Council on Postsecondary Education (2006), descriptive statistics indicate that participation in DE in that state at that time did not seem to affect matriculation except for that of academic DE students who entered four-year institutions. Furthermore, although multivariate analyses that controlled for ACT score suggests that dual enrollees maintained higher GPAs by the end of their sophomore year, the data also suggests that there was no difference in retention between DE participants and nonparticipants (Education, 2006).

Like the Kentucky Council on Postsecondary Education, Pretlow and Wathington (2014) analyzed descriptive data in Virginia and found that changes in DE policy led to increased DE participation by 2% (or 1,919 students) and corresponded to increased immediate matriculation at 4-year institutions (4%, or 1,500 students). These or other researchers would need to conduct additional investigations to determine how DE participation in the state of Virginia might impact academic performance and degree completion at the college level (Pretlow & Wathington, 2014).

According to Hanson’s annual report (2001), juniors and seniors who participated in Washington State’s Running Start DE program reported that they felt well-prepared for the academic tasks they encountered at Western Washington University, and they believed that the community college where they earned their DE credits provided a “good bridge” to their four-year program at Western. Finally, students also reported that the variety of college courses they experienced as high school students were instrumental in helping them choose a major (Hanson, 2001).

Crouse and Allen (2013) used linear regression with hierarchical linear modeling to calculate differences in community college course grades between DE students and traditional students. The study included 186,823 subjects – 86,001 DE students and 100,822 non-DE
students from 14 community colleges in the state of Iowa. Like Karp and associates (2007), these investigators also controlled for preexisting characteristics of the participants, including “ACT test status, ACT Composite score, high school GPA, family income, and gender” (Crouse & Allen, 2013). When controlling for the aforementioned characteristics of the subjects, the DE students outperformed their non-DE counterparts with statistically significant differences in 38 of 55 community college courses for one model, 18 of 49 courses in the second model, and 7 of 23 courses in a third model (Crouse & Allen, 2013).

Speroni (2011) conducted a quasi-experimental investigation using data from complete populations of high school students from senior cohorts: 2000-01 and 2001-02 (N = 229,904). The researcher utilized regression continuity analyses to determine the effect of DE participation on post-secondary matriculation and degree attainment (Speroni, 2011). One analysis determined that merely participating in DE did not have any significant affect on the previously listed dependent variables; however, the second analysis indicates that for a very specific population of students – those scoring close to the cutoff point on the placement test for college algebra – taking DE college algebra made students 16% more likely to enroll in college and 23% more likely to obtain a college degree (Speroni, 2011). These particular findings are important because they are an indicator that certain aspects of DE courses, such as “subject area, content, [and] level of difficulty,” play a role in long-term academic outcomes for students who might not have otherwise attended and/or graduated from college (Speroni, 2011, p. 56).

Although it is important to note that dual enrollment programs and those connected to other methods of acceleration have expanded greatly since Adelman’s report (2004) was released, the data from that report is still relevant with regards to what should continue to be researched and how in the realm of DE. The descriptive data in the report indicate an inverse
relationship between credits earned from DE (and other acceleration methods) and the time students take to earn a degree; additionally, students from the sample who earned college credits as high school students were more likely to earn graduate degrees (Adelman, 2000). Allen (2010) points out that Adelman’s data (2004) is an indicator that similar studies that involve statistical analyses and that control for preexisting student characteristics are needed, especially since DE and other acceleration programs have expanded so much in the last 12 years.

Swanson (2008) used the same dataset as Adelman (2004) to answer a set of research questions, but instead of using descriptive methods, Adelman (2004) utilized logistic regression to develop causal models and controlled for preexisting student characteristics. Swanson (2008) found that students who participate in DE are more likely to earn 20 credits by the end of the first year of college, persist into the second year of college, and were more likely to enter college within seven months of high school graduation. These momentum and persistence factors are related to students being more likely to earn a bachelor’s in average or less than average time (Swanson, 2008).

At the beginning of their presentation paper, Giese and Knight (2011) describe research on DE to be “limited in scope and [existing] for only a few states” (p. 2). Their work adds to the body of research on DE by providing rigorous statistical methods in a quasi-experimental longitudinal study of long-term outcomes for students who participated in Ohio’s Postsecondary Options Program (PSEOP), (the state’s DE program)(Geise & Knight, 2011). Using a combination of logistic regression, chi-squared, and t-tests, the researchers determined that for most of the independent variables under consideration, there was no statistically significant difference between the 3,978 college students in control group and the corresponding 3,978 college students who were DE participants (Geise & Knight, 2011). However, it was determined
that participation in DE resulted in students choosing certain majors and shortened the students’
time to degree (Geise & Knight, 2011).

Saltarelli’s work (2010) focuses on postsecondary academic success for 8,627 students
who entered Texas A&M University-Kingsville as first-time undergraduates. The investigator
used Pearson’s r to determine the correlation between participation in DE and college GPA while
controlling for ACT score and high school class rank (Saltarelli, 2010). The statistical procedures
revealed a “moderate, statistically significant relationship” between DE participation and college
GPA; however, the author notes that the analysis does not account for the potential effects of
student motivation (Saltarelli, 2010).

Martin (2013) also examined differences in cognitive and non-cognitive college readiness
of students in a particular DE program – the Huskins program at Mitchell Community College in
North Carolina. The researcher was particularly interested in the Huskins program, and also
included two other groups of non-Huskins DE participants, one college comparison group, and
one group of non-DE high school students (Martin, 2013). To examine cognitive college
readiness, he used an ANCOVA to compare the groups on two variables: grades in transfer
courses and college acceptance rates (Martin, 2013). Although there were no statistically
significant differences in college acceptance rates, statistically significant differences did exist in
college acceptance between the Huskins dually enrolled students and the college comparison
group (Martin, 2013). To analyze non-cognitive college readiness, the researcher used ANCOVA
to measure survey data; the analysis revealed statistically significant differences on the career
planning scale (Martin, 2013). These differences were between the Huskins DE students and the
non-DE high school students as well as between the non-Huskins dual enrollees and the non-DE
high school students (Martin, 2013). For both analyses – cognitive college readiness and non-
cognitive college readiness - the researcher controlled for preexisting student characteristics (Martin, 2013). In general, the results of Martin’s work (2013) support the use of DE as a college readiness strategy.

Drawing on the previous work of Karp et al. (2007) and Swanson (2008), Allen and Dadger (2012) used difference in difference (DID) regression to determine if participation in College Now, the dual enrollment program of The City University of New York resulted in larger, positive college outcomes, including first-semester GPA, first-semester credits earned, and retention into the third semester. Based on the analysis, the DE participants (n = 22,962), including those who had taken at least one class in the College Now program, were likely to earn more credits during their first semester of college (not including their DE credits) and have a first semester GPA that was 0.16 points higher than CUNY students who did not dual enroll as high school students (Allen & Dadger, 2012). By using the DID regression procedures to analyze the data, the researchers were able to simulate quasi-experimental conditions that allowed them to assert causality (Allen & Dadger, 2012). Because Karp et al. (2007) and Swanson (2008) were also working with datasets from College Now, the results obtained by Allen and Dadger (2012) allows the investigators to have more “confidence” in the favorable outcomes suggested by the work from the aforementioned researchers (p. 19).

In a recent qualitative study, Tobolowsky and Allen (2016) used Merton’s anticipatory socialization theory to analyze the DE experiences and first-year college experiences of twelve female students at a Texas university. From individual semi-structured interviews, the investigators determined that the participants did experience the intended outcomes of dual enrollment, including being able to transition more easily to the academic rigor and social expectations of college and saving time and money by completing general education courses.
prior to high school graduation (Tobolowsky & Allen, 2016). On the other hand, some students also experienced unintended, negative consequences as well, such as feeling “trapped in their majors” and “limited in their course options” because they had accumulated so many credits (up to 78) in certain subject areas (Tobolowsky & Allen, 2016, p. 42). Additionally, due to inconsistencies in DE programs, some students experienced DE courses that they believed did not prepare them for the academic work and expectations of college (Tobolowsky & Allen, 2016). Further, dual enrollees with many credits, especially those with 30 or more hours, typically found themselves taking college courses with upperclassmen; since these more experienced students had already formed peer connections, the new-to-college former DE students felt “isolated socially” in those courses (Tobolowsky & Allen, 2016). Finally, there were also issues with transferring credits for DE courses; students who had not independently sought counseling from personnel at the universities they planned to attend found that they were unable to transfer courses that they had expected to count towards a college degree (Tobolowsky & Allen, 2016). The researchers assert that in addition to addressing inconsistencies in DE programs, administrators must also “be careful to identify course and program elements that could lead students to feel trapped in certain majors and careers or dissatisfied with college and uncertain of their futures” (Tobolowsky & Allen, 2016, p. 44).

Karp (2012) explains that, in addition to academic skill, college readiness also includes an individual’s ability to “navigate a complex system of bureaucratic requirements, learn new study habits and time-management strategies, and engage in new kinds of social relationships” (p. 22). The author asserts that anticipatory socialization can take place through role rehearsal to help dual enrollees become college ready (Karp, 2012). In a qualitative study, Karp (2012) interviewed 26 first-time dual enrollees who were taking courses at their own high schools with
high school teachers who were qualified to act as adjuncts and observed eighteen classroom sessions. Each student was interviewed at the beginning, in the middle, and at the end of the semester to determine their perception of what it means to be a college student and to obtain details about their DE experiences (Karp, 2012). Karp (2012) used case-construction method to analyze the interview and observation data and found that for many students, their knowledge of the role of a college student increased due to the opportunities for role rehearsal provided by the DE experience. However, students whose DE classes were more authentic – meaning that they more closely matched college courses in content and behavioral demands – were more likely to demonstrate increased knowledge of the role of a college student (Karp, 2012). 80% of the students in authentic DE courses demonstrated this increased understanding whereas only 45% of those in inauthentic courses did (Karp, 2012). Finally, Karp (2012) asserts that the difference between college courses and high school courses was “muted” for some DE students because their DE courses were held on a high school campus (p. 27).

In general, the research on long-term outcomes for DE students is positive. Over time, investigations have become more complex as researchers have gained access to higher quality, more detailed datasets that have allowed them to control for preexisting student characteristics and utilize more involved statistical procedures to simulate experimental methods. The next section of this review of the literature will focus on DE student outcomes that are related directly to college composition.

Composition Outcomes

The number of published studies involving DE students’ outcomes in college composition courses is limited but increasing. Qualitative studies have made it evident that delivering college composition to high school students involves challenges and provides
opportunities (Denecker, 2013; Taczak & Thelin, 2009; Tinberg & Nadeau, 2013). At the same time, the results of some quantitative studies suggest that DE students’ writing performance is statistically equivalent to that of students who earn credit for college writing using more traditional pathways (Hansen et al., 2015).

Taczak and Thelin (2009) conducted a qualitative study to determine how high school students fared academically and socially in a college composition course taken on the campus of a “Midwestern state university” (p. 8). One to four members of a team of participant observers attended each session of the accelerated summer writing course, and they interviewed four of the course’s six dual enrollees (14 and 15 year olds) three times each – at the beginning, the middle, and the end of the course (Taczak & Thelin, 2009). In addition, each DE participant completed an exit survey (Taczak & Thelin, 2009). The researchers analyzed the participant observations, interviews, exit surveys, and the DE students’ essay submissions (Taczak & Thelin, 2009). Analysis of the data collected revealed that the dually enrolled students lacked the maturity and life experience to converse and write about the topics covered in the course, and their behavior created a constant conversation that was disruptive to the other students in the class (Taczak & Thelin, 2009). Further, the course instructor, in an effort to “negotiate differing maturity levels,” felt forced to decrease the “pedagogical rigor and standards” and devote most of his time to helping the DE students, which caused him to neglect the “regular” students in the course (Taczak & Thelin, 2009, p. 9). Overall, there were negative impacts on the curriculum and the students in the class with many of the students not progressing as much in their writing abilities as they might have had the DE high school freshmen and sophomores had not been included (Taczak & Thelin, 2009).
Tinberg and Nadeau (2013) conducted a case study in which they interviewed two dual enrollment composition students at a Massachusetts community college and analyzed their writing to determine if there were differences (and deficiencies) in the students’ experience and writing since they bypassed high school English and since the high school courses English courses the students did take were based more on literature and less on composition. The researchers found that the participants were similar to other first-time college composition students in that they encountered difficulty in understanding the requirements of the writing assignments as well as those of the genres in which they were writing (Tinberg & Nadeau, 2013). Further, the two cases revealed that the students lacked understanding of writing for specific audiences and of revising their work based on feedback (Tinberg & Nadeau, 2013). Finally, the participants seemed to possess less “confidence and experience” than traditional college freshman writers (Tinberg & Nadeau, 2013).

In an embedded mixed methods investigation, Hansen, Jackson, McInelly, and Eggett (2015) wanted to find out if there were differences in essays written by DE composition students when their work was compared to non-DE composition students. In addition to scoring two essays for each of the 189 student volunteers, the researchers also conducted a single focus group with 11 students to discuss the students’ reasons for choosing DE to meet the university’s first-year writing (FYW) requirements (Hansen et al., 2015). Using an analysis of variance (ANOVA) with subsequent pair-wise comparisons “between groups and within groups,” the researchers found that there were no statistically significant difference in essay scores between students who took DE and students who used other pathways to earn FYW credit; in addition to that, they report that the overall essay scores were mediocre, which was startling considering that the BYU student body generally consists of affluent, high-achieving students (Hansen et al.,
Also, the investigators surmise that students might have performed significantly better on the first essay because the second essay was more difficult and had less scaffolding built into the writing process (Hansen et al., 2015, pp. 76-77). The qualitative focus groups illuminated various aspects of students’ pre-college writing experiences, including motivation to avoid the on-campus writing course versus motivation to engage in more challenging coursework in high school (Hansen et al., 2015). Further, with one exception, students in the focus group sample also generally described writing that was more literature-based and less argumentative (Hansen et al., 2015).

In research that focused on instructors as opposed to the previous study’s student focus, Denecker (2013) used surveys and interviews of DE instructors and students and sample student papers to determine what disparities exist between composition instruction in HS and colleges. The ultimate goal of this work was to figure out how the results of the study (and others like it) might be used to ease HS writers’ transitions into college composition courses (Denecker, 2013). Through analysis of the data, Denecker (2013) found that HS English language arts (ELA) teachers are required to teach much more curriculum than college composition instructors; because of that, much of the writing in HS ELA courses is “embedded in literature instruction” (p. 32). In addition, HS instruction is heavily influenced by state and/or national standards that are typically connected to high stakes standardized tests (Denecker, 2013). Also for HS teachers, the grading workload is typically much heavier than that of college writing instructors (Denecker, 2013). Thus, the curricular demands that are placed upon secondary teachers and students are vastly different from those of college educators; as such, the characteristics of high school and college writing are equally disparate. HS students’ writing assignments were more likely to require students to report upon what they read in class instead of requiring them to
generate and expound upon a thesis (Denecker, 2013). Since the “reporting” style of writing requires less involvement with writing, the secondary students seemed more likely to engage in “surface writing” as opposed to “deep writing” (Denecker, 2013). Further, even while the writing process is “reflective and recursive,” with the aforementioned workloads, HS teachers are typically unable to have students further delve into an already graded piece of writing by revisiting and revising it (Denecker, 2013). Based on these findings, Denecker (2013) argues that DE composition programs are the point at which HS and college faculty can meet to have “candid, reciprocal conversation,” and that students’ voices and work should be included in the conversation as well as in the research (p. 45).

There are inherent challenges and opportunities involved in teaching high school writing and college composition; thus, it is no surprise that there are issues and opportunities involved in marrying these two disparate levels of writing instruction. Current research at one university indicates that college students who opted into DE composition as high school students write at the same level of proficiency as their counterparts who choose other options for earning first-writing credit (Hansen et al., 2015). Other investigations point to the presence of younger DE students being problematic for instructors and older, traditional students and to DE students lacking awareness of the important aspects of argument writing and lacking general confidence in their writing capabilities (Taczak & Thelin, 2009; Tinberg & Nadeau, 2013). Overall, the current available research results imply that the continued efforts are required to overcome the challenges inherent in teaching college composition to high school students.

Self-Efficacy for Writing

Writing self-efficacy has been studied extensively since 1986 when Alfred Bandura first published research related to self-efficacy – a “component” of “social cognitive theory” (Pajares,
The results of studies related to undergraduates’ writing point to self-efficacy for writing and reading as major contributors to college students’ actual writing performance (Pajares, 2003). Some of the most recent work in that area has been conducted outside of the United States while other work has included mainly Hispanic college students in the U.S. (Martínez et al., 2011; Merce Prat-Sala & Redford, 2012; Sanders-Reio et al., 2014).

Prat-Sala and Redford (2012) desired to examine the relationship among the following variables: reading self-efficacy (12-item scale), writing self-efficacy (12-item scale), and writing performance in university psychology courses in the United Kingdom. The sample included 145 participants – 91 first-year students and 54 second-year students (Merce Prat-Sala & Redford, 2012). A Pearson’s r procedure revealed high correlation between the two scales for both academic levels; despite the high correlation between the two variables, multi-collinearity thresholds were not breached (Merce Prat-Sala & Redford, 2012). Individually, self-efficacy for writing (SEW) and self-efficacy for reading (SER) were both highly correlated with writing performance with the stronger relationship being between SEW and writing performance (Merce Prat-Sala & Redford, 2012). The results of hierarchical regression procedures (one conducted for each academic level) indicate that SEW accounts for more of the variance in writing performance than SER (Merce Prat-Sala & Redford, 2012). Finally, the second-year students reported higher SEW than the first-year students, which is consistent with the more experienced students having completed more writing assignments and having received more feedback (Merce Prat-Sala & Redford, 2012).

Martínez, Kock, and Cass (2011) conducted a study that focuses on writing self-efficacy for undergraduate students; their sample included 127 mostly Hispanic students (about 90%) who attended a small, public university in southwest Texas. The researchers’ goal was to
determine which factors contributed to college students’ writing anxiety and writing self-efficacy (Martinez et al., 2011). The investigators used structural equation modeling to analyze pre- and post-test survey data collected from 127 students (Martinez et al., 2011). The statistical analyses revealed no differences in the pre-survey and post-survey; thus, there were no changes in writing anxiety or writing self-efficacy while students were enrolled in writing intensive courses (Martinez et al., 2011). However, the data analyses did indicate an inverse relationship between writing anxiety and writing self-efficacy as well as higher writing anxiety experienced by female students (Martinez et al., 2011). Further, based on the data, “leisure writing and anxiety were significant predictors of writing self-efficacy” (Martinez et al., 2011, p. 356). To increase writing self-efficacy in college students, the researchers suggest that writing instructors not only encourage students to use writing centers, but also “integrate the use of the writing center into their courses” (Martinez et al., 2011, p. 359).

With a mostly Hispanic student sample at a large public research university in south Florida, Sanders-Reio, Alexander, Reio, & Newman (2014) conducted survey research to determine if relationships exist among the following variables: “beliefs about writing, writing self-efficacy, writing apprehension, and writing performance” (pp. 3-4) They also wanted to figure out how much the first three variables (measured by surveys) contributed to the variance in the last variable – writing performance (measured by performance on an extensive, high-stakes writing assignment) (Sanders-Reio et al., 2014). The investigators used various statistical methods, including principal component analysis with Varimax rotation and hierarchical regression, to analyze the data collected (Sanders-Reio et al., 2014). It was determined that within the sample, higher self-efficacy for writing related to low writing apprehension and more enjoyment when writing while the reverse was more likely for those with lower self-efficacy for
writing (Sanders-Reio et al., 2014). Further, the statistical analyses indicated that students who expressed higher apprehension were more likely to earn lower grades; overall, these results point to writing performance having a “constellation” of beliefs as determinants (Sanders-Reio et al., 2014, p. 10).

The current research involving college students’ self-efficacy for writing suggests that the variable has a strong correlation to actual writing performance in higher education (Martinez et al., 2011; Merce Prat-Sala & Redford, 2012; Sanders-Reio et al., 2014). However, more research is required to determine if the same generalization can be made for the larger U.S. population of undergraduate students. This dissertation research will add to the body of knowledge by analyzing data collected from students at a large, public, research institutions in the southeastern United States.

**Use of Self-Regulatory Strategies for Writing**

Although the supporting evidence is limited (and contradictory in some cases), research generally suggests that competent writers are those who are able to regulate their own writing activities. Graham and Harris (2000) analyzed empirical data and anecdotal evidence to investigate four hypotheses related to the use of self-regulatory strategies for writing. Although the evidence is limited, it does support the assertions that skilled writers are more adept at self-regulation than developing or struggling writers, that writers become more self-regulated with “age and schooling,” that a positive correlations exists between one’s ability to self-regulate and one’s ability to write well, and that instruction in self-regulation can help developing and struggling writers to improve (Graham & Harris, 2000). Overall, the evidence supports the overarching concept that “development of writing competence depends on high levels of self-regulation” (Graham & Harris, 2000, p. 1).
While the Graham and Harris (2000) study relied primarily on anecdotal evidence from professional writers, such as Truman Capote and Ernest Hemingway, and empirical data from studies involving students in elementary school, it did include a small number of studies involving undergraduate students and other adult writers. Thus, this meta-analysis does function as a summary of the limited research on undergraduates’ use of self-regulatory strategies that was available at that time (Graham & Harris, 2000). Since the publication of Graham and Harris’ meta-analysis (2000), there have been only a few studies related to undergraduate students’ use of self-regulatory strategies. Graham and Harris (2000) also suggest that professional writers who did not describe using self-regulatory strategies might not have done so because those strategies were so ingrained, so automatic that they used them without thinking about them.

Similarly, Kellogg and Raulerson (2007) assert that this level of writing competence might be achieved by college students if they engage in enough “deliberate practice that trains [them] to develop executive control through repeated opportunities to write and through timely and relevant feedback” (p. 1). The researchers assert, based on a meta-analysis of data from professional writers and empirical research, that engaging in deliberate practice over time allows college writers to build endurance and intrinsic motivation as well as incorporate feedback into subsequent writing tasks (Kellogg & Raulerson, 2007). Thus, as students internalize what they learn in composition courses and writing intensive courses, they increase the capacity of their working memory to self-regulate “planning, text generation, and reviewing” (Kellogg & Raulerson, 2007). The researchers further suggest that the effectiveness of deliberate writing practices lies in using “spaced practice” as opposed to “marathon sessions” and students receiving “timely and useful feedback” (Kellogg & Raulerson, 2007, p. 239-240). However, the writers caution that (1) even for professional writers, deliberate practice took place over ten years
or more and (2) feedback requirements can become overwhelming for instructors. With respect to the high demands of providing feedback, the authors suggest using a variety of feedback tools to supplement instructor evaluation; these feedback methods include peer review and automated essay scoring programs (Kellogg & Raulerson, 2007).

Further, Kellogg and Whitehead (2009) use a meta-analysis to argue for deliberate practice to improve writing outcomes for high school and college writers. Their recommendations are predicated upon the following research-based ideas: writing performance improves through practice, practice must be deliberate on the part of the writer, practice should include some basic skills training, and over time deliberate practice makes working memory available to focus on writing tasks and improve writing performance (Kellogg & Whiteford, 2009). The study further asserts that the effects of deliberate practice are also affected by brain development (Kellogg & Whiteford, 2009). Finally, the researchers suggest specific teaching strategies to help students engage in deliberate practice to improve self-regulation and writing performance (Kellogg & Whiteford, 2009).

In a quantitative investigation, Zimmerman and Bandura (1994) sought to determine if students’ efficacy for self-regulation would predict their academic achievement in freshman writing courses. Through statistical analyses, the researchers found that academic self-efficacy combined with the students’ goal-setting behaviors to explain 35% of the variance in the students’ final grades in the course (Zimmerman & Bandura, 1994). These results suggest that efficacy for self-regulation can predict writing achievement, and as a result, the investigators suggest that college writing instructors administer similar scales to measure the students’ efficacy for self-regulation at the beginning of freshman composition courses (Zimmerman & Bandura, 1994). Instructors might be able to utilize the results to design instruction to increase
students’ ability and efficacy to regulate their writing behaviors thereby increasing the students’ academic performance in writing courses and beyond (Zimmerman & Bandura, 1994).

Taken together, the research advances the idea that writers’ ability to self-regulate cognitive and behavioral processes significantly influences writing performance. The research also collectively promotes the use of instructional practices to increase students’ ability to self-regulate and increase their writing ability and performance.

Conclusion

Research on outcomes related to DE suggests that participation increases the likelihood of students performing well in and graduating from college; this is true even when investigators control for preexisting student and school characteristics (Allen, 2010; Allen & Dadger, 2012; An, 2013a, 2013b, 2015; An & Taylor, 2015; Geise & Knight, 2011; Karp et al., 2007; Speroni, 2011; Swanson, 2008). There are few inquiries that involve forays into the realm of DE composition and related outcomes for students, and they tend to involve smaller sample sizes and be localized to specific universities (Denecker, 2013; Hansen et al., 2015; Taczak & Thelin, 2009; Tinberg & Nadeau, 2013). Moreover, the available research in DE writing outcomes has generated conflicting results that are further complicated by variations in the DE courses under investigation (Denecker, 2013; Hansen et al., 2015; Taczak & Thelin, 2009; Tinberg & Nadeau, 2013). Finally, the research on self-regulation provides strong report for its influence on writing ability and performance (Graham & Harris, 2000; Kellogg & Raulerson, 2007; Kellogg & Whiteford, 2009; Zimmerman & Bandura, 1994). The aims of this research involve adding to this body of knowledge by obtaining a larger sample of quantitative self-reported student data and collecting qualitative data from focus groups that are differentiated by a variation in DE course delivery. The current research will use this data to examine the relationship between
completion of DE composition and completion of non-DE composition and related levels of preparedness for subsequent writing courses, self-efficacy for writing, use of self-regulatory writing strategies, and performance in subsequent writing courses.

**College Composition Curriculum**

A document analysis was conducted to gain a general understanding of composition curriculum of freshman writing programs. For this analysis, curriculum included general program emphasis, types of writing assignments, and average assignment length. A search for webpages and syllabi describing freshman writing programs of four-year universities and colleges in the state yielded five institutions with programs specifically designed to address the writing needs of entering freshmen. All five websites describe writing as a process as the major focus of the first-year, first-semester writing course, and each public school outlines assignments typically that include analysis writing with research as the focus of the first course and argument writing with research as the focus of the second course (See Table 1). For the private university’s program, however, students move from analysis writing to argument writing within the first semester. In addition, no institution’s documents included creative writing assignments. For all programs, three to four formal writing assignments were prescribed, but the available information also described the inclusion of shorter, informal writing requirements that might be used to build the longer assignments. Overall, these first-year writing programs were designed to help students understand and engage in the writing process and use writing to coherently express their ideas by writing three or more argument or analysis papers that are 4-8 pages in length. These course descriptions and requirements informed the idea of the typical college writing curriculum that is advanced in this study.
<table>
<thead>
<tr>
<th>School</th>
<th>Public or Private?</th>
<th>Type of Institution</th>
<th>Website Available?</th>
<th>Syllabi Available?</th>
<th>Analysis, Argument, Research</th>
<th>Creative Writing</th>
<th>Average Paper Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>Public</td>
<td>PWI</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>4.2 pages**</td>
</tr>
<tr>
<td>2</td>
<td>Private</td>
<td>PWI</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>7.5 pages</td>
</tr>
<tr>
<td>3</td>
<td>Public</td>
<td>HBCU</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>None listed</td>
</tr>
<tr>
<td>4</td>
<td>Public</td>
<td>PWI</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>6.7 pages**</td>
</tr>
<tr>
<td>5</td>
<td>Public</td>
<td>PWI</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>None listed</td>
</tr>
</tbody>
</table>

*This institution is the one attended by the participants in this research study.

**Based on an estimate of 250 words per double-spaced page.
CHAPTER THREE. METHODOLOGY

Introduction

This investigation aimed to determine if there are differences between writing instruction, writing perceptions, and writing performance of students who take dual enrollment (DE) composition in comparison to students who use non-DE methods (i.e. traditional course on campus, transfer credit, ACT/SAT exemptions, or AP test exemptions) to meet the university’s first-year, first-semester (FYFS) writing course requirements. Differences based on preexisting student characteristics were also be investigated. In addition, qualitative survey data and interview data were used to further investigate DE composition students’ motivations, experiences, and perceptions. The research questions are

1. Are there differences in writing instruction for undergraduates based on credit pathway for earning FYFS writing credit and on preexisting student characteristics (i.e. gender, race/ethnicity, and parents’ education)?

2. Are there differences in students’ self-efficacy for writing and use of self-regulatory writing strategies based on credit pathway for earning FYFS writing credit and on pre-existing student characteristics (i.e. gender, race/ethnicity, and parents’ education)?

3. Are there differences in performance outcomes in advanced English courses (i.e. grades) based on credit pathway for earning FYFS writing credit and on pre-existing student characteristics (i.e. gender, race/ethnicity, and parents’ education)?

4. How do students who have completed DE composition courses describe their DE writing experiences with regard to motivation, course feedback, curriculum, self-efficacy, and impact?
5. How do the qualitative findings from the analysis of responses to the open-ended survey items and the one-on-one interviews enhance the understanding gained from analysis of the quantitative survey results?

**Research Design**

This mixed methods study utilized an embedded design that prioritized quantitative research methods and nested qualitative methods (W. E. Hanson, Creswell, Clark, Petska, & Creswell, 2005; Plano Clark & Ivankova, 2016b). In this design, quantitative survey data, quantitative grades data, qualitative survey data, and qualitative interview data were collected concurrently. Because one dataset of one type is “not sufficient” to answer the multiple types of research questions answered in this research, a mixed method approach is necessary for this study (J. W. Creswell & Plano Clark, 2011b).

Quantitative survey data was collected to compare the writing curriculum, self-efficacy for writing, and use of writing strategies of DE composition students to those of students who used non-DE methods to earn credit for FYFS composition. Additionally, course grades were compiled to compare writing intensive (WI) course performance of DE composition students to non-DE composition students. Comparisons were also made based on preexisting student characteristics, including race/ethnicity, gender, and parents’ education.

At the same time, qualitative data was collected from the online surveys and from one-on-one semi structured interviews in an effort to complement the findings from the survey. The qualitative data “[played] a supplemental role in the overall design,” and integration, or mixing of methods, occurred during the results and discussion portions of this investigation (Plano Clark & Ivankova, 2016b).
**Quantitative.** This study used a cross-sectional survey research design to determine (1) the writing instruction used in students’ composition courses, (2) students’ self-efficacy for writing, and (3) students’ use of self-regulated strategies for writing. The data collected allowed for comparisons to be made between DE composition students and non-DE composition students. Using this embedded mixed method design also enabled the investigator to prioritize the analysis of the quantitative survey data related to students’ pathways for earning credit for composition, namely the DE pathway versus all other pathways, and the related outcomes of self-efficacy for writing and the use of self-regulatory strategies for writing (J. W. Creswell & Plano Clark, 2011b; Plano Clark & Ivankova, 2016b).

Also, grades in writing intensive (WI) courses were supplied by the registrar’s office to conduct a performance comparison of DE composition students and non-DE composition students. In addition to comparing data to investigate differences between DE composition students and non-DE composition students, comparisons between students were made based on preexisting characteristics, including gender, race/ethnicity, and parents’ education.

**Qualitative.** The qualitative component of this investigation used grounded theory as method to identify, “develop,” and “relate” categories to validate or nullify the results of the quantitative portion of this study (Corbin & Strauss, 1990, p. 7). The main purpose of using a qualitative method was to complement the statistical analyses with emergent themes that describe students’ perceptions of DE composition courses. There are two sources of qualitative data: responses collected from open-ended survey questions and responses compiled during semi-structured one-on-one interviews.

Moreover, the use of qualitative data “[gives] voice” (Creswell, 2015, p. 205) to the participants who described their writing experiences by sharing their motivations for selecting a
DE course to earn credit for FYFS college composition, their evaluations of their experiences in those courses, and their perceptions of how the DE composition experiences have impacted their views on writing and their career plans. Overall, the open-ended survey questions and one-on-one interviews will investigate the following aspects of the students’ writing experiences: motivation, evaluation, and impact.

Participants

Quantitative. The quantitative component of this research was conducted with students who entered a large research university in the southeastern United States during the 2015-2016 academic year. All majors at this university typically require students to earn credit for FYFS college writing within the first two semesters of matriculation. Data related to these students was obtained from the university registrar’s office. That student population includes 1,065 students who entered the university with DE composition credit and 4,600 students who earned credit through non-DE pathways, which include taking the FYFS composition course at the university, completing Advanced Placement (AP) Language and Composition and earning a sufficient score on the corresponding test, earning a sufficient score on the ACT or SAT, or transferring the credit from another institution (See Table 2). As part of the survey, the students reported demographic data, which was also used in the statistical analyses.

Table 2. Potential Survey Participants from the 2015-2016 Cohort

<table>
<thead>
<tr>
<th>Completed DE Composition</th>
<th>Completed Non-DE Composition</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,065</td>
<td>4,600</td>
<td>5,665</td>
</tr>
</tbody>
</table>

In an effort to obtain an adequate sample size, the survey instrument was emailed to all the students in the population (N=5,665). The final sample size was 1,027, which was
determined by the number of students who completed the survey with sufficient information to conduct the required statistical analyses. The rate of return was 18.12%.

In addition to the survey sample, which was used to conduct the analyses related to curriculum, self-efficacy for writing, and use of writing strategies, there were two other datasets including institutional data, which was used to conduct the analyses of performance in advanced English courses and writing intensive courses.

Survey participants. A Qualtrics survey link was emailed to all students with credit for ENGL 1001 that entered the university between Fall 2015 and Spring 2016. Along with other details about confidentiality, the email provided details about available incentives: two $100 Amazon gift cards that were given to two randomly selected survey takers. That population included 5,665 undergraduate students, and 1,096 students started and/or completed the survey. After the data was screened for incomplete surveys, there were 1,027 completed surveys for a response rate of 9.38%.

For each statistical analysis, the complete case method was used, so the number of participants included in each analysis is different based on which information was provided for each case; cases with all necessary data for an analysis were the only ones utilized in that analysis (Kang, 2013). Pairwise deletion was used so that cases were only excluded from an analysis when “the particular data-point needed” to conduct that analysis was missing; this technique for handling missing data was deemed appropriate because analysis conducted with dummy coding revealed that the missing data was missing at random and because there was a small number of missing cases (Kang, 2013, p. 404). For example, if an analysis included parents’ education and that information was not available for a particular case, then that case was excluded from that analysis. As such, the data presented here shows all cases available for each
variable; however, the sample size related to each statistical analysis is provided with the results for that analysis.

Gender was available for 1,027 cases and was split into two nominal categories; there were 298 male participants (29%) and 729 female participants (71%) (See Table 3). This seems to be consistent with male and female response rates in similar composition studies (and in other studies in general) in which female participants greatly outnumber their male counterparts (Hansen et al., 2015; Yetter & Capaccioli, 2010).

Table 3. Survey Participants by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>298</td>
<td>29%</td>
</tr>
<tr>
<td>Female</td>
<td>729</td>
<td>71%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,027</td>
<td>100%</td>
</tr>
</tbody>
</table>

Race/ethnicity was available for 1,027 cases and was split into three nominal categories; there were 105 Black or African American participants (10%), 795 white participants (77%), and 127 “other” participants (12%) (See Table 4). These values seem appropriate given the racial makeup of the fall 2016 enrollment, which was 12% Black or African American, 70% white, and 18% “other.”

Table 4. Participants by Race/Ethnicity for Survey Data

<table>
<thead>
<tr>
<th>Race</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black/African American</td>
<td>105</td>
<td>10%</td>
</tr>
<tr>
<td>White</td>
<td>795</td>
<td>77%</td>
</tr>
<tr>
<td>Other</td>
<td>127</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,027</td>
<td>100%</td>
</tr>
</tbody>
</table>

Parents’ education was available for 969 cases from the institutional data and was split into four ordinal categories; there were 72 cases with no high school diploma (7%), 219 cases with a high school diploma (21%), 476 cases with a college degree (46%), and 202 cases with an advanced degree (20%). Of the 1,027 total cases, 58 (6%) had missing data for parents’ education (see Table 5).
Credit pathway, which represents how students earned credit for FYFS composition, was available for 1,027 cases (see Table 6). There were 86 participants that earned credit through dual enrollment (8%), 366 participants that earned credit by taking the traditional course (ENGL 1001) on campus after high school graduation (36%), 426 participants who received exemptions based on ACT or SAT scores (42%), and 149 participants who received exemptions based on AP test scores (15%). Overall, the 86 participants (8%) reported earning credit via DE, and 941 participants (92%) reported using non-DE methods to earn credit for FYFS composition. At the institution from fall 2015 to spring 2017, which encompasses two academic years, 2,120 students (19%) earned FYFS composition credit via DE, and 8,836 (81%) students used non-DE credit pathways.

Table 5. Participants by Parents' Education Level for Survey Data

<table>
<thead>
<tr>
<th>Parents’ Education Level</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some high school</td>
<td>72</td>
<td>7%</td>
</tr>
<tr>
<td>High school diploma</td>
<td>219</td>
<td>21%</td>
</tr>
<tr>
<td>College degree</td>
<td>476</td>
<td>46%</td>
</tr>
<tr>
<td>Advanced degree</td>
<td>202</td>
<td>20%</td>
</tr>
<tr>
<td>No data available</td>
<td>58</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,027</td>
<td>100%</td>
</tr>
</tbody>
</table>

Institutional data. The institutional dataset included DE and non-DE students who began matriculation between fall 2015 and spring 2017 and who had completed advanced English courses at the university. These were courses beyond the minimum writing requirements that were taken in the university’s English department.
Gender was available for 467 DE and non-DE students who took advanced English courses (see Table 7). 123 of the students were male (26%), and 344 were female (74%).

Table 7. Participants by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>123</td>
<td>26%</td>
</tr>
<tr>
<td>Female</td>
<td>344</td>
<td>74%</td>
</tr>
<tr>
<td>Total</td>
<td>467</td>
<td>100%</td>
</tr>
</tbody>
</table>

Race/ethnicity was available for 467 DE and non-DE students who took advanced English courses at the institution (see Table 8). There were 88 African American or Black students in the sample (19%), 345 white students (74%), and 34 students in the “other” category (7%).

Table 8. Participants by Race/Ethnicity

<table>
<thead>
<tr>
<th>Race</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black/African American</td>
<td>88</td>
<td>19%</td>
</tr>
<tr>
<td>White</td>
<td>345</td>
<td>74%</td>
</tr>
<tr>
<td>Other</td>
<td>34</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td>467</td>
<td>100%</td>
</tr>
</tbody>
</table>

Parents’ education was available for 416 students who completed at least one advanced English course at the institution (see Table 9). It was a continuous variable that summed mother’s education and father’s education. The values ranged from a minimum of 1.00 to a maximum of 12.00. A value of 1.00 indicated that someone had information for a single parent that attended high school but did not graduate or two parents who attended junior high school but not high school. A value of 12.00 indicated that a student reported information for two parents, and both of parents had professional degrees. This coding method permitted parents' education to be used as a continuous variable.
Table 9. Participants by Parents' Education

<table>
<thead>
<tr>
<th>Parents’ Education Level</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>11</td>
<td>2.4%</td>
</tr>
<tr>
<td>1.50</td>
<td>13</td>
<td>2.8%</td>
</tr>
<tr>
<td>2.00</td>
<td>89</td>
<td>19.1%</td>
</tr>
<tr>
<td>2.50</td>
<td>88</td>
<td>18.8%</td>
</tr>
<tr>
<td>3.00</td>
<td>134</td>
<td>28.7%</td>
</tr>
<tr>
<td>3.50</td>
<td>40</td>
<td>8.6%</td>
</tr>
<tr>
<td>4.00</td>
<td>41</td>
<td>8.8%</td>
</tr>
<tr>
<td>Total</td>
<td>416</td>
<td>89.1%</td>
</tr>
</tbody>
</table>

For the analysis of DE and non-DE students’ performance in advanced English courses at the institution, there were 467 students (see Table 10). 395 of the cases involved DE composition students (85%) while 72 cases were related to students who had not earned DE composition credit (15%).

Table 10. Participants by Credit Pathway

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Enrollment</td>
<td>395</td>
<td>85%</td>
</tr>
<tr>
<td>Non-dual Enrollment</td>
<td>72</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>467</td>
<td>100%</td>
</tr>
</tbody>
</table>

For the analysis of non-DE composition students’ performance in non-English WI courses, there were 1,324 cases. All cases were related to students who did not earn credit for DE composition.

Qualitative. The qualitative data originated from two sources: the responses to open-ended survey items and the responses to the interview questions. University students who entered the university with credit for DE composition provided all of this data.

Survey participants. Eighty-four dual enrollment composition students completed the four open-ended survey items (see Table 11). Over one-third of this self-selected sample included female students, and in addition, the consisted of mostly white participants (81%) and included mainly in-state students (88%). Eighty of the eighty-four students completed DE
writing courses on their high school campuses, and high school teachers taught over half of the students’ courses. Over ninety percent of the students in the sample believed they were moderately, very, or extremely prepared for writing at the college level.

Table 11. Demographic Data for DE Composition Survey Participants

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>Number (Percentage)</th>
<th>Male (Percentage)</th>
<th>Female (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n = 84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>19 (22.6%)</td>
<td>19 (22.6%)</td>
<td>65 (77.3%)</td>
</tr>
<tr>
<td>Female</td>
<td>65 (77.3%)</td>
<td>65 (77.3%)</td>
<td>19 (22.6%)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>68 (81.0%)</td>
<td>15 (17.9%)</td>
<td>53 (63.1%)</td>
</tr>
<tr>
<td>Black</td>
<td>10 (11.9%)</td>
<td>3 (3.6%)</td>
<td>7 (8.3%)</td>
</tr>
<tr>
<td>Other</td>
<td>6 (7.1%)</td>
<td>1 (1.2%)</td>
<td>5 (6.0%)</td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>2 (2.3%)</td>
<td>1 (1.2%)</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Sophomore</td>
<td>58 (69.0%)</td>
<td>12 (14.3%)</td>
<td>46 (54.8%)</td>
</tr>
<tr>
<td>Junior</td>
<td>24 (28.6%)</td>
<td>6 (7.1%)</td>
<td>18 (21.4%)</td>
</tr>
</tbody>
</table>

(Table 11 continued)

<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>Number (Percentage)</th>
<th>Male (Percentage)</th>
<th>Female (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residency</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-state</td>
<td>74 (88.1%)</td>
<td>16 (19.0%)</td>
<td>58 (88.1%)</td>
</tr>
<tr>
<td>Out-of-state</td>
<td>10 (12.3%)</td>
<td>3 (3.6%)</td>
<td>7 (8.3%)</td>
</tr>
<tr>
<td><strong>DE Location</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>80 (95.2%)</td>
<td>19 (22.6%)</td>
<td>61 (72.6%)</td>
</tr>
<tr>
<td>College</td>
<td>4 (4.8%)</td>
<td>0 (0.0%)</td>
<td>4 (4.8%)</td>
</tr>
<tr>
<td><strong>DE Instructor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>54 (64.3%)</td>
<td>9 (10.7%)</td>
<td>54 (64.2%)</td>
</tr>
<tr>
<td>College</td>
<td>10 (12.3%)</td>
<td>2 (2.4%)</td>
<td>10 (12.3%)</td>
</tr>
<tr>
<td>Both</td>
<td>20 (24.7%)</td>
<td>8 (9.5%)</td>
<td>21 (25.0%)</td>
</tr>
<tr>
<td><strong>Feelings of Preparedness for College Writing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not prepared</td>
<td>1 (1.2%)</td>
<td>0 (0.0%)</td>
<td>1 (1.2%)</td>
</tr>
<tr>
<td>Slightly prepared</td>
<td>5 (6.0%)</td>
<td>1 (1.2%)</td>
<td>4 (4.8%)</td>
</tr>
<tr>
<td>Moderately prepared</td>
<td>20 (24.7%)</td>
<td>5 (6.0%)</td>
<td>16 (19.8%)</td>
</tr>
<tr>
<td>Very prepared</td>
<td>37 (44.0%)</td>
<td>10 (12.3%)</td>
<td>27 (32.1%)</td>
</tr>
<tr>
<td>Extremely prepared</td>
<td>21 (25.9%)</td>
<td>3 (3.6%)</td>
<td>18 (21.4%)</td>
</tr>
</tbody>
</table>

*Interview participants.* The qualitative interview sample included only DE composition students, as their experiences, perceptions, and outcomes were the main focus of this
investigation. Convenience sampling was used to recruit participants. Students received an initial email invitation and two reminder emails that provided details about the phone interview process and information about the incentive (one $100 Amazon gift certificate to a randomly selected interviewee). Before the interview recruiting process began, the university had provided data for students with dual enrollment composition credit who began matriculation in 2015-2016 (all students in the same population utilized for the quantitative survey) as well students with DE writing credit who entered the university during the 2016-2017 academic year. The population of students that received the interview request included 2,120 students (See Table 12).

Table 12. Potential Interview Participants with DE Composition Credit

<table>
<thead>
<tr>
<th></th>
<th>2015-2016</th>
<th>2016-2017</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1,065</td>
<td>1,055</td>
<td>2,120</td>
</tr>
</tbody>
</table>

As shown in Table 13, fourteen freshmen, sophomores, and juniors from various academic departments were interviewed. Although many researchers have been reluctant to quantify the number of interviews necessary to reach saturation, Onwuegbuzie & Collins (2007) suggest twelve participants as adequate based on the work of Guest, Bunce, and Johnson (2006), researchers who also suggest that all participants be asked the same series of questions to further bolster saturation.

Table 13. Interview Participant Demographics

<table>
<thead>
<tr>
<th>Case</th>
<th>Class</th>
<th>Gender</th>
<th>Race</th>
<th>DE Course Location</th>
<th>Instructor</th>
<th>DE Provider Type</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jr.</td>
<td>F</td>
<td>White</td>
<td>HS</td>
<td>HS</td>
<td>CC*</td>
<td>Finance</td>
</tr>
<tr>
<td>2</td>
<td>So.</td>
<td>F</td>
<td>White</td>
<td>HS</td>
<td>Both</td>
<td>U**</td>
<td>Education</td>
</tr>
<tr>
<td>3</td>
<td>So.</td>
<td>M</td>
<td>White</td>
<td>HS</td>
<td>Both</td>
<td>U</td>
<td>Textiles, Apparel, and Design</td>
</tr>
</tbody>
</table>

(Table 13 continued)
(Table 13 continued)

<table>
<thead>
<tr>
<th>Case</th>
<th>Class</th>
<th>Gender</th>
<th>Race</th>
<th>Location</th>
<th>Instructor</th>
<th>DE Provider Type</th>
<th>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>So.</td>
<td>F</td>
<td>White</td>
<td>HS</td>
<td>Both</td>
<td>U</td>
<td>Engineering</td>
</tr>
<tr>
<td>5</td>
<td>Jr.</td>
<td>F</td>
<td>Black</td>
<td>HS</td>
<td>CI</td>
<td>CC</td>
<td>Psychology</td>
</tr>
<tr>
<td>6</td>
<td>Jr.</td>
<td>F</td>
<td>White</td>
<td>HS</td>
<td>HS</td>
<td>U</td>
<td>Education</td>
</tr>
<tr>
<td>7</td>
<td>So.</td>
<td>F</td>
<td>White</td>
<td>HS</td>
<td>HS</td>
<td>U</td>
<td>Accounting</td>
</tr>
<tr>
<td>8</td>
<td>Jr.</td>
<td>F</td>
<td>White</td>
<td>HS</td>
<td>HS</td>
<td>U</td>
<td>Biology</td>
</tr>
<tr>
<td>9</td>
<td>Jr.</td>
<td>M</td>
<td>White</td>
<td>HS</td>
<td>HS</td>
<td>U</td>
<td>International Trade &amp; Finance</td>
</tr>
<tr>
<td>10</td>
<td>So.</td>
<td>M</td>
<td>Black</td>
<td>HS</td>
<td>Both</td>
<td>U</td>
<td>Accounting</td>
</tr>
<tr>
<td>11</td>
<td>So.</td>
<td>F</td>
<td>Black</td>
<td>HS</td>
<td>HS</td>
<td>CC</td>
<td>Biology</td>
</tr>
<tr>
<td>12</td>
<td>So.</td>
<td>F</td>
<td>White</td>
<td>HS</td>
<td>HS</td>
<td>CC</td>
<td>English</td>
</tr>
<tr>
<td>13</td>
<td>So.</td>
<td>F</td>
<td>White</td>
<td>College</td>
<td>CI</td>
<td>U</td>
<td>Mechanical Engineering</td>
</tr>
</tbody>
</table>

'CC = community college  **U = university

Instruments

Quantitative. The survey instrument is an combination of modified items from the following four research studies: (a) Hansen and associates’ (2015) research at Brigham Young University, (b) Mercè Prat-Sala and Redford’s (2010) Self-Efficacy in Essay Writing (SEW) Scale, (c) three scales from Malpique & Veiga-Simão’s (2014) Self-Regulated Strategies for School Writing Tasks (SRSSWT) Survey, and (d) a checklist of writing assignments derived from Kiuhara, Graham, and Hawken (2009). In addition, the survey included four open-ended questions that were designed by the researcher; these items are discussed in the qualitative section on instruments.

The survey items from Hansen and associates (2015) asked students how they earned FYFS credit, how they performed in the course (if one was taken since some students earn credit
based on standardized test scores), and how prepared they feel for subsequent college writing. Additionally, one of the items assessed the frequency of the writing assignments they completed in their FYFS composition course. The scale for these frequency items ranged from 1 (never) to 5 (daily).

The second section of the survey used the Self-Efficacy in Essay Writing (SEW) Scale, which was developed by Prat-Sala and Redford (2010). The scale includes twelve “positively-loaded” items that prompt students to express their beliefs about certain aspects of their ability to write essays in college (i.e. “I can express my arguments clearly in essays,” “I can link paragraphs to make my essay coherent”) (p. 1). Students responded using a 5-point Likert-type scale that ranges from 1 (strongly disagree) to 5 (strongly agree) (Prat-Sala & Redford, 2010, p. 1). The scores from the twelve items were averaged together as a single SEW score for each participant. The authors of the SEW scale reported Cronbach’s alpha levels at 0.888 for a sample of 94 first-year psychology students and 0.918 for a sample of 54 second-year psychology students; the alpha levels achieved in this study are comparable (See Table 16) (Prat-Sala & Redford, 2012).

The third portion of survey items originated from the Self-Regulated Strategies for School Writing Tasks (SRSSWT) Survey, which includes 34 items that are split into twelve subscales; the purpose of using the instrument was to determine how frequently students “apply self-regulated strategies for writing” (Malpique & Veiga-Simão, 2014). For the purposes of this study, only four of the twelve subscales were used. These scales included self-monitoring (i.e. I keep track of the time I need to complete my writing task), self-consequating (i.e. I take a break when I finish a writing task.), reader’s awareness (i.e. I ensure that the text I write is suited for whoever might read it.), and planning (i.e. I think of what ideas I want to develop before I start...
writing). The self-monitoring, self-consequating, and reader’s awareness scales have three items each, and the planning scale has five items. As shown in Table 2, the scales have Cronbach’s alpha values that range from 0.61 to 0.79 (Malpique & Veiga-Simão, 2014). The alpha levels achieved for this study are similar (See Table 14).

The final portion of the survey was derived using a checklist survey used in research by Kiuhara, Graham, and Hawken (2009), who conducted a national survey of high school teachers; the survey was designed to help the investigators determine what high school students were writing high school English language arts, science, and social studies courses. This checklist was revised based on composition syllabi from the university and other DE writing programs that feed into the university. Based on the responses obtained from the survey and the interviews, the writing assignments included on the checklist are also representative of the assignments completed by DE writing students at other in-state and out-of-state institutions. As shown in Table 16, the assignment types included in the checklist include argumentative writing, literary analysis, and personal narratives.

Table 14. Sample Quantitative Survey Items

<table>
<thead>
<tr>
<th>Survey Portion Derived From</th>
<th>Construct Being Measured</th>
<th>Sample Item(s)</th>
<th>Reported Cronbach’s Alpha (a)</th>
<th>Computed Cronbach’s Alpha (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hansen et al. (2015)</td>
<td>Some Demographic Items, Preparedness Item</td>
<td>How well do you think your college writing course prepared you for the writing you have to do in your other courses at the university?</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(Table 14 continued)
<table>
<thead>
<tr>
<th>Survey Portion Derived From</th>
<th>Construct Being Measured</th>
<th>Sample Item(s)</th>
<th>Reported Cronbach’s Alpha (a)</th>
<th>Computed Cronbach’s Alpha (a)</th>
</tr>
</thead>
</table>
| Prat-Sala & Redford (2012)  | **Self-Efficacy in Essay Writing** | *I can express my arguments clearly in essays.*  
*I can link paragraphs to make my essay coherent* | 0.89/0.92                   | 0.95                          |

| Malpique & Veiga-Simão (2014) | **Self-Regulated Strategies for School Writing Tasks** |  
**Self Monitoring**  
*I keep track of the time I need to complete my writing task.*  
*I take a break when I finish a writing task.* | 0.61 | 0.65 |
| **Self-Consequating Reader’s Awareness** |  
*I ensure that the text I write is suited for whoever might read it.* | 0.69 | 0.64 |
| **Planning** |  
*I think of what ideas I want to develop before I start writing.* | 0.79 | 0.75 |

| Kiuhara, Graham, & Hawken (2009) | **Writing Activities Used by DE Instructors** |  
*Analysis of literature*  
*Personal narrative*  
*Research paper*  
*Rhetorical analysis* | N/A | N/A |

**Qualitative.** Two instruments were used to collect qualitative data for this research – open-ended questions that were included with the quantitative survey items and the questions asked during the semi-structured interviews.

The open-ended items used on the survey were designed by the researcher and based on various items included in longitudinal studies conducted at Stanford University and the University of Denver; both of these studies included several survey and interview protocols that were made available by the researchers involved (Campbell et al., 2010; Lunsford, Fishman, Rogers, Krampetz, & Diogenes, 2001) (see Table 15).
The protocol for the semi structured one-on-one interviews was designed to provide an opportunity for students to discuss their DE writing experiences. Before engaging in the interview, each student provided informed consent and demographic data via email; students further consented to participation by calling in to be interviewed. The items included in the protocol are based on the results of focus group interview data reported by Hansen and associates (2015). In additions, the interview protocol items were designed using items from the Stanford Study of Writing Year 5 Interview Questions and from The University of Denver Longitudinal Study of Writing interview questions (Campbell et al., 2010; Lunsford et al., 2001). Some items from those long-term research efforts were revised to fit the needs of this study, and additional questions were added to complete the protocol (See Table 16 and Appendix B).

Table 16. Sample Items for Semi-Structured Interview Protocol
The interview protocol focuses on four overarching categories related to students’ DE composition courses: writing experiences, (i.e. Please describe the writing processes that you used in your dual enrollment (DE) composition course.), motivation (i.e. Why did you choose to earn credit for college composition through dual enrollment?), evaluation (i.e. Based on the writing that you might be doing in other courses (200-level and above), do you think your DE writing classes prepared you adequately?), and impact (i.e. What type of job or career are you hoping to have several years from now?) (See Appendix B for the complete interview protocol).

**Procedures**

**Quantitative.** An online recruitment email was sent to all students in the population asking them to participate in this research. The emails described the purpose of the study, the approximate length of the survey, and issues of confidentiality. It also included a web link to the online survey in Qualtrics and explained that participation was voluntary, that participants could withdraw from the study at any time without penalty, and that responses would remain anonymous. Further, the email detailed incentives, which were provided in the form of two $100 Amazon gift cards; a random number generator was used to determine which participants won the incentive prizes, which were included as a method to increase the overall response rate (Porter & Whitcomb, 2003; Sánchez-Fernández, Muñoz-Leiva, & Montoro-Ríos, 2012; Singer & Ye, 2013). Participants were able to click the link in the email to open the survey, the first page of which was the consent form. By continuing forward with the survey upon indicating “next” at the end of the consent form, participants agreed to informed signed consent for the survey (see Appendix A for the informed consent that is contained in the survey instrument) (Creswell, 2015; Nardi, 2006).
Qualitative. The interview participants only included current university students who have completed at least one DE composition course before matriculating at the university. The interview data was used to explain the quantitative results that are related specifically to DE composition students. The following interview procedures have been adapted from those outlined by Burke and Miller (2001), Creswell (2013), and Jacob and Furgerson (2012).

The one-on-one semi-structured interviews were conducted by phone to overcome the initial difficulties of getting student participants to attend focus group sessions. Before the phone interviews, the interview questions were tested with a focus group of three university students who were “demographically similar” to the students in the qualitative sample (Burke & Miller, 2001). In the same time frame, a Google Voice account was created which would allow participants to call in for the phone interviews and would also generate voice recordings of the interviews. It was also determined that notes would be taken on a separate hard copy of the interview protocol for each interview.

All students in the population (those who entered the university with DE composition credit between fall 2015 and Spring 2017) were invited to participate. The invitation email introduced the researcher and briefly explained the purpose of the research. Students replied to the researcher indicating their willingness to participate and providing convenient dates and times for the interview. At that point, each potential interviewee gave consent and provided demographic data via reply email. Each of those reply emails received an individual response to finalize the date and time of the interview and to provide the instructions for calling in.

At the start of each interview, each participant received an introduction to the researcher, and the purpose of the research was reiterated. Before recording began, the participants were reminded that the interview would be recorded for transcription purposes and that all versions of
the interview – audio and written, electronic and hard copy – would be kept confidential. Next, within the Google Voice telephone application, the recording was initiated. The same questions from the interview protocol were asked in the same order in each interview with additional questions and prompts added as needed. Each interview was six to fifteen minutes long. Also, the researcher took notes during each session. At the end of each interview session, the participants were asked if they had any questions and thanked for their time and cooperation.

The Google Voice application automatically saved each voice call, and after each interview, the audio file from Google Voice was uploaded to Rev.com for transcription. The interview notes were reviewed by the researcher, but not transcribed. It should be noted here that associates at Rev.com completed a nondisclosure agreement to assure that all files related to the project would remain confidential. Transcriptions were completed by Rev.com associates within twenty-four hours of receipt and made available in Microsoft Word.

Data and Data Analysis

Quantitative. The unit of analysis was individual students from the university’s 2015-2016 cohort who completed the survey instrument; each student who finished the survey generated several scores that were used in the quantitative analysis. The population of 5,665 students included university students who had earned credit for FYFS writing; as previously indicated, each of these students received an email invitation to complete the survey.

Although all data was directly generated from Qualtrics, the data was visually screened for irregularities. It was noted that the scoring for some survey items was not marked using consecutive numbers to represent scales, so that data was transformed to reflect a scale of consecutive numbers from one to five. Dummy coding was employed to detect patterns in missing data; no patterns were detected and missing data accounted for sixty-nine cases, or less
than 7% of the raw data set. Cases were deleted for various types of missing data, including cases with incomplete demographic data and those cases involving participants whose credit acquisition for college composition did not fit those of interest in this study. Further screening related to assumptions, such as normality and homogeneity of variances, are discussed later in this chapter.

In order to conduct the appropriate statistical analysis, it was anticipated that the sample would include 320 participants with a minimum of 64 students from each of the five credit-earning pathways to conduct a causal-comparative analysis with “.80 statistical power at the 5% level of significance” (Onwuegbuzie & Collins, 2007, p. 289). The final sample included 1,027 participants; however, the sample size for each analysis varied based on the information available within the larger sample.

For the main independent variable, survey participants were coded to a credit pathway based on how they earned credit for FYFS writing; those pathways include (1) taking the course as a DE student while in high school, (2) taking FYFS college writing at the university, (3) transferring the credit from another post-secondary institution, (4) earning the required score or above on the AP test, or (4) earning the required score or above on the ACT or SAT test. Completed surveys also provided independent variables that were related to preexisting student data, including gender, race/ethnicity, and parents’ education.

Research question one – curriculum. For this analysis, statistical procedures were used to determine if college composition curriculum might be correctly predicted based on credit pathway, race/ethnicity, gender, and parents’ education. The main independent variable of interest is credit pathway. Specifically, the goal is to determine if DE students are equally likely
to experience a typical college composition curriculum when compared to students who choose non-DE pathways to earn credit for college composition.

In addition to including credit pathway as an independent variable, the research questions related to curriculum involved independent demographic variables reported by students in surveys; these independent variables included gender, race/ethnicity, and parents’ education. Survey respondents also provided data related to the following dependent variables: number of argument/analysis papers written, number of creative assignments written, and length of papers written.

Arguments and Creative Writing both represent binomial dependent variables. Because the research questions are concerned with predicting these variables based on composition credit pathway and other independent demographic variables, binomial logistic regression was the appropriate procedure for attempting to make such predictions.

Paper Length was represented by an ordinal dependent variable with three levels. Because the research questions are concerned with predicting this variable based on composition credit pathway and other independent demographic variables, ordinal logistic regression was the appropriate procedure for attempting to make such predictions.

Because binomial logistic regression “does not adhere to any assumptions about the distributions of the predictor variables,” typical assumptions like those of normality were not addressed (Tabachnik & Fidell, 2007). However, no outliers were detected, and the Box-Tidwell procedure was used to determine that a “linear relationship [existed] between [the] continuous independent variable [parents’ education] and the logit transformation of the dependent variable[s]” for the two binomial logistic regression procedures conducted for this study (“Ordinal regression using SPSS statistics,” 2015). Further, the model building process ensured
that the “ratio of cases to variables included in the analysis” was adequate (Tabachnik & Fidell, 2007). The standard alpha level of .05 was used to determine statistical significance.

Ordinal logistic regression was used to determine if the average length of papers written in college composition courses, an ordinal dependent variable, could be correctly predicted based on the following independent variables: credit pathway, race/ethnicity, gender, and parents’ education. The appropriate assumptions were met; it was noted that the observations were independent and that the ratio of cases to independent variables was adequate. In addition, there were no outliers and no multicollinearity among the independent variables. The assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the fit of the proportional odds location model to a model with varying location parameters, $\chi^2 (7) = 13.418, p = .063$. The deviance goodness-of-fit test indicated that the model was a good fit to the observed data, $\chi^2 (83) = 88.689, p = .314$, but many cells were sparse with zero frequencies in 24.6% of cells. The standard alpha level of .05 was used to determine statistical significance.

Research question two - self-efficacy for writing and use of writing strategies. The second research question sought to determine if there were differences in self-efficacy for writing and use of self-regulatory writing strategies between students DE and non-DE students. Differences based on preexisting student characteristics were also analyzed.

For the research questions related to self-efficacy for writing and use of writing strategies, the completed surveys provided information on the following dependent variables: perceived self-efficacy for writing essays in higher education, and perceived use of self-regulatory writing strategies. Each survey-taker generated a summed score for each of the aforementioned dependent variables. Scores for writing self-efficacy ranged from twelve to sixty, and the scores for strategy use ranged from twenty-two to seventy. As with the previous set
of research questions, the following categorical independent variables were included in this analysis: credit pathway, gender, and race/ethnicity. Also, parents’ education was included as a continuous dependent variable.

The result of a model building process was that multivariate analysis of variance (MANOVA) was ultimately used to determine if there were differences in the dependent variables - students’ self-efficacy for writing and their use of self-regulatory writing strategies – based on the independent variables – credit pathway (DE, traditional, or test exemption for college composition), race/ethnicity, gender, and parents’ education. Initially, a multivariate analysis of covariance (MANCOVA) procedure was used for this analysis because parents’ education was a continuous independent variable. However, during the model-building process, parents’ education was removed due to lack of statistical significance, and the procedure modified to MANOVA.

Assumptions were checked for the original data and for transformed data. Because both datasets – untransformed and transformed – yielded the same statistical results, the assumptions testing for the untransformed data are described here.

The assumption of independence was met due to the study’s design, and it was safe to assume that the assumption was not violated since each case represents a different survey respondent (Mertler & Vannatta, 2002). While univariate normality was established for writing strategy use scores based on calculations of skewness and kurtosis, the self-efficacy for writing scores were severely left skewed and violated the assumption of normality. However, skewness and kurtosis calculations indicated that the assumption multivariate normality was met for the grouped data, especially since MANOVA is robust to violations of normality when the departure from normality is not due to the presence of outliers and when the number of cases in each cell is
greater than the number of dependent variables in the analysis (Mertler & Vannatta, 2002). Based on the values generated by Box’s test ($F = 6.188, p < .001$), the data does not meet the assumption of homogeneity of variance-covariance; since the assumption was not met and because the group sizes are unequal, the Pillai’s Trace test statistic was used to interpret the results of the MANOVA (Mertler & Vannatta, 2002). There was a linear relationship between the dependent variables, self-efficacy for writing and use of writing strategies, as assessed by scatterplot. In addition, the assumption of homogeneity of regression was met for the strategy use variable but not for the self-efficacy variable. Absence of multicollinearity was assessed by obtaining VIF values, which were between 1 and 10 for both dependent variables.

The data failed to meet the following assumptions: univariate normality, homogeneity of variance-covariance, and homogeneity of regression. These failures were due to the severe left skew of the SEW scores. However, despite these failures, the results of the MANOVA using he untransformed SEW scores were very similar to those obtained when using transformed SEW scores that did allow the data to meet all the required assumptions for MANOVA. In an effort to provide results and findings that are consistent with the scores obtained from the original survey data, the MANOVA results from the untransformed SEW scores are reported.

*Research question three - performance in advanced English courses.* The goal of this statistical analysis was to determine if there were significant mean differences in English GPA between DE writing students and non-DE students. In addition, the procedures were run to determine if there were significant mean differences in English GPA between male and female university students among students who categorize themselves as white, black, or other based on parents’ education? The data was also analyzed to investigate a potential interaction among the independent variables: credit pathway, gender, race/ethnicity, and/or parents’ education?
For the analysis of performance (course grades) in advanced English courses, the registrar’s office provided institutional data, which included the dependent variable, grades in advanced English courses for students who entered the university between fall 2015 and spring 2017. Each student was assigned a numerical score equal to their grade point average in those courses; the scores ranged from a 0 to represent an F average to a 4.3 to represent an A+ average. Unlike the other analyses in this larger investigation, credit pathway was a dichotomous variable including DE students and non-DE students. The continuous dependent variable is grade point average in advanced English courses (ENGL GPA). Like the previous statistical analyses in this research, the other independent variables include gender, race, and parents’ education.

Using factorial analysis of variance allowed for testing several factors and for interactions among those factors; in addition, it minimized the probability of Type I error that would occur through the use of multiple t-tests (Hinkle, Wiersma, & Jurs, 2003; Mertler & Vannatta, 2002). Residual analysis was performed to test for the assumptions of the two-way ANOVA. Outliers were assessed by inspection of a boxplot, normality was assessed using values of skewness and kurtosis for each cell of the design, and homogeneity of variances was assessed by Levene’s test. Of 467 cases, sixteen were outliers. The computed values of skewness and kurtosis indicated that the dependent variable, English GPA, did not meet the assumption of normality for all cells in the analysis. The violations were not for all cells and were mainly related to skewness. The data did not meet the assumption of homogeneity of variances (p = .014).

Because the data failed to meet the assumptions of a two-way ANOVA, another residual analysis was performed to test the transformed dependent variable. The new variable was computed using a “reflect and log 10” transformation. As for the untransformed variable, outliers were assessed by inspection of a boxplot, normality was assessed using values of skewness and
kurtosis for each cell of the design, and homogeneity of variances was assessed by Levene's test. There were no outliers, residuals were normally distributed, and there was homogeneity of variances ($p = .461$). The final results using the transformed data matched the results of the untransformed data; therefore, the results reported in the subsequent chapter are those generated using the untransformed data.

**Qualitative.** Data was collected from open-ended survey questions and phone interviews.

*Research question four - DE composition students’ perceptions.* The unit of analysis was individual students who earned DE writing credit before entering the university. Each phone interview was transcribed. The responses to the open-ended survey items and the interview transcriptions were analyzed for information that described DE composition students’ motivations for choosing DE to earn college writing credit, their experiences with receiving feedback, their feelings of preparedness for writing in subsequent college courses, and the impact their writing experiences had on their academic and career decisions.

To analyze the qualitative survey and interview data, a grounded theory methodology was used. The analysis involved two “main phases” of coding and (Charmaz, 2006). The “initial” coding involved naming each “segment of data” using words and phrases from the dataset; using terms contained within the data was an attempt to “stick closely to the data,” thereby allowing the participants’ voices to remain prominent (Charmaz, 2006, p. 46-48). The second step was focused coding, using the initial codes to “develop the most salient categories” and “develop links between the categories;” with focused coding, links were made between similar words and phrases from the initial coding phase (Charmaz, 2006, p. 46; Creswell, 2013, p. 197). The two coding phases were conducted using the data from the responses to the open-ended survey items and then for the responses to the interview protocol. Then the codes from
both datasets were used to develop an “emerging” framework of dual enrollment students’ experiences in relation to their motivations for DE participation, experiences with composition curriculum, self-efficacy for writing, and the impact of writing on their academic and career choices; the framework was built through writing about the students’ experiences using the focused codes. Because the responses to the open-ended survey items were typically succinct and the interview responses were more elaborative, the responses to the latter typically provided insight into those to the former.

It is also important to note that this process was recursive with coding and writing occurring three times during the analytical process. The findings from this analysis were used to supplement the results generated through statistical analysis of the quantitative survey data.

Figure 1. Recursive Qualitative Data Analysis Procedures

**Legitimation**

Several methods were utilized to ensure the validity, reliability, and trustworthiness of this research effort.
**Quantitative**

To ensure the accuracy of the data used in the statistical procedures, institutional data was obtained directly from the university in Microsoft Excel, and those files were converted to SPSS data files. Similarly, the student survey data compiled using Qualtrics was converted to SPSS. Also, during the statistical procedures, missing data was analyzed to determine if there was a pattern to the missing data points; also, testing was conducted to detect extreme values. There was no pattern to the missing data, and outliers were appropriately addressed in the individual statistical procedures. In addition, the instruments used to build the survey used in this study were selected based on previously reported validity and reliability evidence.

**Qualitative**

Triangulation was achieved through the use of different data sources to provide “corroborating evidence;” these data sources included quantitative and qualitative survey data collected from student participants, quantitative institutional data collected from the registrar’s office and the admissions department, and qualitative interview data collected from student participants (Creswell, 2013, p. 251; Greene, Caracelli & Graham, 1989; Plano Clark & Ivankova, 2016). In addition, the qualitative results were intentionally written using thick description (Creswell, 2013; Denzin, 1989).

**Mixed Methods**

As prescribed by various researchers, multiple methods were used to ensure validation within this embedded mixed methods design; threats to validity were minimized through the utilization of various strategies during data collection, data analysis, and results interpretation (J. W. Creswell & Plano Clark, 2011a; Plano Clark & Ivankova, 2016a; Teddlie & Tashakkori, 2009). Specifically, Teddlie and Tashakkori (2009) prescribed validation strategies to be used
during the following phases of the research: data collection, data analysis, and results interpretation.

With regard to data collection the survey participants and most of the interviewees (11-14) came from the same sample population of students – those who began matriculation at the university during the 2015-2016 academic year; the three remaining interviewees came from a separate population of students who entered the university in 2016-2017. Their inclusion in the interview sample provided responses from students for whom there was less time between the event (their DE composition participation) and the actual interview. Also, the data was collected using separate procedures (Teddlie & Tashakkori, 2009). The quantitative survey data and responses to the open-ended survey questions were both collected using the same survey instrument in Qualtrics, and the interview data was collected separately through fourteen one-on-one phone interviews. Finally, the items were parallel in two ways; the quantitative survey items related to self-efficacy were answered by all survey-takers and were parallel to related questions in the interview protocol. In addition, the four open-ended items completed by DE survey takers only were also parallel to interview questions; these items were related to motivation, feedback, curriculum, and impact.

Within the data analysis, several strategies were used to ensure validation. The appropriate statistical procedures were used to analyze the data, and the qualitative analysis was “straightforward.” Also, mixing of the results matched quotes from both qualitative data sources with the related qualitative findings.

In the interpretation of the findings, both common and divergent findings were presented and addressed, and the mixed methods findings were addressed based on the mixed methods research question. Further, a clear rationale was provided for prioritizing the quantitative data
and data analysis, and the results were analyzed in relation to the existing research and Bandura’s social cognitive theory.

**Limitations**

The limitations in this study are related to participants’ perspectives being limited to those of currently matriculating students and self-selection bias resulting from an incentivized online survey and an incentivized interview.

Although this dissertation research is limited to students’ perspectives of their own college writing experiences, surveying and interviewing writing instructors might yield additional data related to changes in curriculum and assignments as well as issues with grading. For example, Taczak and Thelin (2009) reported that the instructor observed and interviewed by their research team altered the curriculum to accommodate the DE students, who did not seem developmentally ready for the course. Thus, including the perspectives of instructors and administrators might have yielded more information about curriculum and instruction in DE composition courses – data, which could not have been provided by the students themselves.

In addition, students who were no longer enrolled at the time of this study were not included in this study. It is possible that different results might be achieved if a sample of students who did not maintain enrollment were included. Research indicates that there is some correlation between poor performance in composition courses and dropping out; therefore, not including students who left the university might a more positive picture of students’ self-efficacy for writing, use of writing strategies, and writing experiences (Bailey, 2008).

Also, the generalizability of these results may be limited by self-selection bias. There is the possibility that any differences detected in the quantitative analysis might be related more to which students chose to complete the survey and which students chose to participate in the one-
one interviews than to what credit pathways the participants used to earn credit for FYFS college composition or what demographic categories apply to those students (i.e. gender, race/ethnicity, parents’ education).
CHAPTER FOUR. RESULTS AND FINDINGS

Introduction

This study used mixed methods to explore dual enrollment composition students’ curriculum, self-efficacy for writing, and use of self-regulatory writing strategies as well as the following aspects of the participants’ motivation, feedback, and impact. Quantitative methods were used to collect and analyze survey data related to curriculum, writing self-efficacy, use of writing strategies, and feelings of preparedness. Qualitative methods were used to analyze responses to four open-ended questions that were contained within the aforementioned survey; the open-ended items were related to motivation, feedback, course evaluation (curriculum), and impact. In addition, qualitative methods were also used to analyze transcripts compiled from one-on-one semi-structured interviews; the interview protocol was used to ascertain DE students’ perceptions of their motivations for enrolling in dual enrollment composition courses, the feedback they received from instructors and peers, the effectiveness of the DE writing courses in preparing the students for subsequent college writing courses, the students’ self-efficacy for writing, and the impact their writing experiences have had on their academic and career decisions.

The quantitative data was collected from students from all credit pathways to investigate differences between pathways in addition to analyzing the data for differences based on preexisting student characteristics, including gender, race/ethnicity, and parents’ education. The qualitative data was collected only from students who earned DE composition credit; their experiences were the main focus of this study. Mixing occurred in the discussion of the results related to curriculum, preparedness, and writing self-efficacy. The mixed methods results related to curriculum came from all three data collection and analysis procedures: quantitative survey
items, open-ended survey items, and qualitative interviews. The results for both preparedness and writing self-efficacy were generated based on analysis of the quantitative survey data and the qualitative interview data.

**Quantitative Results**

The purpose of the quantitative portion of this mixed methods research was to determine if predictions about writing curriculum might be made based on composition credit pathway and on preexisting student characteristics, including gender, race, and parent’s education. In addition, the quantitative section of this study sought to determine if there were differences in self-efficacy for writing and use of writing strategies based on those same variables: credit pathway, gender, race, and parents’ education. Statistical analyses were also conducted to determine if differences might exist in performance in advanced English courses based on credit pathway and on race, gender, and parents’ education. Finally, an exploratory analysis was also conducted to determine which preexisting students characteristics might contribute to performance in writing intensive courses. Information for these analyses was collected from surveys that were voluntarily completed by students and from institutional data that was provided by the university.

The purpose of the qualitative portion of this study was to supplement the quantitative portion by using open ended survey questions and one-on-one, semi-structured interviews to understand how students who completed DE composition described their college writing experiences and their perceptions of how writing has affected their academic and career decisions.

**Research question one - curriculum.** To address the first research question, binomial logistic regression and ordinal regression were used to determine the likelihood of undergraduates experiencing certain types of writing instruction (writing arguments and analysis
papers, writing poems and short stories, and length of papers written) based on credit pathway (DE, ENGL 1001, and AP) and based on gender, race, and parents’ education. Specifically, binomial logistic regression was used to conduct the analyses related to “writing argument and analysis papers” and “writing poems and short stories;” ordinal regression was used to analyze data related to “length of papers written.”

**Argument Writing.** A binomial logistic regression was performed to ascertain the effects of credit pathway, gender, race, and parents’ education on the likelihood that participants wrote three or more argument and/or analysis papers in their college composition courses. Writing three or more argument and/or analysis papers was representative of a typical college composition curriculum, and writing one or two such papers was representative of an atypical curriculum. The vast majority of survey-takers in each credit pathway involving a composition course and each demographic category related to gender, race/ethnicity, and parents’ education reported writing three or more argument papers during those courses (See Tables 17, 18, 19, and 20). Overall, over ninety percent of the sample (514 of 567 participants) reported writing a typical number (three or more) of argument and/or analysis papers.

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>Wrote 1-2 Arguments</th>
<th>Wrote 3+ Arguments</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Enrollment</td>
<td>4 (5%)</td>
<td>79 (95%)</td>
<td>83 (15%)</td>
</tr>
<tr>
<td>ENGL 1001/Transfer</td>
<td>44 (13%)</td>
<td>297 (87%)</td>
<td>341 (60%)</td>
</tr>
<tr>
<td>AP Exemption</td>
<td>5 (3%)</td>
<td>138 (97%)</td>
<td>143 (25%)</td>
</tr>
<tr>
<td>Total Arguments</td>
<td>53 (9%)</td>
<td>514 (91%)</td>
<td>567 (100%)</td>
</tr>
</tbody>
</table>
Table 18. Number of Arguments Written by Gender

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>Wrote 1-2 Arguments</th>
<th>Wrote 3+ Arguments</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>13 (9%)</td>
<td>131 (91%)</td>
<td>144 (25%)</td>
</tr>
<tr>
<td>Female</td>
<td>40 (9%)</td>
<td>383 (91%)</td>
<td>423 (75%)</td>
</tr>
<tr>
<td>Total Arguments</td>
<td>53 (9%)</td>
<td>514 (91%)</td>
<td>567 (100%)</td>
</tr>
</tbody>
</table>

Table 19. Number of Arguments Written by Race/Ethnicity

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>Wrote 1-2 Arguments</th>
<th>Wrote 3+ Arguments</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>8 (11%)</td>
<td>67 (89%)</td>
<td>75 (13%)</td>
</tr>
<tr>
<td>White</td>
<td>39 (9%)</td>
<td>392 (91%)</td>
<td>431 (76%)</td>
</tr>
<tr>
<td>“Other”</td>
<td>6 (10%)</td>
<td>55 (90%)</td>
<td>61 (11%)</td>
</tr>
<tr>
<td>Total Arguments</td>
<td>53 (9%)</td>
<td>514 (91%)</td>
<td>567 (100%)</td>
</tr>
</tbody>
</table>

Table 20. Number of Arguments Written by Parents' Education

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>Wrote 1-2 Arguments</th>
<th>Wrote 3+ Arguments</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No HS Diploma</td>
<td>2 (6%)</td>
<td>29 (94%)</td>
<td>31 (5%)</td>
</tr>
<tr>
<td>HS Diploma</td>
<td>8 (9%)</td>
<td>83 (91%)</td>
<td>91 (25%)</td>
</tr>
<tr>
<td>College Degree</td>
<td>28 (9%)</td>
<td>290 (91%)</td>
<td>318 (56%)</td>
</tr>
<tr>
<td>Advanced Degree</td>
<td>15 (12%)</td>
<td>112 (88%)</td>
<td>127 (22%)</td>
</tr>
<tr>
<td>Total Arguments</td>
<td>53 (9%)</td>
<td>514 (91%)</td>
<td>567 (100%)</td>
</tr>
</tbody>
</table>

Arguments was the dichotomous criterion variable; respondents whose data was included in this analysis (n = 567) wrote one or two papers of this type (atypical curriculum) or three or more papers of this type (typical curriculum). In the initial model, the predictor variables included three categorical variables – credit pathway, race, and gender – and one continuous variable – parents’ education. Credit pathway included the three options for earning ENGL 1001 credit that involved taking a course: (1) dual enrollment, (2) ENGL 1001 or an equivalent transfer course, and (2) Advanced Placement. The credit pathway that does not involve taking a class and writing papers, ACT/SAT test exemption, was excluded from this analysis. Race had three categories: white, black, and other. Gender included categories for male and female respondents, and parent’s education was a continuous variable that combined the educational
levels of each respondent’s mother and father. The final model, the one that provided the “parsimonious” solution, included one predictor variable, credit pathway.

Initial screening of the data with bivariate correlations revealed no significant correlations between any individual predictor variable and the criterion variable. With 600 cases and 4 predictor variables – credit pathway, race, gender, and parents’ education – the ratio of cases to variables was sufficient to conduct the analysis (Laerd Statistics, 2015; Tabachnik & Fidell, 2007).

Linearity of the continuous variables with respect to the logit of the dependent variable was assessed via the Box-Tidwell (1962) procedure. A Bonferroni correction was applied using all ten terms in the model resulting in statistical significance being accepted when \( p < .0005 \) (Tabachnick & Fidell, 2007). Based on this assessment, the continuous independent variable – parents’ education - was found to be linearly related to the logit of the dependent variable. There were no studentized residuals with a value greater than 3.000 standard deviations.

The initial logistic regression model was statistically significant, \( \chi^2(2) = 14.148, p < .05 \). The model explained 5.1% (Nagelkerke \( R^2 \)) of the variance in the number of argument and analysis assignments written and correctly classified 71.0% of cases. Sensitivity was 100.0%, specificity was 0.0%, positive predictive value was 90.7% and negative predictive value was 0.0%. Of the four predictor variables, only one was statistically significant: credit pathway (as shown in Table 21). Respondents who completed college composition at the university had 2.97 times higher odds of writing 3 or more typical argument and/or analysis assignments in their writing courses.
The final logistic regression model that used credit pathway as the sole predictor variable was statistically significant, $\chi^2(2) = 14.148, p < .05$. The model explained 5.1% (Nagelkerke $R^2$) of the variance in the number of argument and analysis assignments written and correctly classified 91.0% of cases. Sensitivity was 100.0%, specificity was 0.0%, positive predictive value was 90.7% and negative predictive value was 0.0%. In this parsimonious model, credit pathway was a significant predictor for the following two pathways: dual enrollment and Advanced Placement (See Table 22). Respondents who completed Advanced Placement courses in high school had 1.422 times higher odds of writing three or more argument and/or analysis assignments (typical curriculum) in their writing courses than DE students. Respondents who completed the university’s FYFS writing course (or who transferred credit from another institution) were 4.037 times more likely to report writing three or more argument and/or analysis papers than their DE counterparts.

Table 21. Initial Binomial Logistic Regression for Writing Arguments

<table>
<thead>
<tr>
<th>Step 1a</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Odds Ratio</th>
<th>95% C.I.for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower         Upper</td>
</tr>
<tr>
<td>Female (1)</td>
<td>-.205</td>
<td>.341</td>
<td>.364</td>
<td>1</td>
<td>.814</td>
<td>.418           1.588</td>
</tr>
<tr>
<td>White</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.078           2</td>
</tr>
<tr>
<td>Black (1)</td>
<td>-.130</td>
<td>.470</td>
<td>.077</td>
<td>1</td>
<td>.878</td>
<td>.349           2.206</td>
</tr>
<tr>
<td>Other (2)</td>
<td>-.100</td>
<td>.579</td>
<td>.030</td>
<td>1</td>
<td>.905</td>
<td>.291           2.817</td>
</tr>
<tr>
<td>Advanced Placement</td>
<td></td>
<td>11.736*</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 1001 (1)</td>
<td>1.089</td>
<td>.539</td>
<td>4.074*</td>
<td>1</td>
<td>2.970</td>
<td>1.032           8.548</td>
</tr>
<tr>
<td>Dual Enrollment (2)</td>
<td>-.371</td>
<td>.688</td>
<td>.290</td>
<td>1</td>
<td>.690</td>
<td>.179           2.659</td>
</tr>
<tr>
<td>Parents’ Education</td>
<td>.049</td>
<td>.140</td>
<td>.122</td>
<td>1</td>
<td>1.050</td>
<td>.799           1.381</td>
</tr>
<tr>
<td>Constant</td>
<td>-3.054</td>
<td>.928</td>
<td>10.824</td>
<td>1</td>
<td>.047</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at $p<.05$
Creative Writing. A binomial logistic regression was performed to ascertain the effects of credit pathway, gender, race, and parents’ education on the likelihood that respondents (n=566) wrote short stories, poems, and other creative writing assignments (atypical curriculum) in their college composition courses. An initial review of this data indicates that at least one creative writing assignment, although atypical for traditional FYFS writing courses, might be more typical for DE and AP courses (See Table 23). In addition, male students were less likely to report completing in creative writing assignments (See Table 24). No large differences seemed to exist based on race/ethnicity or parents’ education (See Tables 25 and 26). DE and AP survey-takers reported writing at least one creative writing assignment at the same rate.

Table 22. Final Binomial Logistic Regression for Writing Arguments

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratios</th>
<th>95% C.I.for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Enrollment</td>
<td>11.172</td>
<td></td>
<td>2</td>
<td>.004</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Placement</td>
<td>.352</td>
<td>.685</td>
<td>.264</td>
<td>1</td>
<td>.607</td>
<td>1.422</td>
<td>.371</td>
</tr>
<tr>
<td>ENGL 1001</td>
<td>1.396</td>
<td>.482</td>
<td>8.385</td>
<td>1</td>
<td>.004</td>
<td>4.037</td>
<td>1.570</td>
</tr>
<tr>
<td>Constant</td>
<td>-3.360</td>
<td>.455</td>
<td>54.566</td>
<td>1</td>
<td>.000</td>
<td>.035</td>
<td></td>
</tr>
</tbody>
</table>

a. Variable(s) entered on step 1: Dual Enrollment.

Table 23. Creative Writing Assignments by Credit Pathway

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>0 Creative Assignments</th>
<th>1+ Creative Assignments</th>
<th>Total Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Enrollment</td>
<td>48 (58%)</td>
<td>35 (42%)</td>
<td>83 (15%)</td>
</tr>
<tr>
<td>ENGL 1001/Transfer</td>
<td>292 (86%)</td>
<td>48 (14%)</td>
<td>340 (60%)</td>
</tr>
<tr>
<td>AP Exemption</td>
<td>84 (58%)</td>
<td>59 (42%)</td>
<td>143 (25%)</td>
</tr>
<tr>
<td>Total Assignments</td>
<td>424 (75%)</td>
<td>142 (25%)</td>
<td>566 (100%)</td>
</tr>
</tbody>
</table>
Table 24. Creative Writing Assignments by Gender

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>0 Creative Writing Assignments</th>
<th>1+ Creative Writing Assignments</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>122 (85%)</td>
<td>22 (15%)</td>
<td>144 (25%)</td>
</tr>
<tr>
<td>Female</td>
<td>302 (72%)</td>
<td>120 (28%)</td>
<td>422 (75%)</td>
</tr>
<tr>
<td>Total Assignments</td>
<td>424 (75%)</td>
<td>142 (25%)</td>
<td>566 (100%)</td>
</tr>
</tbody>
</table>

Table 25. Creative Writing Assignments by Race/Ethnicity

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>0 Creative Writing Assignments</th>
<th>1+ Creative Writing Assignments</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>57 (76%)</td>
<td>18 (24%)</td>
<td>75 (13%)</td>
</tr>
<tr>
<td>White</td>
<td>320 (74%)</td>
<td>110 (26%)</td>
<td>430 (76%)</td>
</tr>
<tr>
<td>“Other”</td>
<td>47 (77%)</td>
<td>14 (23%)</td>
<td>61 (11%)</td>
</tr>
<tr>
<td>Total Assignments</td>
<td>424 (75%)</td>
<td>142 (25%)</td>
<td>566 (100%)</td>
</tr>
</tbody>
</table>

Table 26. Creative Writing Assignments by Parents' Education

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>0 Creative Writing Assignments</th>
<th>1+ Creative Writing Assignments</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No HS diploma</td>
<td>23 (74%)</td>
<td>8 (26%)</td>
<td>31 (5%)</td>
</tr>
<tr>
<td>HS diploma</td>
<td>73 (80%)</td>
<td>18 (20%)</td>
<td>91 (76%)</td>
</tr>
<tr>
<td>College degree</td>
<td>238 (75%)</td>
<td>79 (25%)</td>
<td>317 (11%)</td>
</tr>
<tr>
<td>Advanced degree</td>
<td>90 (71%)</td>
<td>37 (29%)</td>
<td>127 (22%)</td>
</tr>
<tr>
<td>Total by Number of Assignments</td>
<td>424 (75%)</td>
<td>142 (25%)</td>
<td>566 (100%)</td>
</tr>
</tbody>
</table>

The criterion variable was creative writing, a dichotomous variable that measured the amount of creative writing completed in the respondents’ college composition courses. A typical college composition class at the university includes no creative writing assignments, so respondents who reported doing zero creative writing assignments were coded with a value of 0, and survey takers who reported doing one or more creative writing assignments were coded with a value of 1. In the initial model, the predictor variables included three categorical variables – credit pathway, race, and gender – and one continuous variable – parents’ education. However, the parsimonious model included two predictor variables – gender and credit pathway. 

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Initial screening of the data with bivariate correlations revealed one small, positive significant correlation between gender and creative writing ($r=0.126$). With 599 cases and 4 predictor variables – credit pathway, race, gender, and parents’ education – the ratio of cases to variables was sufficient (Laerd Statistics, 2015; Tabachnik & Fidell, 2007).

Linearity of the continuous variables with respect to the logit of the dependent variable was assessed via the Box-Tidwell (1962) procedure. A Bonferroni correction was applied using all ten terms in the model resulting in statistical significance being accepted when $p < .0005$ (Tabachnick & Fidell, 2007). Based on this assessment, the continuous independent variable – parents’ education - was found to be linearly related to the logit of the dependent variable. There were no studentized residuals with a value greater than 3.000 standard deviations.

The initial logistic regression model was statistically significant, $\chi^2(6) = 61.687, p < .05$. The model explained 15.3% (Nagelkerke $R^2$) of the variance in number of creative writing assignments and correctly classified 74.6% of cases. Sensitivity was 98.6%, specificity was 2.8%, positive predictive value was 75.2% and negative predictive value was 40.0%. Of the four predictor variables, two were statistically significant: gender and credit pathway (as shown in Table 26). Female respondents were 0.013 times more likely than male students to complete zero creative writing assignments, and respondents who completed college composition at the university had 0.229 times higher odds to complete zero creative writing assignments (See Table 27).
Table 27. Initial Binomial Logistic Regression for Creative Writing

<table>
<thead>
<tr>
<th>Step 1</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Exp(B)</th>
<th>95% C.I. for EXP(B)</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (1)</td>
<td>-0.662</td>
<td>0.267</td>
<td>6.126</td>
<td>1</td>
<td>0.516</td>
<td>0.305</td>
<td>0.871</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black (1)</td>
<td>0.170</td>
<td>0.345</td>
<td>0.243</td>
<td>1</td>
<td>1.185</td>
<td>0.603</td>
<td>2.331</td>
<td></td>
</tr>
<tr>
<td>Other (2)</td>
<td>0.347</td>
<td>0.434</td>
<td>0.638</td>
<td>1</td>
<td>1.414</td>
<td>0.604</td>
<td>3.312</td>
<td></td>
</tr>
<tr>
<td>Advanced Placement</td>
<td>45.005*</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 1001 (1)</td>
<td>-1.472</td>
<td>0.275</td>
<td>28.656*</td>
<td>1</td>
<td>0.229</td>
<td>0.134</td>
<td>0.393</td>
<td></td>
</tr>
<tr>
<td>Dual Enrollment (2)</td>
<td>-0.092</td>
<td>0.285</td>
<td>0.105</td>
<td>1</td>
<td>0.912</td>
<td>0.522</td>
<td>1.594</td>
<td></td>
</tr>
<tr>
<td>Parents’ Education</td>
<td>0.077</td>
<td>0.092</td>
<td>0.701</td>
<td>1</td>
<td>1.080</td>
<td>0.902</td>
<td>1.294</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.708</td>
<td>0.574</td>
<td>1.520</td>
<td>1</td>
<td>0.493</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level

The final logistic regression model was statistically significant, \( \chi^2(3) = 63.955, p < .05 \).

The model explained 15.0% (Nagelkerke \( R^2 \)) of the variance in number of creative writing assignments and correctly classified 75.1% of cases. Sensitivity was 100.0%, specificity was 0.0%, positive predictive value was 75.2% and negative predictive value was 40.0%. Gender and credit pathway were both significant predictors (as shown in Table 28). Male respondents were 0.561 times less likely than female students to complete creative writing assignments; also, respondents who completed AP composition courses were slightly less likely (0.927 odds ratio) to complete creative writing assignments than DE students, and the university course were also less likely to compose creative writing assignments (0.226 odds ratio) than students who earned DE credit.

Table 28. Final Binomial Logistic Regression for Creative Writing

<table>
<thead>
<tr>
<th>Step 1</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Odds Ratio</th>
<th>95% C.I. for EXP(B)</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Enrollment</td>
<td>50.739</td>
<td>2</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Placement</td>
<td>.076</td>
<td>.278</td>
<td>.075</td>
<td>1</td>
<td>.784</td>
<td>.927</td>
<td>.538</td>
<td>1.597</td>
<td></td>
</tr>
<tr>
<td>ENGL 1001/Transfer</td>
<td>-1.488</td>
<td>.268</td>
<td>30.838</td>
<td>1</td>
<td>.000</td>
<td>.226</td>
<td>.134</td>
<td>.382</td>
<td></td>
</tr>
<tr>
<td>Male (1)</td>
<td>-.578</td>
<td>.257</td>
<td>5.050</td>
<td>1</td>
<td>.025</td>
<td>.561</td>
<td>.339</td>
<td>.929</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-.178</td>
<td>.228</td>
<td>.613</td>
<td>1</td>
<td>.434</td>
<td>.837</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Paper Length. A cumulative odds ordinal logistic regression with proportional odds was run to determine the effect of credit pathway, gender, race, and parents’ education on paper length. Although students in college composition courses write papers of varying lengths, the goal of this analysis was to determine if the average paper length could be predicted based on credit pathway and preexisting characteristics.

The criterion variable was paper length, an ordinal variable that measured the average length of the length of paper written as reported by the respondents (n=601). Respondents’ reported writing papers of the following average lengths: 1-3 pages, 4-5 pages, or 6 or more pages. In the initial analysis, the predictor variables included three categorical variables – credit pathway, race, and gender – and one continuous variable – parents’ education.

Initial screening of frequency data suggests that most survey respondents reported writing papers with an average length of 4-5 pages (See Tables 29, 30, 31, and 32). Initial screening of the data with bivariate correlations revealed one small, positive significant correlation between race and paper length (Pearson’s r=0.126). With 599 cases and 4 predictor variables – credit pathway, race, gender, and parents’ education – the ratio of cases to variables was sufficient (Laerd Statistics, 2015; Tabachnik & Fidell, 2007).

A preliminary cumulative odds logistic regression procedure showed that credit pathway was the only significant variable; thus the “parsimonious” includes that single independent variable.

Table 29. Average Paper Length by Credit Pathway

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>1-3 Pages</th>
<th>4-5 Pages</th>
<th>6+ Pages</th>
<th>Total by Credit Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Enrollment</td>
<td>23 (28%)</td>
<td>44 (53%)</td>
<td>16 (19%)</td>
<td>83 (15%)</td>
</tr>
<tr>
<td>ENGL 1001</td>
<td>98 (29%)</td>
<td>212 (62%)</td>
<td>31 (9%)</td>
<td>341 (60%)</td>
</tr>
<tr>
<td>Advanced Placement</td>
<td>41 (29%)</td>
<td>85 (59%)</td>
<td>17 (12%)</td>
<td>143 (25%)</td>
</tr>
<tr>
<td>Total Assignments</td>
<td>162 (29%)</td>
<td>341 (60%)</td>
<td>64 (11%)</td>
<td>567 (100%)</td>
</tr>
</tbody>
</table>
Table 30. Average Paper Length by Gender

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>1-3 Pages</th>
<th>4-5 Pages</th>
<th>6+ Pages</th>
<th>Total by Credit Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>47 (33%)</td>
<td>83 (58%)</td>
<td>14 (10%)</td>
<td>144 (25%)</td>
</tr>
<tr>
<td>Female</td>
<td>115 (27%)</td>
<td>258 (61%)</td>
<td>50 (12%)</td>
<td>423 (75%)</td>
</tr>
<tr>
<td>Total by Number of Assignments</td>
<td>162 (29%)</td>
<td>341 (60%)</td>
<td>64 (11%)</td>
<td>567 (100%)</td>
</tr>
</tbody>
</table>

Table 31. Average Paper Length by Race/Ethnicity

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>1-3 Pages</th>
<th>4-5 Pages</th>
<th>6+ Pages</th>
<th>Total by Credit Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>14 (19%)</td>
<td>54 (72%)</td>
<td>7 (9%)</td>
<td>75 (13%)</td>
</tr>
<tr>
<td>White</td>
<td>132 (31%)</td>
<td>254 (59%)</td>
<td>45 (%)</td>
<td>431 (10%)</td>
</tr>
<tr>
<td>“Other”</td>
<td>16 (26%)</td>
<td>33 (54%)</td>
<td>12 (20%)</td>
<td>61 (11%)</td>
</tr>
<tr>
<td>Total Assignments</td>
<td>162 (29%)</td>
<td>341 (60%)</td>
<td>64 (%)</td>
<td>567 (11%)</td>
</tr>
</tbody>
</table>

Table 32. Average Paper Length by Parents' Education

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>1-3 Pages</th>
<th>4-5 Pages</th>
<th>6+ Pages</th>
<th>Total by Credit Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>No HS Diploma</td>
<td>6 (19%)</td>
<td>21 (68%)</td>
<td>4 (13%)</td>
<td>31 (5%)</td>
</tr>
<tr>
<td>HS Diploma</td>
<td>33 (36%)</td>
<td>47 (52%)</td>
<td>11 (64%)</td>
<td>91 (16%)</td>
</tr>
<tr>
<td>College Degree</td>
<td>84 (26%)</td>
<td>205 (64%)</td>
<td>29 (9%)</td>
<td>318 (56%)</td>
</tr>
<tr>
<td>Advanced Degree</td>
<td>39 (31%)</td>
<td>68 (54%)</td>
<td>20 (16%)</td>
<td>127 (16%)</td>
</tr>
<tr>
<td>Total Assignments</td>
<td>162 (29%)</td>
<td>341 (60%)</td>
<td>64 (11%)</td>
<td>567 (100%)</td>
</tr>
</tbody>
</table>

The assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the fit of the proportional odds location model to a model with varying location parameters, $\chi^2(5) = 4.202, p = .122$ The deviance goodness-of-fit test indicated that the model was a good fit to the observed data, $\chi^2(2) = 4.202, p = .122$. There were no cells with zero frequencies.

The final model did not statistically significantly predict the dependent variable over and above the intercept-only model, $\chi^2(2) = 1.528, p > .05$. As such, there were no significant Wald chi-square values for any of the dependent variables (See Table 33). Therefore, this shows that there are no significant differences in length of papers based on credit pathway for college composition.
Table 33. Parameter Estimates

<table>
<thead>
<tr>
<th>Parameter</th>
<th>B</th>
<th>Std. Error</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
<th>Wald Chi-Square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Paper Length = 1-3 pages]</td>
<td>-.969</td>
<td>.1690</td>
<td>-1.301</td>
<td>-.638</td>
<td>32.884</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>[Paper Length = 4-5 pages]</td>
<td>2.051</td>
<td>.1919</td>
<td>1.675</td>
<td>2.427</td>
<td>114.276</td>
<td>1</td>
<td>.000</td>
</tr>
<tr>
<td>Advanced Placement</td>
<td>.209</td>
<td>.2726</td>
<td>-.326</td>
<td>.743</td>
<td>.586</td>
<td>1</td>
<td>.444</td>
</tr>
<tr>
<td>ENGL 1001</td>
<td>-.092</td>
<td>.1942</td>
<td>-.472</td>
<td>.289</td>
<td>.223</td>
<td>1</td>
<td>.637</td>
</tr>
<tr>
<td>Dual Enrollment (Scale)</td>
<td>0a(^a)</td>
<td>. .</td>
<td>. .</td>
<td>. .</td>
<td>. .</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Paper Length
Model: (Threshold), Credit Pathway (AP, ENGL 1001, and Dual Enrollment)
a. Set to zero because this parameter is redundant. b. Fixed at the displayed value.

**Research question two: self-efficacy for writing and use of writing strategies.** A factorial multivariate analysis of variance was used to address the second research question, which sought to determine if significant statistical differences existed in respondents’ reported scores for self-efficacy for writing and in scores for writing strategy use based on credit pathway, race, gender, and parents’ education. To determine the “parsimonious solution,” a model building approach was used for this analysis (Mertler & Vannatta, 2002).

There were two dependent variables: self-efficacy for writing score (52.6920±8.2560) and writing strategy use score (51.2710±9.2097). These scales were completed as part of the quantitative survey by students from the different credit pathways. The self-efficacy for writing score was a sum of the respondents’ (n=1000) Likert responses on a twelve-item scale. Because the distribution of the self-efficacy for writing scores was severely left skewed, the original variable was transformed using a “reflect and logarithmic” transformation (Laerd Statistics, 2015; Tabachnick & Fidell, 2007). The original scores ranged from a minimum score of 12 to a maximum score of 60 with a mean of 52.69 and a standard deviation of 8.26. A statistical test of skewness yielded a value of -26.86, and a statistical test of
kurtosis yielded a value of 37.62; both of these values exceed the generally excepted threshold of ±3.00.

After the transformation, the scores ranged from zero 0.00 to 1.69 with a mean (based on the median) of 0.7067. A statistical test of skewness yielded a value of -2.68, and a statistical test of kurtosis yielded a value of 6.82. Although the transformed kurtosis test yielded a value greater than the generally acceptable ±3.00, the transformed values are adequate given that the values of the original sample were so extreme.

However, despite its violation of the assumptions of normality, equal variances, and homogeneity of covariance matrices, the results of the untransformed SEW scores were very similar to those obtained using the transformed variable that did meet those assumptions. Due to this extreme similarity of the results, the untransformed SEW variable was used for clarity and ease of reporting.

The writing strategy use score was the sum of four scales with a total of fourteen items. The minimum score was 16.00, and the maximum score was 70.00. The mean was 51.2710 ± 9.2097 (n = 1000). A statistical test of skewness yielded a value of -1.49, and a statistical test of kurtosis yielded a value of -1.12. These values fell within acceptable ranges, and no transformations were necessary.

The independent variables in the initial model included credit pathway, race, gender, and parents’ education. For this analysis, credit pathway was a nominal variable with four categories, including (1) dual enrollment, (2), ENGL 1001, (3) ACT/SAT exemption, and (4) Advanced Placement. Race was a nominal variable with three groups: (1) white, (2) black, and (3) other; gender was a nominal variable with two groups: (1) male and (2) female. Parent’s education was an ordinal variable with four groups for parents who (1) did not earn a high school diploma, (2)
earned a high school diploma, (3) earned a college degree, or (4) earned a professional degree. The final model included two independent variables: gender and credit pathway that had the same categories as noted above.

An initial comparison of the means was conducted for each combination of a single dependent variable and a single independent variable.

To reiterate, use of the untransformed self-efficacy for writing variable resulted in the violation of several assumptions. However, the results of the statistical analysis using the transformed variable were very similar to those obtained using the untransformed variable. As such the transformation was not necessary, and the results obtained using the untransformed data are reported here. In the initial model, there were 942 complete cases. Black respondents (n=95, 53.6632 ± 5.7513) reported somewhat higher SEW scores than respondents in the “other” category (n=111, 53.2523 ± 7.0356) and white survey takers (n=736, 52.4769 ± 8.7042) In addition, scores vacillated as parents’ education increased from no high school diploma (52.0000 ± 7.2317) to a high school diploma (51.4848 ± 9.4784) to a college degree (52.6419 ± 8.2763) to a professional degree (53.5992 ± 7.6654). During the model building process, race and parents’ education were removed from the analysis.

In the final model, the remaining independent variables were gender and credit pathway; gender and race were excluded. Female survey participants (n=712) reported higher SEW scores (52.9480±8.4433) than their male counterparts (n=288, 52.0590±7.7514) (See Table 34). DE participants (n=78, 50.9231±10.3845) and university composition students (n=360, 50.8306±9.2512) reported lower scores and their counterparts with ACT/SAT exemptions (n=414, 53.6401±7.3487) and AP exemptions (n=148, 55.5000±5.0380) (See Table 35).
Table 34. SEW Scores by Gender in Final Model

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
<th>Sum of SEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>288</td>
<td>28.8%</td>
<td>52.0590±7.7514</td>
</tr>
<tr>
<td>Female</td>
<td>712</td>
<td>71.2%</td>
<td>52.9480±8.4433</td>
</tr>
<tr>
<td>Total</td>
<td>1000</td>
<td>89.1%</td>
<td>52.6920±8.2560</td>
</tr>
</tbody>
</table>

Table 35. SEW Scores by Credit Pathway in Final Model

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>n</th>
<th>%</th>
<th>Sum of SEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual enrollment</td>
<td>78</td>
<td>7.8%</td>
<td>50.9231±10.3845</td>
</tr>
<tr>
<td>ENGL 1001</td>
<td>360</td>
<td>36.0%</td>
<td>50.8306±9.2512</td>
</tr>
<tr>
<td>ACT/SAT exemption</td>
<td>414</td>
<td>41.4%</td>
<td>53.6401±7.3487</td>
</tr>
<tr>
<td>AP exemption</td>
<td>148</td>
<td>14.8%</td>
<td>55.5000±5.0380</td>
</tr>
<tr>
<td>Total</td>
<td>1000</td>
<td>100.0%</td>
<td>52.6920±8.2560</td>
</tr>
</tbody>
</table>

On scores for writing strategy use, female participants (52.0618 ± 9.2200) reported higher average scores than male respondents (49.3160 ± 8.9025) (See Table 36). Overall, participants who complete Advanced Placement courses and the traditional on-campus course reported higher strategy use than those who took Dual Enrollment courses or earned an ACT or SAT exemption (See Table 37). Gender and race/ethnicity were excluded from the final model.

Table 36. Strategy Scores by Gender in Final Model

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>%</th>
<th>Strategy Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>288</td>
<td>28.8%</td>
<td>49.3160±8.9025</td>
</tr>
<tr>
<td>Female</td>
<td>712</td>
<td>71.2%</td>
<td>52.0618±9.2200</td>
</tr>
<tr>
<td>Total</td>
<td>1000</td>
<td>100.0%</td>
<td>51.2710±9.2097</td>
</tr>
</tbody>
</table>

Table 37. Strategy Scores by Credit Pathway in Final Model

<table>
<thead>
<tr>
<th>Credit Pathway</th>
<th>n</th>
<th>%</th>
<th>Strategy Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Enrollment</td>
<td>78</td>
<td>7.8%</td>
<td>50.9744±9.2974</td>
</tr>
<tr>
<td>ENGL 1001</td>
<td>360</td>
<td>36.0%</td>
<td>51.5806±9.5739</td>
</tr>
<tr>
<td>ACT/SAT Exemption</td>
<td>414</td>
<td>41.4%</td>
<td>50.7971±9.1330</td>
</tr>
<tr>
<td>AP Exemption</td>
<td>148</td>
<td>14.8%</td>
<td>52.0000±8.4556</td>
</tr>
<tr>
<td>Total</td>
<td>1000</td>
<td>100.0%</td>
<td>51.2710±9.2097</td>
</tr>
</tbody>
</table>

To effectively conduct a factorial multivariate analysis of variances, the data was screened to check sample sizes, the ratio of cases in each cell to dependent variables, missing data, and statistical power, and assumptions were checked to ensure multivariate normality, absence of significant outliers, homogeneity of variance-covariance matrices, linearity,

Although the sample sizes are unequal, the SPSS “[General Linear Model provides] for design complexity and flexibility in adjustment for unequal n” (Tabachnick & Fidell, 2007, p. 218). The initial model did not have “more cases than DVs in every cell;” however, adjustments to the original model resulted in a final model in which each cell had a minimum of eighteen cases relative to the two dependent variables in the final model.

During the initial data cleaning procedures, dummy coding was used to detect patterns in missing data. Because no patterns were detected and the missing data were specifically related to respondents who merely failed to complete the survey, the missing cases were deleted from the dataset.

To check for multivariate normality, the dependent variables were screened for univariate normality. Although the scores for strategy use were normal based on skewness and kurtosis tests, the scores for self-efficacy for writing were severely left-skewed and severely leptokurtic; as previously noted, these non-normal scores were transformed, and the resulting scores were within reasonable values for skewness and kurtosis considering that multivariate analysis of variance is robust to violations of normality “with equal or unequal sample sizes and only a few DVs” as longs as there is “a sample size of about 20 in the smallest cell” (Mertler & Vannatta, 2002).

Univariate outliers were the result of incomplete surveys and were deleted during the data screening process. There were two multivariate outliers in the data, as assessed by Mahalanobis distance (p > .001). These two values were the result of what Laerd Statistics (2015) refers to as “genuinely unusual data” because the first outlier resulted from a high score for self-efficacy for
writing and a low score for strategy use, and the second outlier resulted from the high score on strategy use and a low score on self-efficacy for writing. The final model was run with and without the outliers, and there were no differences in the results, which were reported with the outliers.

There was homogeneity of variance-covariance matrices, as assessed by Box's M test \( p = .595 \), and there was a linear relationship between the dependent variables, as assessed by scatterplot. In addition, there was homogeneity of regression for each dependent variable, as assessed using Levene’s test for equal variances \( p = .711, p = .577 \). Absence of multicollinearity was assessed by obtaining VIF values, which were between 1 and 10 for both dependent variables.

The assumption of independence was met due to the study’s design, and it was safe to assume that the assumption was not violated since each case represents a different survey respondent (Mertler & Vannatta, 2002).

While univariate normality was established for writing strategy use scores based on calculations of skewness and kurtosis, the self-efficacy for writing scores were severely left skewed and violated the assumption of normality. However, skewness and kurtosis calculations indicated that the assumption multivariate normality was met for the grouped data. Female respondents who completed ENGL 1001 on campus generated a value for skewness that was over the +/-3.00, and female respondents who earned ACT/SAT exemptions exceeded the threshold for kurtosis. However, MANOVA is robust to violations of normality when the departure from normality is not due to the presence of outliers and when the number of cases in each cell is greater than the number of dependent variables in the analysis (Mertler & Vannatta, 2002). In this analysis, there were a sufficient number of cases in each cell, but there were also
univariate and multivariate outliers that were directly related to the extremely left skewed scores for self-efficacy for writing.

Based on the values generated by Box’s test ($F = 6.188$, $p < .001$), the data does not meet the assumption of homogeneity of variance-covariance; since the assumption was not met and because the group sizes are unequal, the Pillai’s Trace test statistic must be used to interpret the results of the MANOVA (Mertler & Vannatta, 2002). There was a linear relationship between the dependent variables, self-efficacy for writing and use of writing strategies, as assessed by scatterplot. In addition, the assumption of homogeneity of regression was met for the strategy use variable but not for the self-efficacy variable. Absence of multicollinearity was assessed by obtaining VIF values, which were between 1 and 10 for both dependent variables.

The data failed to meet the following assumptions: univariate normality, homogeneity of variance-covariance, and homogeneity of regression. These failures were due to the severe left skew of the SEW scores. However, despite these failures, the results of the MANOVA using the untransformed SEW scores were very similar to those obtained when using transformed SEW scores that did allow the data to meet all the required assumptions for MANOVA. In an effort to provide results and findings that are consistent with the scores obtained from the original survey data, the MANOVA results from the untransformed SEW scores will be reported.

A model-building process was used to determine the best, most refined model with factorial MANOVA. The initial run included all four dependent variables – credit pathway, race, gender, and parents’ education – as fixed factors. To obtain the most refined model, the fixed factors that did not statistically significantly contribute to the model were removed one at a time. As a result, the final model included two dependent variables, credit pathway and gender. This model will require validation with a new dataset.
A factorial MANOVA was conducted to determine the effect of credit pathway and gender on the two dependent variables of self-efficacy for writing and use of writing strategies (see Table 38). There was a statistically significant interaction effect between gender and credit pathway on the combined dependent variable of self-efficacy for writing and use of self-regulatory writing strategies, Wilks' $\Lambda = .976$, $F(6, 1982) = 4.004$, $p = .001$, partial $\eta^2 = .012$. There were also univariate interaction effects. These showed a statistically significant interaction effect between gender and credit pathway for writing strategy use, $F(3, 992) = 7.352$, $p < .005$, partial $\eta^2 = .022$, but not for self-efficacy for writing, $F(3, 992) = 1.101$, $p = .348$, partial $\eta^2 = .003$ (see Table 22). However, the effect sizes for all of these statistically significant results are extremely small, ranging from 0.200% to 3.200% (see Tables 38 and 39).

As there was an interaction between gender and credit pathway on writing strategy use, pairwise comparisons were also examined (See Table 40 and Figure 2). The pairwise comparisons detail gender differences for strategy use. For male students in the sample, participants with ACT/SAT exemptions reported higher mean scores for strategy use than male students who utilized other pathways. The difference between strategy use scores for male students with ACT/SAT exemptions was statistically significantly higher than those for male participants who completed the university courses. For male students, those with ACT/SAT exemptions reported mean strategy use scores that were 3.077, 95% CI [0.022, 6.133] higher than male students who completed the course at the university. The means for strategy use score for males were 47.50 ($SD = 9.33$) for dual enrollment, 48.05 ($SD = 9.17$) for ENGL 1001, 51.13 ($SD = 8.64$) for ACT/SAT exemptions, and 45.86 ($SD = 6.99$) for AP exemptions.

For female students, those who completed the on-campus course had statistically significantly higher strategy use scores than those who earned exemptions for ACT/SAT scores.
For female students, those who completed the on-campus course reported mean strategy use scores that were 2.521, 95% CI [0.432, 4.610] higher than their counterparts who ACT/SAT exemptions. The means for strategy use score for females were 52.02 (SD = 9.10) for dual enrollment, 53.15 (SD = 9.37) for ENGL 1001, 50.63 (SD = 9.38) for ACT/SAT exemptions, and 53.07 (SD = 8.25) for AP exemptions.

To summarize, male students with ACT/SAT exemptions had higher strategy use scores than male students utilizing other credit pathways, and female participants who completed FYFS composition on campus had higher strategy use scores than female students using other pathways.

Table 38. MANOVA Summary Table

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value of Λ</th>
<th>F</th>
<th>Hyp. df</th>
<th>Error df</th>
<th>Sig.</th>
<th>Partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.042</td>
<td>11398.162&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>991.000</td>
<td>.000</td>
<td>.958</td>
</tr>
<tr>
<td>Gender</td>
<td>.978</td>
<td>10.929&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.000</td>
<td>991.000</td>
<td>.000</td>
<td>.022</td>
</tr>
<tr>
<td>Credit Pathway</td>
<td>.962</td>
<td>6.533&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.000</td>
<td>1982.000</td>
<td>.000</td>
<td>.019</td>
</tr>
<tr>
<td>Gender*Credit Pathway</td>
<td>.976</td>
<td>4.004&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.000</td>
<td>1982.000</td>
<td>.001</td>
<td>.012</td>
</tr>
</tbody>
</table>

<sup>a</sup> Design: Intercept + GenderID + CreditPathNEW + GenderID * CreditPathNEW

<sup>b</sup> Exact statistic

<sup>c</sup> The statistic is an upper bound on F that yields a lower bound on the significance level.

Table 39. Tests of Between Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected</td>
<td>SEW</td>
<td>3337.415&lt;sup&gt;a&lt;/sup&gt;</td>
<td>7</td>
<td>476.774</td>
<td>7.304</td>
<td>.000</td>
<td>.049</td>
</tr>
<tr>
<td>Model</td>
<td>Strategy</td>
<td>3487.176&lt;sup&gt;b&lt;/sup&gt;</td>
<td>7</td>
<td>498.168</td>
<td>6.083</td>
<td>.000</td>
<td>.041</td>
</tr>
<tr>
<td>Intercept</td>
<td>SEW</td>
<td>1168308.618</td>
<td>1</td>
<td>1168308.618</td>
<td>17897.448</td>
<td>.000</td>
<td>.947</td>
</tr>
<tr>
<td></td>
<td>Strategy</td>
<td>1077510.607</td>
<td>1</td>
<td>1077510.607</td>
<td>13156.161</td>
<td>.000</td>
<td>.930</td>
</tr>
<tr>
<td>GenderID</td>
<td>SEW</td>
<td>275.636</td>
<td>1</td>
<td>275.636</td>
<td>4.223</td>
<td>.040</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>Strategy</td>
<td>1781.728</td>
<td>1</td>
<td>1781.728</td>
<td>21.754</td>
<td>.000</td>
<td>.021</td>
</tr>
<tr>
<td>CreditPath</td>
<td>SEW</td>
<td>2131.015</td>
<td>3</td>
<td>710.338</td>
<td>10.882</td>
<td>.000</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>Strategy</td>
<td>163.471</td>
<td>3</td>
<td>54.490</td>
<td>.665</td>
<td>.573</td>
<td>.002</td>
</tr>
</tbody>
</table>

(Table 39 continued)
(Table 39 continued)

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>GenderID * CreditPath</td>
<td>215.518</td>
<td>3</td>
<td>71.839</td>
<td>1.101</td>
<td>.348</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>64755.721</td>
<td>992</td>
<td>65.278</td>
<td>7.352</td>
<td>.000</td>
<td>.022</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2844540.000</td>
<td>1000</td>
<td>81.902</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>68093.136</td>
<td>999</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. R Squared = .049 (Adjusted R Squared = .042)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. R Squared = .041 (Adjusted R Squared = .034)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Computed using alpha = .05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 40. Pairwise Comparisons

<table>
<thead>
<tr>
<th>DV = Credit Pathway</th>
<th>Gender</th>
<th>(I) CreditPath</th>
<th>(J) CreditPath</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval for Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Dual Enrollment</td>
<td>On-Campus</td>
<td>-.554</td>
<td>2.300</td>
<td>1.000</td>
<td>-6.633</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACT/SAT</td>
<td>-3.631</td>
<td>2.269</td>
<td>.659</td>
<td>9.629</td>
<td>2.367</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Exemption</td>
<td>1.636</td>
<td>2.876</td>
<td>1.000</td>
<td>-5.967</td>
<td>9.240</td>
</tr>
<tr>
<td></td>
<td>On-Campus</td>
<td>Dual Enrollment</td>
<td>3.631</td>
<td>2.300</td>
<td>1.000</td>
<td>-5.525</td>
<td>6.633</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACT/SAT</td>
<td>-3.077*</td>
<td>1.156</td>
<td>.047</td>
<td>-6.133</td>
<td>.022</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Exemption</td>
<td>2.190</td>
<td>2.112</td>
<td>1.000</td>
<td>-3.393</td>
<td>7.774</td>
</tr>
<tr>
<td></td>
<td>ACTSAT</td>
<td>Dual Enrollment</td>
<td>3.077*</td>
<td>1.156</td>
<td>.047</td>
<td>0.222</td>
<td>6.133</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On-Campus</td>
<td>5.268</td>
<td>2.079</td>
<td>.069</td>
<td>-10.763</td>
<td>10.763</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Exemption</td>
<td>2.521*</td>
<td>.790</td>
<td>.009</td>
<td>4.610</td>
<td>4.610</td>
</tr>
<tr>
<td></td>
<td>AP Exemption</td>
<td>Dual Enrollment</td>
<td>-1.636</td>
<td>2.876</td>
<td>1.000</td>
<td>-9.240</td>
<td>5.967</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On-Campus</td>
<td>-2.190</td>
<td>2.112</td>
<td>1.000</td>
<td>-7.774</td>
<td>3.393</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACT/SAT</td>
<td>-5.268</td>
<td>2.079</td>
<td>.069</td>
<td>-10.763</td>
<td>.227</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>Dual Enrollment</td>
<td>On-Campus</td>
<td>-1.136</td>
<td>1.302</td>
<td>1.000</td>
<td>-4.577</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACT/SAT</td>
<td>1.385</td>
<td>1.289</td>
<td>1.000</td>
<td>-2.022</td>
<td>4.792</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Exemption</td>
<td>-1.055</td>
<td>1.420</td>
<td>1.000</td>
<td>-4.807</td>
<td>2.698</td>
</tr>
<tr>
<td></td>
<td>ENGL 1001 or Transfer</td>
<td>Dual Enrollment</td>
<td>1.136</td>
<td>1.302</td>
<td>1.000</td>
<td>-2.305</td>
<td>4.577</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACT/SAT</td>
<td>2.521*</td>
<td>.790</td>
<td>.009</td>
<td>.432</td>
<td>4.610</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Exemption</td>
<td>.081</td>
<td>.989</td>
<td>1.000</td>
<td>-2.534</td>
<td>2.697</td>
</tr>
<tr>
<td></td>
<td>ACT or SAT Exemption</td>
<td>Dual Enrollment</td>
<td>-1.385</td>
<td>1.289</td>
<td>1.000</td>
<td>-4.792</td>
<td>2.022</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On-Campus</td>
<td>-2.521*</td>
<td>.790</td>
<td>.009</td>
<td>-4.610</td>
<td>-.432</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AP Exemption</td>
<td>-2.440</td>
<td>.972</td>
<td>.074</td>
<td>-5.010</td>
<td>.131</td>
</tr>
<tr>
<td></td>
<td>AP Exemption</td>
<td>Dual Enrollment</td>
<td>1.055</td>
<td>1.420</td>
<td>1.000</td>
<td>-2.698</td>
<td>4.807</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On-Campus</td>
<td>-.081</td>
<td>.989</td>
<td>1.000</td>
<td>-2.697</td>
<td>2.534</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACT/SAT</td>
<td>2.440</td>
<td>.972</td>
<td>.074</td>
<td>-1.31</td>
<td>5.010</td>
</tr>
</tbody>
</table>
Figure 2. Estimated Marginal Means of StrategySum

For DE survey-takers, the average score on the SEW scale was 4.28 out of five with 66 (78.6%) of the respondents scoring four or more of five available points (See Table 41). These results suggest that DE students are generally confident about their ability to meet the expectations of college writing.

Table 41. DE Students’ Self-Efficacy for Writing Scores

<table>
<thead>
<tr>
<th>Self-Efficacy for Writing Score Ranges</th>
<th>Number of DE Students</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00 – 2.99</td>
<td>5</td>
<td>6.0</td>
</tr>
<tr>
<td>3.00 – 3.99</td>
<td>13</td>
<td>15.5</td>
</tr>
<tr>
<td>4.00 – 5.00</td>
<td>66</td>
<td>78.6</td>
</tr>
<tr>
<td>Total</td>
<td>84</td>
<td>100.0</td>
</tr>
</tbody>
</table>

As previously mentioned, in the quantitative analysis of self-efficacy, the use of self-regulatory writing strategies was also included as a dependent variable. Since there was an interaction of the independent variables – credit pathway and gender – on the two dependent
variables, the main effects were not analyzed. However, as those main effects can help illuminate the statistical findings related to self-efficacy, they are explained here.

Main effects in the tests of between-subjects effects revealed that writing self-efficacy was statistically significantly different among participants based on composition credit pathway (DE, on-campus, AP, or ACT/SAT), $F(3,992) = 10.882, p < .05$, partial $\eta^2 = .032$ (See Table 42). However, estimates of effect size reveal low strength in associations. Analysis of results from post hoc tests and pairwise comparisons reveal that students who received FYFS composition credit through test exemptions (AP and ACT/SAT) reported statistically significantly higher writing self-efficacy scores than students who earned DE credit or who completed the course on campus (See Figure 3).

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square F</th>
<th>Sig.</th>
<th>Partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>StrategySum</td>
<td>3487.176$^a$</td>
<td>7</td>
<td>498.168</td>
<td>.000</td>
<td>.041</td>
</tr>
<tr>
<td></td>
<td>SumofSEW</td>
<td>3337.415$^b$</td>
<td>7</td>
<td>476.774</td>
<td>.000</td>
<td>.049</td>
</tr>
<tr>
<td>Intercept</td>
<td>StrategySum</td>
<td>1077510.607</td>
<td>1</td>
<td>1077510.607</td>
<td>.000</td>
<td>.930</td>
</tr>
<tr>
<td></td>
<td>SumofSEW</td>
<td>1168308.618</td>
<td>1</td>
<td>1168308.618</td>
<td>.000</td>
<td>.947</td>
</tr>
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<td>GenderID</td>
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<td>CreditPathNEW *</td>
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<tr>
<td>* GenderID</td>
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<td>3</td>
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<td>.003</td>
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<tr>
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<td>992</td>
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<tr>
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<td></td>
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<tr>
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<td>SumofSEW</td>
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</table>

a. R Squared = .041 (Adjusted R Squared = .034)
b. R Squared = .049 (Adjusted R Squared = .042)
c. Computed using alpha = .05
Figure 3. Estimated Marginal Means of SEW

Overall, the findings related to self-efficacy and use of self-regulatory strategies were most significant in relation to the interaction between credit pathway and gender on the dependent variable, strategy use. There were also notable significant differences in writing self-efficacy based on credit pathway.

Research question three: performance advanced English courses. Two analyses were conducted to determine if there are differences in performance in advanced English courses based on credit pathway, gender, race, and parents’ education. In the first analysis, an analysis of variance (ANOVA) was conducted to determine if there are differences in English GPA in advanced English courses based on the collection of dependent variables.

A two-way ANOVA was conducted to determine if there were differences in performance in advanced English courses, which included courses in the English department that were beyond the minimum requirements for most degree programs, based on credit pathway, gender, race, and parents’ education. The data used in this analysis was provided by the
institution and included students (n=451) who entered the university from fall 2015 to spring 2017.

A model-building process was used to obtain the best, most refined model with ANOVA. In addition, the statistical procedures were conducted both with a non-normal dependent variable that violated other assumptions of ANOVA (i.e. outliers and homogeneity of variances) and a transformed variable that did not violate the assumptions required for the procedure. Because the results of both analyses were the same with regard the statistical significant and effect size and because reporting results related to grade point averages are more straightforward with original data, the results and findings reported here are those from the non-normal dependent variable that did had outliers and did not meet the assumption of homogeneity of variances.

The independent variable was English GPA, which was continuous and ranged from a 0 to indicate a student’s English GPA was an F to a 4.3 to indicate that a student’s GPA was an A+. Due to a severe departure from normality, this variable was transformed using “reflect and log 10,” and the transformed variable had a minimum of 0.0 and a maximum of 0.72. However, the original dependent variable and the transformation yielded the same results from the ANOVA procedure.

The analysis included 451 cases. The four dependent variables were categorical, including race, gender, parents’ education, and credit pathway. Race included three categories: white, black, and other. Gender included two categories: male and female; parents’ education included four categories: no high school diploma, high school diploma, college degree, and advanced degree. Credit pathway had two categories: dual enrollment and non-dual enrollment.

Initial data screening for the first model revealed that with four dependent variables and 416 cases, two cells had the same number of cases as the number of dependent variables.
However, the final model included only two dependent variables, race and credit pathway, and there were no issues with the number of cases in each cell.

In addition, initial screening of the means for English GPA showed small differences based on gender. The average score for females (3.14 +/- 0.94) was higher than that of males (2.85 +/- 1.09). In contrast, initial data screening revealed what seemed to be larger differences in performance in advanced English courses based on race and credit pathway. Black students (2.70 +/- 1.11) in the analysis had lower mean scores than white students (3.15 +/- 0.94) and students in the “other” race category (3.16 +/- 1.06). Non-DE students (3.11 +/- 1.04) presented a higher advanced English GPA than DE composition students (3.06 +/- 0.99).

Residual analysis was performed to test for the assumptions of the two-way ANOVA. Outliers were assessed by inspection of a boxplot, normality was assessed using values of skewness and kurtosis for each cell of the design, and homogeneity of variances was assessed by Levene's test. Of 467 cases, sixteen were outliers. Because these outliers comprised a small percentage of the sample (3.4%) and because there was no pattern to the outliers, and because the outliers affected the final results of the analysis, they were removed. The computed values of skewness and kurtosis indicated that the dependent variable, English GPA, did not meet the assumption of normality for all cells in the analysis. The violations were not for all cells and were mainly related to skewness. The data did not meet the assumption of homogeneity of variances (p = .014).

Because the data failed to meet the assumptions of a two-way ANOVA, another residual analysis was performed to test the transformed dependent variable. The new variable was computed using a “reflect and log 10” transformation. As for the untransformed variable, outliers were assessed by inspection of a boxplot, normality was assessed using values of skewness and
kurtosis for each cell of the design, and homogeneity of variances was assessed by Levene's test. There were no outliers, residuals were normally distributed, and there was homogeneity of variances ($p = .461$).

Although the data that included the untransformed version of English GPA failed to meet several assumptions of two-way ANOVA, the results using the untransformed variable with the outliers removed were very similar to those performed using the transformed variable. Therefore, to articulate clear results concerning grade point averages in advanced English courses, the results generated from the untransformed data will be presented.

There was no statistically significant interaction between race and credit pathway on English GPA, $F (2, 445) = 2.332, p = .098$, partial $\eta^2 = .010$ (See Table 43). Therefore, an analysis of the main effects was performed. There was a statistically significant difference in English GPA among students in the three different race categories, $F (2, 445) = 4.768, p = 0.09$, partial $\eta^2 = .021$. All pairwise comparisons were run were reported with 95% confidence intervals and $p$-values are Bonferroni-adjusted. The unweighted marginal means of English GPA for black, white, and “other” DE and non-DE students in the sample were $2.830 \pm 0.123$, $3.206 \pm .0.071$ and $3.371 \pm .150$, respectively.

Pairwise comparisons revealed that white students in the sample had an English GPA that was $0.376$ ($95\%$ CI, $0.097$ to $0.656$) higher than that of black students, a statistically significant difference, $p = .008$ (See Table 44 and Figures 4 and 5). Further, the pairwise comparisons indicated that students in the “other” race category had an English GPA that was $0.542$ ($95\%$ CI, $0.160$ to $0.924$) higher than that of black students, a statistically significant difference, $p = .006$. 
Table 43. ANOVA Summary Table

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial $\eta^2$</th>
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</thead>
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<td>5</td>
<td>5.371</td>
<td>7.485</td>
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<td>.078</td>
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<td>.823</td>
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<td>.021</td>
</tr>
<tr>
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<td>1.341</td>
<td>1.869</td>
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<td>.004</td>
</tr>
<tr>
<td>Race * CreditPathway</td>
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<td>.010</td>
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<tr>
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<td></td>
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</tr>
<tr>
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<td></td>
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<tr>
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</table>

Overall, there was no interaction between race and credit pathway. However, there were significant differences between groups based on race/ethnicity.

Figure 4. Estimated Marginal Means of ENGL GPA
Table 44. Pairwise Comparisons

Dependent Variable: Engl GPA

<table>
<thead>
<tr>
<th>(I) Race</th>
<th>(J) Race</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig. b</th>
<th>95% Confidence Interval for Difference b Lower Bound</th>
<th>95% Confidence Interval for Difference b Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>Black</td>
<td>.376*</td>
<td>.142</td>
<td>.008</td>
<td>.097</td>
<td>.656</td>
</tr>
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<td>-.165</td>
<td>.166</td>
<td>.319</td>
<td>-.491</td>
<td>.160</td>
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<tr>
<td>Black</td>
<td>White</td>
<td>-.376*</td>
<td>.142</td>
<td>.008</td>
<td>-.656</td>
<td>-.097</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>-.542*</td>
<td>.194</td>
<td>.006</td>
<td>-.924</td>
<td>-.160</td>
</tr>
<tr>
<td>Other</td>
<td>White</td>
<td>.165</td>
<td>.166</td>
<td>.319</td>
<td>-.160</td>
<td>.491</td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td>.542*</td>
<td>.194</td>
<td>.006</td>
<td>.160</td>
<td>.924</td>
</tr>
</tbody>
</table>

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Figure 5. Mean ENGL GPA by Race & Credit Pathway

Qualitative Results

Research Question Four - DE Composition Students’ Perceptions. The fourth research question sought to determine how students who completed dual enrollment composition courses describe their writing experiences in relation to their motivation for participating in DE
writing courses to earn FYFS writing credit, the feedback received as part of their DE writing experiences (instructor feedback and peer feedback), the students’ self-efficacy for writing, and the impact their DE writing experiences has had on their academic and career choices. To address this question, responses were compiled from open-ended survey items (n=84) and from one-on-one semi-structured interviews (n=14).

As previously stated, two methods were used to collect qualitative data. First, university students who completed DE composition course work in high school (n = 84) answered several demographic questions in addition to four open-ended questions that examined their motivation, feedback, curriculum, and impact as part of the writing experiences survey. Second, a sample of DE writing students (n=14) participated in the semi-structured interviews. Like the DE survey takers, the DE interviewees’ responses were related to motivation, feedback, curriculum, and impact; the interview responses were also related to preparedness and self-efficacy for writing.

**Motivation.** Survey-takers and interviewees were asked to describe the motivating factors for their participation in DE composition programs. The findings suggest that students’ reasons for participation are consistent with those included in the national narrative surrounding dual enrollment, which promotes various academic and financial benefits to DE participation. Specifically, the motivating factors that emerged from this study include acceleration, convenience, and enrichment.

**Acceleration.** The responses from both samples indicate that students who choose DE composition desire certain college-level outcomes, including being able to graduate from college earlier, save money as result of the shortened time to degree, and focus on courses in their majors earlier.
Survey results. First, the survey results show that students participate in dual enrollment to accelerate, or decrease time to degree. Almost seventy-five percent of the surveyed DE students provided answers related to acceleration with one-tenth of those participants specifically writing that they wanted to “get ahead.” A female sophomore said she wanted “to try and get as many hours as possible going into college, so [she] could graduate faster,” and similarly, a junior wrote that she “wanted to earn enough college credit in high school to enter college as a sophomore.” Another female junior stated, “I wanted to have college hours before I actually went to college so I could graduate early,” and a third female junior wrote, “because it was offered and I could get ahead of the game in college.” Similarly, a female sophomore shared that she wanted “to get more credits finished early,” and a junior female explained, “I chose to take it as a high school student because I wanted to take as many college credits before college as possible.” A male sophomore explained, “I wanted to come into college with as much college credit as possible.”

Second, the written responses from the survey takers also indicate that dual enrollees aim to save money as a result of decreasing the time to earn a bachelors degree. One tenth of the students mentioned cost as a benefit of DE participation, and all but one of those students described other motivating factors, such as saving time, in addition to lower costs. For example, a female sophomore wrote, “It was free, and I could have a more flexible schedule,” and another female sophomore shared, “It would save me money [in the] the future as an out of state student.” Further, a male sophomore paired the of benefits decreased time to degree and lower cost; he simply stated that he wished “to save money and time.” In the same vein, a male junior participant responded, “Because it would be cheaper than college.”
Third, the results advance the idea that dual enrollees use the programs to “get ahead” by accelerating through general education requirements in order to devote more time and effort to major courses upon entrance to the university. One female sophomore who completed the survey said, “I took every dual enrollment offered to help myself get ahead of the game, and I knew I would have a heavy work load as I am in Mechanical Engineering.” Another sophomore male respondent mirrored that sentiment by saying, “I wanted to get the credits in high school so I could have some general education requirements out of the way and take other courses faster.” A second sophomore male shared, “I wanted to get it out of the way before coming to college so that I could focus on my major.” A female junior also expressed a desire to begin studies in her major earlier; she explained, “I planned to major in English and wanted to begin those studies early.”

Interview results. Like the survey results, the evidence from the interviews also suggests that for students who enroll in DE composition, the opportunity to accelerate, or graduate from college in less than eight semesters, is a major motivating factor. Almost all of the fourteen interviewees sought to shorten their time to completing a college degree. For example, one interview participant explained, “It helped me get ahead by several classes by the time I got to [the university]” (white, female, community college credit, English major), and another explained, “I figured it would be a way to get ahead before I even got into [the university]... so I could be…a semester ahead” (black, female, community college credit, psychology major). In addition, just under half of the interviewees also expressed being motivated by the desire to save money, which, for them, was a direct result of earning a degree in a shorter amount of time. Moreover, the responses show that as students participate in DE programs, they do so with
awareness of how that participation will help them enter college with the ability to focus more on their majors and less on general education requirements.

Several students equated early graduation with decreased cost; the DE courses were less expensive than their on-campus equivalents, and frequently, the tuition was paid by the school district. On interviewee explained, “I chose to earn credit through college dual enrollment because my [school district] paid for everything. So, I looked at it as a better [financial opportunity because otherwise] I would have to come out of pocket to pay for those classes” (black, female, community college credit, biology major). Another DE participant disclosed, “Oh, it was cheaper and I wouldn't have to take it in college, so [I would] just get [out] of school faster” (male, white, university credit, international trade and finance major). Similarly, another interviewee indicated that she “wanted to get those classes over with so that [she] could move on to other classes that I needed to take in college, and because it was cheaper…” (female, white, university credit, accounting). Yet another student expressed, “It was cheaper than taking a writing course at [the university] and also it helped me get ahead by several classes by the time I got to [the university]” (white, female, community college credit, English major).

For several students, the ability to accelerate provided an opportunity quickly tackle general education requirements and focus on their majors earlier. Specifically, one student described being able to “speed up” her “college years” so she could earn a finance degree in three years instead of four. She said, “I’m graduating in three years, so that helped a lot. When I got to college, I didn’t have to take all the freshman classes. I got to get right into my major” (female, white, community college credit, finance major). Another student expressed, “I knew I would only need my English 10-01 credit and my 10-02 credit because that’s the only English engineers need, and I wanted to get it over with earlier” (female, white, university credit,
Another participant explained in more detail how high school personnel described DE courses as a method for meeting general education requirements early. He said:

The reason I took them was because in the info session before school started during the summer they told us that really every single college across the board has general education requirements, and almost every single major college that you would probably looking into going can transfer over this credit to the university. No matter where we would end going, this would count as credit towards the university (white, male, university credit, Textiles, Apparel, and Design major).

Another engineering major made a similar comment about tackling general education requirements in high school; her desire was not only to begin major courses early in her high school career; she also desired to decrease potential academic strain by setting herself to focus mainly on major courses. She said, “I wanted to start school with as much previously earned credit as I could because the major I'm in is so intensive that having anything out of the way to begin with would be much better (white, female, university credit, Mechanical Engineering major).

Overall, survey and interview participants’ responses suggest that the ability to accelerate is the main motivating factor enrollment in DE composition courses. Acceleration is related to college outcomes, such as decreased time to degree, financial savings, and reducing the academic burden of general education requirements in college in order to focus on one’s major. Other motivating factors, such as convenience and enrichment, were related to high school outcomes.

Convenience. Responses from both samples of DE composition students indicate that dual enrollees value convenience. Students discussed electing to complete DE writing courses because they were more accessible and because they were easier than the alternatives, including Advanced Placement courses and the traditional university version of the course.

Survey results. Students who completed the open-ended survey questions described dual enrollment courses as more convenient. Approximately one-fifth of the survey participants
believed the DE composition provided an easier pathway for earning FYFS writing credit. These ideas of ease related to the convenience of taking the course the high school setting with a familiar teacher and the idea that DE composition courses are easier than traditional college courses or Advanced Placement courses. A junior female referred to her DE writing course as “easy college credit,” and a female sophomore elaborated that “English is not [her] best subject, so [she] thought it would be easier to take it in high school.” Another student, a female junior, simply stated, “It was easier than AP,” and another female junior also wanted to avoid high school courses that she believed were more difficult; she expressed a desire to “avoid senior project in the regular senior English [class].” Further, a sophomore explained that she participated in DE writing courses so she would “not have to take an English in college,” and another sophomore merely stated that she wanted “avoid courses in college.”

In general, the survey responses suggest that high school students perceive DE composition courses as an easier route to meeting college writing requirements than other credit pathways, including Advanced Placement, the on-campus course, and even the senior English courses offered through their own high schools.

Interview results. The interviewees also described convenience as a reason for taking DE composition courses. When asked why they chose to take DE writing courses, most of the students’ answers related to acceleration (saving time and money), but when asked about making the DE decision again, they also pointed to motivation to avoid more difficult courses and academic circumstances.

Specifically, they described the ease with which they were able to access instructors and resources; they also discussed being able to manage their time and efforts with less difficulty. One student expressed
It's convenient. It fits in your schedule. It's on your high school campus. Like I said, we got free textbooks and tuition for it, and English is not my favorite or best subject so I was glad that I didn't have to do it on a college campus. That's why I would do it again.” (white, female, community college credit, finance major).

Another interviewee explained

…it was more comfortable for me. I know sometimes getting on a college campus and not being familiar with the teachers and stuff can be a little intimidating, but at least at high school you know the teachers, smaller setting. You get more comfortable with your teacher, you get more one-on-one experience through high school classes. (Black, female, community college credit, biology major)

A third interviewee shared a similar explanation:

Specifically because I feel like there's a lot more resources that are literally at your hands when you're taking the course rather than in college. There [are] all…the same resources at [this university], but it's a little bit harder to go get them. You have to go out of your way. Then also I think there's a huge benefit of taking the [DE writing courses] in high school…it's two general electives that you get out of the way (white, male, university credit, TAD major).

A fourth student shared another complementary response.

I feel that I was able to focus on my college work much better in high school than I would be able to in a college setting where I'm taking more other classes and not able to devote the time to it that it deserves like I was able to in high school… (white, female, university, biology major)

Finally, several students pointed to DE providing an easier path to college credit, namely the condition of earning credit for passing the course instead of being required to complete a course and earn a minimum Advanced Placement (AP) score. One student said, “…if I [had taken] that AP course, I would have [had] to take the AP test afterwards.” He went on further to discuss the fact that after taking the AP course, students are required to earn a score of “three or higher” to actually receive credit for FYFS writing from the university (Black, male, university credit, accounting major). Another interviewee explained how he came to make the same decision: “AP was just too much. Nobody needs to go through that.” (Black, male, university credit, Theater/ Design Tech. major)

Thus, survey respondents and interviewees saw DE composition courses as convenient because (for most of the participants) those courses took place on their high school campuses and
because the students perceive the courses as being easier than other options, such as AP and university courses.

**Enrichment.** Analysis of the survey and interview responses suggest that in addition to being motivated by convenient opportunities to accelerate, DE composition participants are also motivated by opportunities for academic enrichment. Motivating factors related to enrichment include enhancing GPA, working with respected educators, and generally enjoying and excelling in English language arts.

Survey results. Just over ten percent of the DE survey takers were motivated by enrichment opportunities; the students cited improving their grade point averages and class rank and working in challenging courses with respected educators. For the DE students who completed the open-ended survey items, convenience and enrichment were mutually exclusive; students who described DE writing courses as convenient did not refer to them as opportunities for enrichment, and those who viewed them as a chance for enrichment did not describe any convenience factors.

With regard to class rank, a female sophomore respondent noted that she took DE composition because she was “trying for [the] Valedictorian/Salutatorian position” while a sophomore male said taking the courses was a “only way to hold a competitive GPA” since high grades DE courses typically offer a more powerful boost to GPA than non-DE high school courses. Another sophomore female explained how taking high school courses in middle school opened the door for later DE participation; she shared, “I…started high school credits in 8th grade…so it was the final English I could take at my high school.” Another female sophomore very simply expressed, “[Dual] enrollment classes raised my class rank.”
Two sophomore responses to the open-ended motivation question referenced being encouraged by teachers, wanting to work with certain well-respected teachers, and enjoying English; one student wrote, “I was encouraged to do so by my teachers. Also the teacher that taught the course was the best English teacher at my high school” (female). A second sophomore similarly replied, “Our high school had one of the best English teachers in the state, and I naturally have a love for the subject” (female). A male sophomore similarly shared, “My English teacher had great experience and I only heard good things about him,” and a female student with the same classification said, “I enjoyed writing.”

As stated before, survey-takers who were seeking enrichment through DE did not describe convenience factors. They generally seemed to desire an enjoyable, challenging academic experience with some students stressing their preference to work with well-respected high school teachers.

Interview results. Over half of the interviewees cited enrichment as a motivating factor. Those students who were motivated to achieve on the high school level desired to make their senior year more meaningful by taking more advanced courses, increasing their high school grade point average, and improving their class rank. Additionally, students described enjoying their DE composition courses because they were able to work with exceptional teachers.

When asked what motivated her to take DE writing courses, one student described being encouraged by her peers to take advantage of what they perceived to be an opportunity for academic enrichment. Because of the encouragement she received from her peers, this student very clearly viewed dual enrollment as an enrichment opportunity. She explained

“I knew that past students who had taken the class had excelled when they got to college and had really appreciate the opportunity to be a part of that program and felt that it had benefited them in their college experience and I wanted to take advantage of the best that my high school had to offer…” (white, female, university credit, biology major).
Furthermore, another interviewed student said it was better option than “just…taking other filler classes” (white, female, community college credit, finance major). This student expressed a desire to use her senior year more wisely, to make her last year in high school academically meaningful.

Other responses specifically focused on enhancing high school GPA and enjoying the course and/or teacher. For example, one participant explained that DE courses “could really help your GPA in the long run if you really take the time to be serious in [the] classes” (white, male, university credit, textiles, apparel, and design major). Moreover, another former dual enrollee said, “…it has definitely, positively influenced my [high school GPA and] my college GPA” (white, female, university credit, biology major).

Like the DE students who completed the survey, several interviewees expressed high interest in working with certain well-respected teachers on their high school campuses. One interview participant expressed that her DE writing course was “one of [her] favorite classes in high school” and that she “had a really good high school teacher,” (white, female, university credit, engineering major) while a counterpart emphatically stated, “I really enjoyed it. It was my high school teacher who taught it…I really, really enjoyed my teacher a lot. So I would, because of her, I would also definitely take it with her again” (white, female, university credit, education major).

When asked if they would choose DE composition again if given the opportunity, several students expressed enjoyment of the course as the reason they believed they made the right decision. An accounting major stated, “I really liked my dual enrollment class” (white, female, university credit), and another student, and English major, explained, “I loved the feeling of
being in the high school class; we were all fine tuning our work; it was a very important class to me, so I would take it again in dual enrollment” (white, female, community college credit).

Unlike the survey participants, convenience and enrichment were not mutually exclusive short-term outcomes. Indeed, interviewees were more likely to touch upon all three motivating factors – acceleration, convenience, and enrichment – in their answers. This might be due to the interviewees having more time to express their perceptions as opposed to the survey-takers who generally provided very brief answers to similar queries. One interviewee who discussed all three motivating factors in a single response shared

It was free tuition and helped speed up my college years. I'm graduating in three years, so that helped a lot. When I got to college, I didn't have to take all the freshman classes. I got to get right into my major. So, that helped a lot. I figured why not do it, especially because if I didn't take dual enrollment I would have just been taking other filler classes (white, female, community college credit, finance major).

Similar to the previous participant who discussed multiple benefits of DE, another interviewee discussed cost and convenience. Her first response related to the cost savings associated with acceleration.

I chose to earn credit through college dual enrollment because my high school paid for everything. So, I looked at it as a better [financial] opportunity [because] I would not have to come out of pocket to pay for those classes.

She added that

It was more comfortable…I know sometimes getting on a college campus and not being familiar with the teachers and stuff can be a little intimidating, but at least at high school you know the teachers, [and you are in a] smaller setting. You get more comfortable with your teacher; you get more one-on-one experience through high school classes (black, female, community college credit, biology major).

Another interviewee succinctly pointed out that “It was easier, cheaper, and it's just one less class in college” (white, male, university credit, International Trade & Finance major). Although brief, his answer references convenience and acceleration as factors.

Thus, the interview participants detailed the same short-term and long-term motivating factors as the DE students who responded to the open-ended survey questions. Students from
both qualitative samples were primarily concerned with acceleration, convenience, and enrichment. Moreover, the interview responses seem to have clarified that none of the motivating factors were mutually exclusive. Overall, the results related to motivation suggest that DE students are motivated by short-term high school outcomes (enrichment) and long-term college outcomes (acceleration) even as they seek an easier path to earn credit for college composition (convenience).

**Feedback.** Survey-takers and interviewees were asked to describe the most helpful feedback they received in their DE courses. The results gleaned from the analysis support the idea that DE composition students possess an awareness of the writing process, the importance of feedback in that process, and the belief that the instructor feedback they received was effective.

The evidence also suggests that students have internalized the reading and writing skills in which they were instructed, that they grasp the importance of writing practice, and that they recognize how the courses have provided a general college preparatory experience beyond writing instruction.

*Instructor feedback.* The responses from both samples suggest that dual enrollment composition students view instructor feedback as helpful. While the survey participants were more general in their responses, the interview respondents provided more detail to support the idea that instructor feedback is extremely helpful. For the survey and the interviews, respondents with a high school teacher and a college instructor described this aspect of the course design to be helpful, but one interviewee explained how the two-instructor schema negatively affected her DE writing course grade.
Survey results. For the DE students who responded to the survey, the single most helpful aspect of their writing coursework as the feedback they received on their writing; over one quarter of the surveyed DE students provided answers related to the helpfulness of instructor feedback. One sophomore wrote, “I was able to get a one-on-one experience when it came to feedback and help I needed,” and another said, “Corrections written on my graded papers [were] the most helpful.” A female sophomore explained that “direct contact [with] and advice from the teacher” was the most helpful aspect of her DE writing course, and another female sophomore shared, “I was able to get a one-on-one experience when it came to feedback and help I needed.”

Some surveyed students provided more information about why the instructor feedback was so helpful; the two students described receiving feedback that was specific and individualized. One male sophomore said, “My teacher provided helpful feedback and addressed my personal writing skill individually in order to help me better advance my own writing.” A female junior wrote

We spent a lot of time writing and the feedback I received helped me to know what I was doing well and what I needed to change. It strengthened my writing skills, and I'm a better writer because of it.”

Moreover, female junior explained that “written comments about what to change in the flow of [her] writing” was the most helpful feedback she received in her DE writing course.

In some cases, having two instructors – a high school teacher and a college instructor – was beneficial for students. Two sophomores described how the two-instructor model helped them. One said, “Honestly, my high school teacher gave the best feedback. She would help us through the process unlike my college professor who had hundreds of students.” For this participant, having a high school teacher provide feedback was extremely important because the college instructor was not as accessible. Another shared, “having two teachers [provide] feedback on the papers” was the most helpful aspect of the course. Unlike the first student, this
second sophomore received effective feedback from the high school teacher and the college instructor. Other students also shared their perceptions of the two-instructor model as effective. A female sophomore survey-taker said, “The criticism from both my high school teacher on my papers and the feedback from the college professor that graded them” while a male junior student explained that “The writing tips given by [his] professor and high school teacher” were the most helpful component of his DE writing class.

Interview results. The interviewees were asked about the helpfulness of the feedback they received from their instructors. All fourteen students believed their instructors provided feedback that helped them to improve their writing from rough draft to final draft and from one essay to the next essay. However, two students indicated that they also received feedback that was not helpful. Thus, feedback was categorized as helpful or unhelpful. Further, in the discussions the student participants revealed information about the mechanisms their instructors utilized to provide the feedback. Those methods included one-on-one conferences, written comments on papers, online feedback, and general verbal feedback given to the entire class.

Several students were effusive in praising their the content and methods of their composition teacher’s feedback. One student described how her professor conducted teacher-student conferences for each major paper.

My Composition I professor…was amazing. We wrote three major papers throughout the semester, and after each one she set aside time for us to meet with her individually and discuss our paper one-on-one. She would give us detailed feedback directly to our faces and then allow us to revamp our papers and turn them in again at the end of the semester. This one-on-one was amazing. I got much more feedback than I feel I would have if she had done it any other way…She was able to get to know each of us and our writing styles, as well as ask us questions and lead us more towards the answers, or the direction, she was thinking we should go than just writing a couple of sentences on the side of our papers (white, female, university credit, mechanical engineering major).

Another student detailed receiving specific written feedback at various steps in the writing process.
She left a lot of annotations on our papers. I put a lot of minor errors on my papers, and she would always point out even little typos and always recommend to take out certain linking verbs and replace them with stronger verbs…[She provided] very specific feedback. She would highlight particular words for our word usage; [she was] very specific…We used to have to turn in thesis statements before papers, and she would always grade those as well. When we did our research paper, she left annotations on that as well about better structure, finding better sources, organizational details, [and] structural details (white, female, community college credit, English major).

A third student discussed being able to use the annotations to improve his next writing assignment.

Well, basically after each paper we did…our instructor would grade over it. They would write what we messed up on. And basically we'd have a chance to see what our mistakes were. That we could see what areas we needed to improve in. And so by the next paper we did, the next assignment we did, we [knew] what to focus on more (black, male, university credit, accounting major).

These responses are an indication that students were able to internalize the feedback they received and use it to improve their writing practice.

In contrast, there were descriptions of conflicting feedback provided by two interviewed students, both of whom completed their DE composition courses through an area university’s program. Both students had a high school teacher who provided initial feedback and an instructor or other personnel on the college level who actually graded their writing assignments; according to the students, the feedback they received from those different levels was conflicting in a way that was disadvantageous to them. One former DE composition student reported receiving conflicting feedback from her high school teacher and the college instructor. She further shared how she eventually “bypassed” the HS teacher when getting feedback on her rough drafts.

…it was like my high school teacher [wanted] a lot more than the college professor. Like I said, she ... for my first two papers I sent it to her and she kept saying, "Oh, you need to change this. You need to change this." Well, I ended up telling the college professor that I sent them to my high school teacher and she told me this and so he actually said, "Okay, why don't you just start sending them to me and I'll give you my feedback (female, white, university credit, education).

Another student in the same university’s dual enrollment program reported the opposite – receiving clearer feedback from the high school teacher than she did from the college graders.
She explained

… my high school teacher gave me better feedback than my graders at [the local university] did…She was able to actually talk to me in person about how I could fix different things. And my [college] graders would just, I don't know…I made 92’s on most of my papers, and I never really knew why I got points off. That was not a good thing…”

It is clear from analysis of the participants’ responses that instructor feedback was extremely important for ensuring growth in writing skills. Even when interviewees experienced difficulties with teacher feedback, there were still programmatic mechanisms that allowed them to overcome those issues. However, it is important to note that students who are less college ready might find it more difficult to navigate these types of academic problems, especially students whose lack of college readiness stems from a reluctance or inability to advocate for themselves.

Peer feedback. While survey and interview participants’ responses consistently point to the effectiveness of teacher feedback, responses related to peer feedback suggest that its use and helpfulness are inconsistent across DE programs. Several survey respondents described helpful peer review experiences; however, interviewees detailed peer review that was very helpful, not helpful at all, not consistently applied, and not utilized at all.

Survey results. For the DE students who responded to the survey, less than ten percent of the respondents mentioned the helpfulness of peer feedback. One female sophomore survey-taker briefly described a peer editing day: “We would have a day to peer edit each other's papers the week an assignment was due. I had very smart peers.” A female sophomore participant briefly mentioned, “peer reviews on papers” as the most helpful aspect of her DE course. Also, female junior survey taker mentioned “feedback from other students for peer reviews and from the teacher” as being helpful.

It is important to understand that the survey-takers were asked to describe the most effective feedback. Mention of peer feedback was limited, but that is likely related to the
effectiveness of teacher feedback and not to the ineffectiveness of peer feedback. However, sometimes peer feedback was mentioned instead of instructor feedback as the most helpful aspect of a writing course; this suggests that instructor feedback might have been less helpful than expected for those students.

Interview results. The small number of survey takers who reference the helpfulness of peer feedback does support the inconsistencies reported by the interview respondents. While the interviewees consistently described receiving some helpful instructor feedback, the responses about peer feedback were much more inconsistent. Less than half said peer review was effective, about one third indicated that it was ineffective or inconsistent, and three explained that their dual enrollment composition course had no peer review.

Even among students who perceived peer feedback as being effective, there were differences in how that feedback helped them with their writing. For example, some students characterized the peer feedback as helpful because their peers understood their viewpoint. One student said that the peer review sessions in class were “probably one of the most helpful [aspects of the course] because [they involved] people my age. They [knew] what I was talking about.” He further explained that the peer feedback helped him to improve his writing (male, black, university credit, theater/design tech. major).

On the other hand, another respondent indicated that their peers helped to broaden her viewpoints. She said

…they would show me a whole different point of view to how I could have [written] the essay. So, it was helpful because I got to see more insight to how people would look at a topic compared to just how I [saw] it (female, white, community college credit, finance major).

Still others though of peer review as effective for helping to one to clearly relate ideas one’s audience. One interviewee articulated
We did a lot of peer reviews, so usually for each paper we'd have two to three peers review it, and it was usually just grammatical errors or how that they felt that certain sentences or certain paragraphs should be rephrased to express their main point in the most logical way possible. Just things like that, how to best get my point across (female, white, university credit, biology major).

Similarly, when another student was asked if the peer reviews were helpful, she also discussed clarity.

Oh, yes, especially clarity wise. You don't want anyone to be confused while they're reading your work and they would always make comments, I was confused at this particular sentence and it really helped clarify the thoughts and clarify the arguments (female, white, community college credit, English major).

A fourth student described their peer review sessions in great detail; she explained that the sessions were helpful in finalizing drafts for submission, but only if one was able to get one of the better writing students to review his or her essay.

…if it was students like myself or other ones who did really well in the course, we were the ones to first have people jump up and be like "Look at my paper!" So we'd have peer review days, and that really helped when other students who were at my level or above would go ahead and, you know, we would say "Just trash my paper". We were like "Just go really hard, grade it as hard as you can" and then take all this peer review and then compile that and fix our paper before we turned it in (female, white, university credit, education major).

This suggests that the writing and evaluation abilities of the students in the course – the peers – are critical in determining how effectively peer review might function with a particular group of students.

While almost half of the one-on-one interview participants indicated that the peer review process was helpful in some way, there was a small minority that described the peer feedback process as not being helpful. The interviewees cited inconsistencies in the process as well as ineffective feedback to explain why the peer review process was not beneficial for them.

One student with inconsistent experiences shared the following experience; like others, he indicated that who peer reviewed one’s paper determined the effectiveness of the peer review session: “Out of all the [essays] we wrote, we only did two peer swaps. Of the two peer swaps, I
have to say one of them was a complete mess. I swapped with a student who is not very good at English” (male, white, university credit, Textiles, Apparel, and Design major). Similarly, another student shared this information about ineffective peer reviews:

“Peer feedback wasn't really that great, [because] I mainly had my friends criticize it, and they would always say, "Oh yeah, it's good!" They wouldn't really [tell] me what was wrong with my paper.”

As previously mentioned, two students explained that they did not use peer review in their courses. When asked if they did peer reviews, one student said, “We did not really,” (white, male, university credit, international trade and finance major), and another student answered by saying, “I think we probably did one [review], but not a lot had to do with peers. It was mostly just the teacher critiquing our work” (white, female, university credit, accounting major).

Overall, the use and effectiveness of peer feedback was mentioned by a small number of survey takers, and effectiveness was inconsistent across the fourteen interview participants. This analysis suggests that the use of peer review might be inconsistent for DE composition students in many programs.

Curriculum. In both the open-ended survey items and the interviews, students put forth their evaluations of the curriculum they experienced in dual enrollment composition courses. The students’ evaluations from both sources of qualitative data yielded information about curricular the perceived strengths and weakness in DE writing curriculum.

Survey results. Through responses to the open-ended survey items, DE students in the sample were able to describe effective and ineffective aspects of their dual enrollment writing experiences. Most survey takers explained helpful aspects of DE their composition courses, which included receiving helpful feedback from instructors and peers (discussed in the previous results section), gaining a general college preparatory experience, having many opportunities to practice writing, and building specific reading and writing skills. On the other hand, about one-
fifth of the survey-takers suggested curricular changes when asked how their DE composition courses might be improved.

Students who wrote about DE writing providing a general college preparatory experience, which included just under twenty percent of the DE survey-takers, generated brief answers that detailed working with college-level grading criteria, improving reading skills, and learning to be more conscientious about their work. One sophomore learned to “carefully [read and annotate] text,” a junior became aware “that deadlines in college are NOT flexible and you HAVE to go to class,” and a freshman learned to “double check” his work. Several juniors and sophomores referred to gaining experience with college grading, with a sophomore pointing out that DE writing taught her “how college scoring works.”

Also, about five percent of DE composition survey respondents wrote that mastery experiences, or the time they spent writing assignments was the most helpful aspect of their coursework. One junior briefly explained how writing practice and feedback operated jointly to improve her writing skills.

We spent a lot of time writing, and the feedback I received helped me to know what I was doing well and what I needed to change. It strengthened my writing skills, and I'm a better writer because of it. A sophomore expressed similar ideas related to extensive writing practice. She said, “We actually used our textbooks, and we wrote different styles of papers every [two] weeks all year long.” Finally, a junior mentioned that she had to “write something everyday.”

Almost one quarter of the survey participants made general and specific references to writing skills they acquired through their DE composition experiences. Although some students simply referenced learning “general writing skills” and “the basics of how to [structure] a well thought out paper,” others were more specific. For example, one junior survey-taker said the most helpful aspect of the course was learning to “give supporting details when making a claim,”
and similar to several other participants, one sophomore described learning to “use and cite sources.” In addition, DE writing students who completed the survey listed the following specific writing skills: grammar, usage, and mechanics; writing thesis statements; and critiquing writing.

In another open-ended survey item, DE writing students were asked how they would improve their DE compositions classes. The responses to this item also revealed students’ perceptions about DE writing curriculum. Although approximately one-third of the surveyed DE students said they would change nothing about their DE writing courses, just under 20% of the eighty-four students suggested curricular changes with over 10% suggesting modifications to the type and number of writing assignments or to increasing the rigor to make the courses more like college courses.

Again, about one-third of the DE survey-takers said they would not make any improvements to their DE writing courses. Twenty of those participants used the word “nothing” to say what they would change, while a few students were more specific. A female junior participant explained, “Nothing, I had a very helpful teacher and I liked how we only had [two] major papers per semester on whatever topic we wanted that could fit the writing style asked to do.” Additionally, a female sophomore respondent said, “Their are not many things I would change. The course felt like a college course, and I was able to get credit for courses that were required for my major.” Another female sophomore student shared, “There isn't really anything I would change. It was a pretty well-rounded course.”

On the other hand, some students pointed to difficulties that arose from the DE writing curriculum they experienced. One male junior respondent explained, “Only having two papers was difficult when it came to raising your grade. So more papers [would improve the course],” and a female sophomore student would have liked “more nonfiction writing/scientific writing
and less personal narratives.” Another junior explained that she might decrease “the amount of extra high school work in the class [she was] given over just the simple DE course.” These responses suggest that some DE writing courses do not provide enough writing practice and that the writing practice that is included does not necessarily align with the assignments given in the on-campus FYFS composition course. Also, the inclusion of high school literature curriculum with DE writing seems to be problematic for students. Overall, this misalignment of curriculum between DE courses and non-DE writing classes seems to account for some of the missing rigor in DE courses.

Increasing rigor was the most frequent suggestion for improvement. A female junior survey-taker said, “I would make them more challenging. I'm not sure that I walked away from either of my English classes…with any new knowledge.” Another junior pointed out that he would “make it more difficult to prepare [him] for [the university],” and a sophomore said she would simply “make them more college like.” Finally, another sophomore explained, “I would have made English classes harder leading up to the course so it wasn't as severe a jump.” These comments advance the idea that students whose DE courses lacked rigor are jarred by the severe difference between the college writing they completed in high school and the writing that is expected of them after high school.

Interview results. Eleven of the fourteen interview participants shared that their DE writing courses effectively prepared them for the rigors of writing in college. However, three of the fourteen interviewees described their DE composition courses as being ineffective in preparing them for college.

As the students expressed their perceptions of being adequately prepared to college writing, they described internalizing learning experiences, or applying what they learned in DE
composition to subsequent college writing tasks. A sophomore Theater and Design Technology major said that his DE writing course “definitely improved [his] speech and usage” and his “overall” ability to “get [his] point across,” while a sophomore accounting major referenced her teacher and the courses as being “definitely” helpful.

I remember things that I learned in that class. She really etched in our brains. I can remember things that I need to do and things that I need to watch out for, like active and passive voice and stuff like that... I'm very conscious of that. I think it really does help me. It really did help me.

She specifically discussed internalizing what she learned in her DE course and was able to name specific skills from the course that she currently applies to college writing assignments. Further, a junior finance major discussed how she learned to check for certain types of errors.

Whether it's [e-mail] or a post that I have to do, like I have these topic summaries I have to write, I am a lot more aware of errors that I was always doing. I know that you can become a better writer, but if there [are] errors that you don't understand, you're going to keep repeating it in every writing...that you do. [That feedback] that I had helped me stop repeating those errors.

In this case as well as the previous one, the interviewee described specific skills that she was able to transfer from DE writing to subsequent college writing. Also, a sophomore English major added

In fact that class prepared me even more than my English classes in high school did and even...my English classes at college. My dual enrollment class prepared me not only for college but...specifically for my English classes, and no other English course had taught me how to write as specifically as well organized, as clearly as my dual enrollment class did.

This students references to learning to write in an organized, clear manner highlight why she feels prepared for college writing. Together, these interview responses indicated that DE composition students are able to articulate what they learned in the years after their DE experiences and that they believe they are able to successfully apply the writing skills they acquired during high school to the writing that is required of them in college.
Although the students who felt prepared spoke overwhelmingly of specific skills they were able to carryover from writing in DE courses to writing in college, two students spoke of feeling prepared based on the feedback they received (after DE) on the college level writing assignments. For example, a junior education major elaborated on the feedback she received from her college instructor in an Honors International Studies course:

My teacher said…"Wow, you really…had a very well prepared paper". And so having that feedback in college kind of helped me gauge, too, that okay, I just don't think I'm a good writer, but others think that I am as well, and…I have a talent for writing. To some extent, this student’s self-efficacy for writing was informed by feedback she received from instructors in subsequent college writing courses. Similarly, a junior biology major indicated that he “received positive feedback” in “literature courses and [other] prerequisites.”

The analysis of these responses advances the idea that feedback in college writing courses is important in helping students understand the usefulness of the skills they acquired during DE courses and in informing those students’ self-efficacy for writing. These three interviewees participated in the same DE writing program as three other interview participants who described the program as providing adequate preparation for college writing. This suggests that effectiveness of a DE course might differ within one university’s DE writing program, but also promotes the ideas that effectiveness of a writing course might depend in the individual characteristics of each student and on each students’ academic track in college.

The students who described inadequate preparation discussed the following reasons for their judgments: integration of high school curriculum, lack of rigor, and large time gaps between DE writing classes in high school and subsequent writing classes in college.

One of the students described drastic differences between the curriculum of her high school DE course and her college writing course; she described being surprised by the differences in course content and feeling unprepared for college level writing. The sophomore...
education major described writing personal narratives – writing about “somebody who inspired [her], what their story was, [and] why it inspired [her].” Conversely, she discussed a starkly different college curriculum that seemed to prioritize argumentation over personal writing. She described how her instructor began by teaching the modes of persuasion, with which she (the interviewee) was unfamiliar with at the time.

When we first started the English class, [the instructor] began talking to us about ethos, pathos, and logos. And, she was like, “Do you guys remember this?” I was like, “What? I do not remember being taught this at all.” She further explained

So, another thing that was hard for me was citing sources. We of course had to cite sources in high school, but I just didn't get to learn multiple ways to cite sources. So, that was another thing I had to learn here [at the university] in the 2000 English.

In addition to differences in curriculum, the interviewees also described DE courses that lacked rigor. The second interviewee, a sophomore accounting major, indicated that the DE writing course lacked rigor; he shared, “…once I got to college I realized that [the] writing level was a little bit…higher than” what was required in the DE course he completed in high school. Finally, the third student who felt unprepared for college writing did not reference differences in curriculum; however, the sophomore majoring in Textiles, Apparel, and Design, pointed to a large time gap between his DE composition course in high school and his ENGL 2000 course at the university. He explained that he completed the DE course as a high school senior and was unable to take the college course until he was a sophomore; due to the length of time between the courses, he said “I'm not really seeing the growth [in my writing] that I think I would've [been able to see] if I would have taken these courses in college.”

Of the three students who felt unprepared for college writing, two of them indicated that given the opportunity to make the decision again, they would forego the opportunity to take DE writing and take all of their college writing courses at the university.
Overall, responses about the effectiveness of DE writing curriculum were positive. Students mentioned receiving feedback from instructors and peers (see the previous sections related to feedback) and having opportunities to practice specific writing skills that they have been able to utilize as college students. Participants also described having a general college preparation experience and simply having opportunities to practice writing. A small percentage of the DE survey takers and interviewees believe that DE writing was not helpful. They described not having enough writing practice, not writing the same types of assignments that were eventually expected of them as college students, and a general lack of rigor.

These findings suggest that while many DE writing courses might be effective in preparing students for college writing, their actual effectiveness might be difficult to disentangle from students’ ability to write. In other words, some students are possess levels of college readiness and writing skills that might help them to compensate for ineffective courses. On the other hand, these results suggest inconsistencies in curriculum between DE course sections and within DE writing programs.

**Self-efficacy.** Self-efficacy for writing was assessed qualitatively based on data collected from one-on-one semi-structured interviews. The open-ended survey questions did not inquire about writing self-efficacy. In the interviews, the participants were asked to describe themselves as writers. In their responses, the students described their writing abilities in the context of being able to meet the expectations of college-level writing assignments.

The majority of the students in the sample viewed themselves as capable of meeting the expectations of their college writing assignments. However, there were two undergraduates who rated themselves as capable of exceeding expectations and one who rated herself as having difficulty meeting the expectations of college writing. These results, in addition to supporting the
quantitative survey data, suggest that while most DE students view themselves as capable college writers, some students do not believe they are capable of succeeding at college writing tasks.

The interviewees who described themselves as capable of meeting the expectations of college writing spoke of specific writing skills that learned to apply and of specific types of papers they have written. They also frequently qualified their statements by explaining that they are not exceptional writers. In addition to naming specific writing skills and paper types, these students also made qualifying statements to indicate that they did not see themselves as above average writers. For example, junior finance major (white, female, university credit) offered a qualifying statement and named specific skills.

I wouldn't call myself a creative writer, and I would not say I'm the best writer, but I'm not terrible at it. I don't enjoy just writing things. I'm not a very descriptive person. I just get to the point.... I can get it done, especially [because] I know I'm good with remembering to have a thesis statement, transition sentences. I have what I need. Making a similar point, a sophomore majoring in Textiles, Apparel, and Design (white, male, university credit) provided a qualifying statement and referenced his ability to complete college-level assignments.

I don't think I'll ever be writing for The New York Times or Vogue… but I definitely think that I am able to write. I think I'm a perfectly capable writing of getting a point across. I think that's about it. I don't think that I'm an exceptional writer. Like I said, I think I can do it to get the assignments in.

A third student – a junior psychology major (female, black, community college credit) - shared another qualifying statement: “I feel like I'm fairly average. I'm not terrible at it, but I'm also not exquisite or anything.”

Another interview participant based her self-assessment on the types of paper she had written in dual enrollment and college; the sophomore engineering participant (white, female, university credit) shared
I'm a pretty good writer. I've written a whole lot of argument papers because that was the composition class I took in high school. I've also written a bunch of technical papers because I was an engineering major. I feel like I'm a pretty good writer. These quotations are representative of most of the students in the interview sample.

While most of the students described being able to meet the expectations of college writing, two participants were clear about their ability to exceed expectations. Unlike their counterparts, they did not provide qualifying statements; rather, they unequivocally referred to themselves as excellent writers. On the other hand, they described vastly different processes for completing writing assignments.

In one case, a junior education major (white, female, university credit) cited originality and focus on the writing process as basis for her superior writing skills.

[Part of me] being a well-rounded writer is I'm very creative and I think a lot before I write or I spend a lot of time on a paper. So when I turn things in, my final product is always really good because it's had many different [edits], and it's been looked over, and it's been worked on for a really long time. And then I have a lot of original ideas, and I think that's a really big part of what makes your writing good or not. Further, a sophomore engineering major (white, female, university credit) cited her self-assessment on her performance in a writing intensive course at the university. She describes a different, shorter writing process than the previous participant.

…I'm pretty good at writing formal papers. I actually had to take an English course [here] to cover an honors credit, so I took Honors 2000. I did well there as well; I got an A, got an A-plus, actually. I think I'm a pretty good student when it comes to writing. I tend to sit down and write a paper in one go, which isn't the healthiest thing to do, but that's the only [way] my brain works. I just sit down and write for like two days. I've been told that I express myself well on a page and I have a pretty good grasp of grammar. When I don't know how to punctuate a sentence correctly, I know sources to go to, so I feel confident in writing.

In contrast to the previous two students, a sophomore education major (white, female, university credit) believed she has difficulty meeting the expectations of college writing; she expressed that she hates writing and believes that her high school English language arts courses and her DE writing courses were not challenging enough. Specifically, she said that the courses
she took were not “anything hard.” She seems to have predicated her judgment of her own writing on her experiences in ENGL 2000 at the university; she said, “I still had problems in my 2000 English class; [I] just struggled with writing. I think I always will. I'm just not a very good writer.” In addition to believing that she has difficulty in meeting the expectations of college writing this student believes that writing is something that will always be a struggle for her, even beyond college.

**Conclusion.** The quantitative results present relatively high writing self-efficacy scores for DE writing students although those scores are statistically significantly lower than students who received FYFS writing credit through test exemptions. The qualitative interview findings also suggest relatively high self-efficacy for writing and suggest that DE composition students tend to themselves as capable of meeting or exceeding the demands of college writing. In addition, both the quantitative surveys and the qualitative interviews revealed small percentages of students, 6% and 7%, respectively, who reported low self-efficacy for writing.

**Impact.** Survey takers and interview participants were asked if their participation in DE writing courses had any effect on choosing their academic majors or deciding their career paths. The responses advance the idea that while writing generally has little to no impact on academic and career decisions for most students, for others students, the impact is strong.

Survey results. More than half of the DE survey respondents indicated that their writing experiences had no impact on their academic and career decisions. In addition, about 25% of the participants indicated that writing experiences had some impact, and another 25% expressed that writing experiences had a strong impact on their decisions.

Just over half of the DE survey respondents shared that writing had no impact on choosing a major with a sophomore representatively writing, “It played no role in my decision.”
This response and others like it were unequivocal. In a more detailed response, a male sophomore student explained, “None. Writing is definitely a crucial skill to cultivate as an architect, but I would have fallen into architecture regardless.” Similarly a female sophomore respondent shared, “None. I am…a nursing student. Although the major does involve writing, it had [zero] impact on my decision.” The majority of the no impact answers merely said “none” or “nothing” or “no impact at all” with no elaboration.

About twenty-five percent of the survey respondents indicated that their writing ability had a some impact on their decision; one sophomore stated that her writing ability had “very little influence, but it made [her] more confident in [her] major because of [her] ability to write well.” Another sophomore, a male student, shared, “I am an awful writer, I am more geared towards science and math, so not too heavily but [my writing ability] did [have some] impact.” These students’ responses make it clear that writing played a minimal role in their decision-making; the participants seemed to be more focused on making strength-based decisions.

Another sophomore explained how her interests played a greater role in her decision; she explained that the impact of writing on her choices was “not much” and that she enjoys writing, but she is “more interested in working in sports.” Further, a female sophomore student said, “It had very little influence, but it made me more confident in my major because of my ability to write well.” A female student similarly elaborated

My writing ability had a moderate impact on my decision to choose a major. I am going into Human Resources, where I will write many reports, and [I] am not bothered to type up many documents.

In addition, a male junior described writing as having a “medium” impact; he elaborated that he is a “film major” who uses his “writing skills to create scripts.” For all of the students who describing writing as having some impact on their decisions, their ability to write seemed to play a secondary role to their strengths and interests.
As previously stated, about 25% of the students indicated that writing had a strong impact on choosing an academic major with some students choosing majors to avoid writing and others choosing a major because they enjoy writing and/or view themselves as capable writers. A male sophomore participant wrote, “I stayed away from any major involving writing because it is my least favorite subject.” Similarly, a male sophomore student characterized it as a decision based on his strengths and weaknesses. He wrote, “I was good at math and not so much at English, so I knew not to go into a major that required much writing.” These two students reported that writing is a weakness and that they avoided certain majors due to that perception of their writing ability.

Other students, especially those survey-takers majoring in mass communication, explained how their strong writing skills led them to certain majors. For example, a female junior student shared, “It had a large impact. I am majoring in [mass communication] with a concentration in journalism. Writing is vital for this field. My strong writing skills helped me to realize that this is the career field for me.” Further, another female sophomore student explained,

I am in the School of Mass Communication, so I need to be well versed in writing; it had a large influence. Even though I am an advertising major, I still had to take introduction courses in writing provided by the school of mass communication. Another mass communication major used the term “HEAVILY” to describe the impact writing had on her decisions.

Similarly a female sophomore survey-taker outside of mass communication said, “Being a pre-law major, I need as much writing help as possible.” Another female sophomore respondent wrote that “writing has a lot to do with film making and scripts so it played a big role in that decision,” and another female sophomore respondent said, “I feel that my writing experience helped me to view one aspect of teaching. Also, I was able to refine the] communication skills and writing skills that are [critical] to my major.
In general, the survey results suggest that varying factors influence DE composition students’ decision making, and across DE composition students, writing ability has different levels of influence. Writing ability and writing enjoyment were both factors in those decisions. The results from the interviews were similar but less varied.

Interview results. Out of the fourteen students who were asked about the impact that their writing experiences had on the choices they made about their futures, only two indicated that writing had some impact on their academic and career choices. The other students were very clear that their writing experiences and their ability to write had no impact on their academic decisions or career goals. There were no interviewees who believed writing had a strong impact on their academic and career decisions.

For almost all of the interviewed students, writing ability and writing experiences had no impact on their academic and career choices; however, some of the students also expressed that their writing skills would be helpful in their chosen professions. For these participants, their career choices tended to predate their high school and college writing experiences. For example, a junior finance major student indicated that her writing experiences in DE had no bearing on her career choice because she “always knew [she] was going into business.” Also a sophomore education major shared that although her writing experiences did not impact her decision to major in education and become a teacher, she does believe that the writing skills she has acquired will be instrumental in helping her to communicate in professional situations, including “[making] lesson plans and [sending] out letters to the parents.”

In addition, a sophomore English major, who had already planned to become a lawyer and eventually a judge, said that her academic choices and career aspirations require excellent writing skills, and her writing experiences and ability to write well will “certainly [help] now that
[she’s] chosen [a] career.” Finally, a sophomore mechanical engineering major shared that her career choice predated her DE composition experiences and that her career plans have not changed as a result of the writing she did as a DE student.

The few students who believed that writing had some impact on their future plans shared that while they appreciate that their careers will not require much writing and while writing had some impact on their choices, they were more focused on their strengths in making academic and career choices. A sophomore engineering major said, “I guess [writing has had some impact] but in…a reverse way. I don't like English, like I'm not bad at it, but I don't like it, so I picked engineering because I'm good at math and science.”

Taken together, the survey and interview results on impact imply that the factors influencing DE composition students’ academic and career choices are varied and that for the majority of students, writing has no impact or minimal impact on these decisions. The students for whom writing does have a strong decision-making impact seem to be driven by their self-efficacy for writing.

Mixed Methods Results

Research Question Five – Enhancing Quantitative Results with Qualitative Findings

The qualitative findings were used to further illuminate the quantitative results of this investigation, specifically in relation to curriculum and writing self-efficacy. Based on the quantitative results, students selecting the DE pathway for FYFS composition credit are less likely to experience a typical college writing curriculum. Also there are differences in use of self-regulated strategies for writing based on gender and credit pathway. Further, there seems to be a racial achievement gap in performance in advanced English courses, with white students and
students in the “other” category earning grades that were statistically significantly higher than black students in the same courses.

The qualitative findings, which only included DE writing students as participants, suggest that DE participants are motivated by opportunities to access convenient college writing classes during high school and to be enriched through a more challenging curriculum delivered by talented high school educators. Additionally, students overwhelmingly sought to accelerate through college. The qualitative data also advances the idea that instructor feedback is generally effective and highly valued by the students, but opportunities for peer feedback are inconsistent in use and effectiveness across DE writing course sections. With regard to curriculum, inconsistencies seem to also exist across course sections, especially with regard to the integration of high school literature curriculum into the college courses. DE students expressed high self-efficacy for writing by generally describing themselves as capable of meeting or exceeding the requirements of subsequent college writing, and most participants indicated that their writing experiences had little to no impact on their academic and career decisions.

**Curriculum.** In this study, participants from different credit pathways were able to indicate the kinds of writing assignments they completed and the average length of those writing assignments. Within the same survey instrument, eighty-four DE participants were able to make suggestions for improving their DE writing courses. Also, the fourteen DE participants who were interviewed explained how the curriculum in their DE writing courses was effective and ineffective.

Analyses of quantitative and qualitative data suggest that some DE composition courses include writing curriculum that is not aligned to university course equivalents. From the survey sample, students in the traditional course were over four times more likely to write more
argument/analysis papers than DE students, a statistically significant difference. Although the value was not statistically significant, AP students were 1.4 times more likely to write a typical number of argument/analysis papers than their DE counterparts. If the survey had allowed AP students to specify which AP course they had taken – Language or Literature – that value might have been higher. With regard to creative writing, both AP and university writing students were less likely to complete one or more creative writing assignments; the difference was statistically significant for university students. Again, the ability to differentiate between AP courses might have yielded a larger difference between DE and AP creative writing.

While the quantitative data pointed to curricular differences between DE and non-DE pathways for meeting college writing requirements, the qualitative findings put forward the idea that major differences in rigor and content also exist between DE writing course sections. In one of the open-ended survey items, DE writing students were asked how they would improve their DE compositions classes if they could. About 20% of the eighty-four students suggested curricular changes with over 10% suggesting changes to the type and number of writing assignments or to increasing the rigor to make the courses more like college courses. Students said that “only having two papers was difficult when it came to raising your grade” and suggested that “more papers [would improve the course].” Other comments, like the one from a student who would have liked “more nonfiction writing/scientific writing and less personal narratives” point to lack of alignment between the types of assignments written in DE composition courses and those written at the collegiate level. Survey-takers also wrote about removing high school literature components from DE composition courses. A junior explained that she might decrease “the amount of extra high school work in the class [she was] given over just the simple DE course.” Increasing rigor was the most frequent suggestion for improvement.
For example, students shared that they “would make [DE composition courses] more challenging,” “make [them] more difficult to prepare [students] for [the university],” “of simply “make them more college like” so the “jump” from DE writing to college writing would not be so severe.

Also, as previously detailed, most of the interviewees described DE composition courses as being effective in preparing them for college. As the students expressed their perceptions of being adequately prepared to college writing, they described applying what they learned in DE composition to subsequent college writing courses. To reiterate, one student said that his DE writing course “definitely improved [his] speech and usage” and his “overall” ability to “get [his] point across,” while a sophomore accounting major referenced her teacher and the courses as being “definitely” helpful. She representatively shared this about the course and her instructor

I remember things that I learned in that class. She really etched in our brains. I can remember things that I need to do and things that I need to watch out for, like active and passive voice and stuff like that... I’m very conscious of that. I think it really does help me. It really did help me.

Another student detailed how she learned to check for certain types of errors based on the feedback she received from her DE writing teacher, and another student described specific skills that she was able to transfer from DE writing to subsequent college writing, including being able to write in clear, logical manner.

These interview responses suggest that many DE composition students are able to clearly articulate what they learned in the years after their DE experiences and that those students believe acquiring and building those skills contributed positively to their ability to write in subsequent college courses.

However, two of the fourteen interviewees evaluated their courses as ineffective in preparing them for college writing even though they participated in the same university’s DE
program as three other interviewees who found their courses to provide adequate preparation. The students based their judgments on integration of high school curriculum and lack of rigor. One of the students described being surprised by the differences in course content between her DE course and her writing intensive college courses. The sophomore education major described writing personal narratives about “somebody who inspired [her]” and being unprepared for argument writing, discussions of rhetoric, and citing sources in her college writing courses. The interviewees also described DE courses that lacked rigor. The second interviewee, a sophomore accounting major, shared, “…once I got to college I realized that [the] writing level was a little bit…higher.”

Overall, the findings related to curriculum deal with content and rigor. The quantitative results point to differences across credit pathways, and the qualitative results shed light on the reasons that DE curriculum was less typical than the curriculum in other pathways, including AP and the on-campus course. Students reported that the content of their DE writing courses was so different from their subsequent college courses that they felt unprepared for college writing, while others ascribed their feelings of unpreparedness to high school DE courses that were not challenging enough. Further, one student pointed to difficulties caused by a two-year time gap between his high school DE course and his first college writing course.

**Self-efficacy.** Analyses of quantitative and qualitative data suggest that most DE composition students do view themselves as capable of meeting the expectations of college writing tasks. Over 1,000 students completed the writing experiences survey; eighty-four of those participants classified themselves as students with DE writing credit. Within the survey, the students completed a twelve-item scale to measure their self-efficacy for writing. DE survey takers answered twelve 5-point Likert scale items to measure their self-efficacy for writing, and
they scored themselves relatively high in that area. Likewise, all interview participants (n=14), with one exception, viewed themselves as competent writers. These results discuss the writing self-efficacy results for the DE students.

Statistical analysis of the survey data indicate that although DE writing students scored themselves relatively high on the writing self-efficacy scale, their overall self-efficacy for writing is still statistically significantly lower than students who were granted test exemptions (ACT/SAT and AP).

The fourteen students who responded to the interviews were asked to describe themselves as writers; they did so in the context of their ability to meet the expectations of college-level writing assignments. (For writing self-efficacy, there were no open-ended survey items.) The majority of the students in the interview sample viewed themselves as capable of meeting or exceeding the expectations of their college writing assignments and one student who rated herself as having difficulty meeting the expectations of college writing. These results, in tandem with the quantitative results, suggest that while most DE students view themselves as capable college writers, some students leave their DE writing experiences with low self-efficacy for writing.

The interviewees who described themselves as capable of meeting the expectations of college writing spoke of specific writing skills that learned to apply and of specific types of papers they have written and qualified their statements to make it clear that they did not view themselves as exceptional writers. One student shared, “I wouldn't call myself a creative writer, and I would not say I'm the best writer, but I'm not terrible at it… I can get it done, especially [because] I know I'm good with remembering to have a thesis statement, transition sentences.” Another interview participant shared, “I don't think I'll ever be writing for The New York Times
or Vogue… but…I'm a perfectly capable writing of getting a point across. I think that's about it. I don't think that I'm an exceptional writer…I think I can do it to get the assignments in.”

A third student said, “I feel like I'm fairly average. I'm not terrible at it, but I'm also not exquisite or anything.”

Another interview participant based her self-assessment on the types of paper she had written in dual enrollment and college; she explained, “I'm a pretty good writer. I've written a whole lot of argument papers because that was the composition class I took in high school.” She also shared, “I've also written a bunch of technical papers because I was an engineering major. I feel like I'm a pretty good writer.”

While these quotes are representative of most of the students in the interview sample, two participants were clear about their ability to exceed expectations. These interviewees did not provide qualifying statements, but they unequivocally referred to themselves as excellent writers and described vastly different processes for completing writing assignments. One student who described herself as an excellent writer discussed her creativity and her typical writing process, saying

[Part of me] being a well-rounded writer is I'm very creative and I think a lot before I write or I spend a lot of time on a paper. So when I turn things in, my final product is always really good because it's had many different [edits], and it's been looked over, and it's been worked on for a really long time. And then I have a lot of original ideas, and I think that's a really big part of what makes your writing good or not.

Another interview participant, while describing a vastly different writing process, discussed confidence in that process and in her ability to use resources to perfect her writing. She explained

…I'm pretty good at writing formal papers. I actually had to take an English course at [the university] to cover an honors credit, so I took Honors 2000. I did well there as well; I got an A, got an A-plus, actually. I think I'm a pretty good student when it comes to writing. I tend to sit down and write a paper in one go, which isn't the healthiest thing to do, but that's the only [way] my brain works. I just sit down and write for like two days. I've been told that I express myself well on a page and I have a pretty good grasp of
grammar. When I don't know how to punctuate a sentence correctly, I know sources to go to, so I feel confident in writing.

In contrast to the students who described themselves as capable of meeting or exceeding expectations, another student expressed that she hates writing and believes that her high school English language arts courses and her DE writing courses were not challenging enough. She said the courses were not “anything hard.” Also, she seems to have based her self-assessment on her university writing experiences, explaining, “I still had problems in my 2000 English class; [I] just struggled with writing. I think I always will. I'm just not a very good writer.” In addition to believing that she has current difficulties in meeting the expectations of college writing, this student believes that writing will always be extremely difficult for her.

The quantitative results present relatively high writing self-efficacy scores for DE writing students even though those scores are statistically significantly lower than students who received FYFS writing credit through test exemptions. The qualitative interview findings also suggest relatively high self-efficacy for writing and suggest that DE composition students do tend to view themselves as capable of meeting or exceeding the demands of college writing. However, both the quantitative surveys and the qualitative interviews revealed small percentages of students, 6% and 7%, respectively, who reported low self-efficacy for writing.

**Conclusion.** When analyzed together, the quantitative and qualitative results paint an overall picture of effectiveness in relation to DE students’ writing experiences. They generally reported high self-efficacy for writing in the survey and during the interviews. It is important to note that these perceptions were shared after students had completed two to four semesters of college; thus the students are likely possess a more a realistic idea of the requirements related to writing in college – in general and in their chosen academic majors.
However, there were dissenting voices that described – in quantitative and qualitative instruments – inconsistencies in DE writing curriculum that led them to report low writing self-efficacy scores. Minimizing these curricular disparities - which are related to types of writing assignments, inconsistent instructor feedback, lack of peer feedback, and general lack of rigor - are crucial for ensuring that DE writing programs are able to fulfill their mission of ensuring that students can communicate effectively in and beyond college.
CHAPTER FIVE. CONCLUSIONS AND DISCUSSION

Introduction

The purpose of this study was to use mixed methods to answer different research questions about dual enrollment composition students’ writing experiences as well as their self-efficacy for writing, use of self-regulated writing strategies, and performance in subsequent writing intensive courses. For the prioritized quantitative portion of the study, various statistical analyses were utilized to explore the following aspects of DE students’ writing experiences: their experiences with writing curriculum, their reported self-efficacy for writing and use of self-regulatory writing strategies, and their performance in advanced English courses after they began matriculation at the university. In the quantitative analyses, the various aspects of the aforementioned writing experiences were compared with those of non-DE students, and differences related to pre-existing student characteristics, including race, gender, and parents’ education, were also examined.

For the secondary qualitative portion of this study, eighty-four DE students responded to open-ended questions about their motivation to participate, the curriculum they experienced, their perceptions of the feedback they received, and the impact those experiences had on their academic and career decisions. To complement the qualitative survey data, additional data was collected from interviews with fourteen current university students with DE composition credit; the interview participants responded to a protocol that was a more detailed version of the open-ended items completed by the DE survey takers.

This study served to answer the following research questions:
1. Are there differences in writing instruction for undergraduates based on credit pathway for earning FYFS writing credit and on preexisting student characteristics (i.e. gender, race/ethnicity, and parents’ education)?

2. Are there differences in students’ self-efficacy for writing and use of self-regulatory writing strategies based on credit pathway for earning FYFS writing credit and on pre-existing student characteristics (i.e. gender, race/ethnicity, and parents’ education)?

3. Are there differences in performance outcomes in advanced English courses (i.e. grades) based on credit pathway for earning FYFS writing credit and on pre-existing student characteristics (i.e. gender, race/ethnicity, and parents’ education)?

4. How do students who have completed DE composition courses describe their DE writing experiences with regard to motivation, course feedback, curriculum, self-efficacy, and impact?

5. How do the qualitative findings from the analysis of responses to the open-ended survey items and the one-on-one interviews enhance the understanding gained from analysis of the quantitative survey results?

This chapter provides a discussion of the findings in relation to the research questions and the conclusions that can be drawn from those findings. In addition, this section discusses the limitations of the study as well as implications for further study and dual enrollment composition practice. A discussion of recommendations for future research will conclude this chapter.

**Results and Conclusions**

**Quantitative Results and Conclusions**

The quantitative results and conclusions relate to statistical analyses conducted with data collected using surveys and institutional data. They include results related to curriculum, self-
efficacy for writing and use of self-regulatory writing strategies, and writing performance in writing intensive courses taken on campus at the university. These results are discussed based on differences in credit pathway, specifically the DE pathway versus non-DE pathways, and based on preexisting student characteristics, including race/ethnicity, gender, and parents’ education.

Research question one - curriculum. The purpose of the statistical analyses related to curriculum was to determine if DE students experience writing instruction that is different from their non-DE counterparts and students experience differences in curriculum based on race/ethnicity, gender, and parents’ education. Procedures were run to specifically examine if students experienced writing a typical writing curriculum, including three or more argument and/or analysis papers and zero creative writing assignments. An additional analysis of average paper lengths sought to determine if the average length of writing assignments differed by credit pathway or preexisting student characteristics. For each analysis, a model-building approach was taken.

The results indicated that AP and on-campus students were both more likely than DE writing students to be assigned three or more argument and/or analysis assignments. In addition, respondents who completed AP and on-campus courses were both less likely to report completing at least one creative assignment with on-campus writing students in the sample being the least likely of all credit pathways to report writing one or more creative assignments. Moreover, the data suggests that AP students are only slightly less likely to engage in creative writing compared to DE students; however, this might be due to the survey instrument not allowing AP students to select which AP course they completed - AP Language and Composition or AP Literature and Composition. There were no statistically significant results found when attempting to predict the average length of papers written based on credit pathway.
With relation to credit pathway, these findings suggest that there are curricular differences between DE writing courses and other composition credit pathways and that the goals of DE writing courses might not align with the more argument-based outcomes expected in AP courses and on-campus courses. Also, these findings are similar to those of another study; through analysis of a focus group discussion, Hansen et al. (2015) found that students who completed college composition requirements during high school frequently described writing in response to literature, which is atypical in on-campus composition courses. In the same study, just over half of the participants described writing at least one research paper when a typical curriculum in any pathway should include at least one paper that requires research with citations (Hansen et al., 2015). Further, only one student described a typical argument-based curriculum; unlike the vast majority of the students who participated in this research who earned DE writing credit on their high school campuses, this single participant completed a DE composition class at a community college (Hansen et al., 2015). Of the eighty-four DE survey participants, eighty students (95%) completed their DE writing courses on their high school campuses. Also, thirteen of the fourteen interview participants took their courses at their high school sites; the one student who took a DE writing course on a college campus was also the single out-of-state interviewee. This is very similar to the work by Hansen and associates (2015) in which ten of eleven focus group participants completed their pre-college writing courses on high school campuses.

The inconsistencies between DE writing curriculum and the writing curriculum for other pathways are problematic considering DE’s theoretical role of providing a bridge to college, especially for students who might not otherwise earn higher education degrees. Although DE writing courses seem to have great potential for providing general college preparation in addition to helping students to build writing and critical thinking skills, the courses do not seem to fulfill
that potential for a significant number of the participants in this study. Students who have achieved higher levels of college readiness – through role rehearsal or otherwise might be able to overcome these differences, but for students who might be more likely to struggle through post-secondary education, misaligned content and lack of rigor might prove to be a larger stumbling block to a college degree (Karp, 2012). According to Karp (2012), the college readiness skills that students might build as a result of DE participation is directly based on the authenticity of the courses, and this authenticity tends to be “muted” in courses that are held on high school campuses. With Karp’s findings (2012) in mind, the fact that the vast majority of DE participants in this study did complete their DE writing course work on a high school campus might be a major factor in the lack of curricular alignment revealed by the quantitative analysis.

In the state of Louisiana, the current “talk” in DE policy centers around high school instructors of DE writing courses (Academic affairs policy 2.22 minimum requirements for dual enrollment, 2017). Many of them do not have the appropriate credentials (a masters degree in English or a masters in another discipline with eighteen hours of graduate level English coursework) to be the instructor of record for DE writing classes, and this is why over one-third of the DE students who participated in the survey experienced courses with a single college instructor or with a two-instructor format. In addition to teachers who do not meet the qualifications, there are those who do meet the qualifications but who do not have the same kind of teaching experiences as college-level writing instructors. On one hand, K-12 DE teachers (those with and those without the credentials), tend to have a better understanding of teaching methods than their college-level counterparts. On the other hand, they lack the experience teaching rhetoric and writing. Although writing is an accepted component of secondary English teaching, the research suggests that many secondary teachers have received very little instruction
(usually one class or no classes) in the teaching of writing and many of them lack self-efficacy for writing and self-efficacy for teaching writing (R. H. Bruning & Kaufman, 2015; Haskins, 2017; Kiuhara et al., 2009). Thus, in the current educational climate, secondary teachers, including English language arts teachers, tend to be and feel unprepared to teach writing. Adding an additional credential does not solve this problem because courses that involve the teaching of writing are not typically required to obtain the credential. Since writing instruction in secondary schools is already problematic, it follows that high school English language arts teachers would find the teaching of DE composition courses to be even more challenging.

For writing arguments and average length of papers written, there were no statistically significant findings based on race/ethnicity, gender, or parents’ education. However, the results suggest that male students were half as likely to engage in creative writing assignments than their female counterparts. However, the differences in types of papers written in this study and in the existing research suggest that students in DE courses might be completing shorter and/or less complex writing assignments than their AP and on-campus counterparts.

The finding related to creative writing is supported by existing research involving students at all levels of K-12 education; multiple studies advance the idea that boys experience lower achievement in reading and writing, which could explain why they are less likely to enroll in classes that require the reading of literature and/or creative writing. In one study, Finnish boys in upper elementary were characterized as “reluctant” writers, and in a meta-analysis of data related to U.S. students, girls outperformed boys in writing across different “samples,” “instruments,” and “analytic designs” (Merisuo-Storm, 2006; Reynolds, Scheiber, Hajovsky, Schwartz, & Kaufman, 2015). In the most recent results on writing from the National Assessment of Educational Progress, female students in twelfth grade scored higher on the
writing assessment than male counterparts, and female students (34%) scored at or above proficient at a higher rate than male test-takers (21%) (National Center for Education Statistics, 2012). Based on the documented gender gap in reading and writing achievement and boys’ established reluctance to engage in writing, it does seem likely that male students might avoid courses that are known to involve reading literature and writing creatively.

**Research question two - self-efficacy for writing and use of writing strategies.** The purpose of this analysis was to determine if there are significant differences in the combined dependent variable of writing self-efficacy and use of self-regulatory strategies based on credit pathway and based on race/ethnicity, gender, and parents’ education.

Statistical analysis of the sample revealed that credit pathway and gender had a combined effect on the combined DV of self-efficacy for writing and strategy use. Further analysis revealed that the interaction between credit pathway and gender was significant for strategy use but not for writing self-efficacy. Male students with ACT/SAT exemptions reported statistically significantly higher strategy use than those who completed the on-campus course, and female participants who completed the on-campus course had statistically significantly higher strategy use scores than those who earned exemptions for ACT/SAT scores.

These results are somewhat inconsistent with those reported in the existing research, in which investigators asserted that “students’ use of self-regulated learning strategies made a distinctive contribution to their academic achievement apart from their general ability” (Zimmerman, 1990). Considering that high achieving secondary students are more likely to have higher standardized test scores on examinations like ACT and SAT, which are generally accepted measures of academic achievement for college admission, it follows that these students might report higher frequencies of using self-regulatory strategies. This rationale works well for
the male survey participants who reported high strategy use scores, but not for the female students with on-campus scores who reported higher strategy use than other female students with test exemptions.

The score differences for female students might be related to engagement with writing on the collegiate level. According to Kellogg and Raulerson (2007), students who engage in enough “deliberate practice that trains [them] to develop executive control through repeated opportunities to write and through timely and relevant feedback” (p. 1) tend to be more successful writers and tend to report a greater ability to regulate their own cognitive and behavioral processes in relation to writing. However, this does not explain why male students who received ACT/SAT test exemptions for composition credit reported higher self-regulatory strategy use than their male counterparts who earned credit through course work (AP, DE, and on-campus).

Additionally, for self-efficacy for writing, students with test exemptions (AP and ACT/SAT) reported statistically significantly higher scores than their DE counterparts. Based on the available research, writing ability, self-efficacy, and performance form a complex web of correlation and possible causality, so it is difficult to understand the basis for the differences in writing self-efficacy scores by writing credit pathway, especially since the existing literature also supports the idea that undergraduate students tend to overestimate their writing self-efficacy (R. H. Bruning & Kaufman, 2015; Ekholm, Zumbrunn, & Conklin, 2014; Hansen et al., 2015; Merce Prat-Sala & Redford, 2012; Sanders-Reio et al., 2014).

**Research question three - performance in advanced English courses.** Using institutional data, students’ performance in advanced English courses, as represented by final grades, was analyzed for differences by credit pathway and by race/ethnicity, gender, and
parents’ education. For this analysis, students were split into two credit pathways – DE and non-DE, and there were no significant results related to credit pathway. These findings suggest that writing performance in advanced English courses is relatively equal across credit pathways. However, the results might be different if the dataset had allowed for credit pathway to be identified more specifically.

The lack of difference in the credit pathway results is supported by recent existing literature, which found no differences in writing performance based on credit pathway (Hansen et al., 2015). Further, the previous research was conducted at a single institution that was, like the university, classified as “more selective” and that requires a minimum AP score of three for students to be exempted from FYFS composition. This similarity between the two institutions also supports the findings in the current study.

In contrast, existing literature also points to such differences in undergraduate writing performance, specifically in relation to AP students, students who take the on-campus FYFS writing course, and student to complete both AP and campus courses; thus, additional research with a larger, more representative sample might result in statistically significant findings (Hansen et al., 2006).

In relation to preexisting student characteristics, statistical analysis of grades earned in advanced English courses does suggest significant differences among the race categories: black, white, and “other.” Of the three racial groups, students in the “other” category had the highest average English GPA and white students had the next highest scores. Both of these groups had advanced English GPAs that were significantly higher than those of the black students in the sample.
The differences, which are consistent with previous research, suggest an English language arts achievement gap between black and non-black students. NCES data describes similar achievement gaps in writing; for 8th grade NAEP assessment takers, Asian students, white students, and all other racial groups outperformed black eighth grade writers (National Center for Education Statistics, 2012). In addition, the same writing achievement gaps are reported in the NCES data for twelfth graders (2012). Current research also describes potential influences of academic achievement gaps between black students and non-black students; African American students in “school settings” are more likely to encounter “an extra degree of threat not experienced by [non-black] students (Cohen et al., 2006). The research suggests that “the threat, on average, raises stress to levels that are debilitating to performance;” thus the “chronic stress” of “psychological threat” might explain the racial/ethnic achievement gaps in this research and in the existing literature (Cohen et al., 2006).

Qualitative Results and Conclusions

Research question four – DE composition students’ perceptions. The qualitative results and conclusions are based on analyses of DE composition students’ responses to open-ended survey items (n=84) and responses to one-on-one interviews (n=14). Data from both qualitative sources addressed the students’ motivation for DE participation, evaluation of writing feedback received, descriptions and evaluations of curriculum, and the impact that their writing experiences and ability had on their academic and career choices. Also, the interviewees also provided information about their self-efficacy for writing.

Motivation. In the surveys and interviews, DE students were asked why they chose to participate in DE programs, specifically DE composition courses. The purpose of these inquiries was to determine motivating factors for DE participation and to be able to compare these
motivating factors to the outcomes and motivating factors that are currently outlined in the literature. Overall, the participants described motivating factors that align with those referenced in the research. Short-term motivating factors were related to convenience and enrichment, and long-term outcomes were related to accelerating academic progress to obtain a college degree in less than eight semesters.

Short-term motivating factors detailed by the participants were related to convenience and enrichment. With regard to convenience, students indicated that DE composition courses were less complicated due to readily available help from on-site high school teachers and in some cases, because the courses were less rigorous than the alternatives, including AP courses, traditional composition courses on the university campus, and certain high school English language arts courses (i.e. senior project). For other students, the convenience factor related to being able to concentrate more fully on the DE writing course because the rest of their schedule included relatively easy high courses as opposed to more rigorous college classes. In relation to enrichment, the participants used DE as a means to increase their high school GPA and class rank and work with teachers whom they respected and enjoyed; some participants also explained that they opted into DE composition courses because they have a general appreciation for English language arts. For interview participants, convenience factors and enrichment factors were not mutually exclusive.

The short-term motivating factors discussed by this study’s participants are tightly aligned with the outcomes and motivating factors described by student participants in previous studies. However, unlike the existing research, none of the students in this study described using DE as a pathway to high school graduation (Karp, 2007). The motivating factors related to convenience and enrichment also agree point for point with those detailed in the previous
research; students desiring convenience explained that they chose high school pathways for earning college writing credit because they wanted to “get it over with” and they assumed they could get a better grade because the course would be easier than the one offered at the university (Hansen et al., 2015). Conversely, other participants in the same previous study explained that they chose HS credit pathways because they wanted a more challenging curriculum in high school; this pairs with enrichment as a motivating factor (Hansen et al., 2015). The enrichment opportunities provided by DE participation are especially important for disadvantaged students; research suggests that the students who might benefit most from enrichment through dual enrollment report increased academic self-efficacy and greater satisfaction with their academic experiences (McDonald & Farrell, 2012).

The long-term motivating factors are related to acceleration and include decreased time to graduation, which students expected to result in saving money and in being able to focus on major courses earlier. However, even though students expected to decrease time to degree and save money, they seemed most concerned with getting writing requirements “out of the way” to give themselves a jumpstart on major courses. The existing research on long-term outcomes is very similar in that it includes decreased time to earn a college degree and saving money as a result (An, 2013a, 2013b; Geise & Knight, 2011; Hansen et al., 2015; Tobolowsky & Allen, 2016). However, the current literature related to students who enter college with significantly more credits (60+) paints a bleaker picture than that illustrated by the participants in this study. Tobolowsky and Allen (2016) detailed several long-term outcomes for students who graduated from high school with sixty or more college credits; the students in their sample reported negative outcomes, which included feeling “trapped” in majors because they had dedicated so much time to pursuing those majors as high school students but were interested in switching to
other courses of study after starting college, feeling socially isolated in upper level courses with upperclassmen, and having problems transferring DE credits to college. In contrast, the students in this research (both qualitative samples) who mentioned being able to take classes in their majors earlier all spoke in positive terms, and in discussing academic and career decisions, those students who were decided on an academic track seemed to be firmly entrenched in their majors and satisfied with their decisions. The undergraduates who participated did not report feeling isolated as freshmen in upper level courses; this lack of isolation might be due to the increasingly large number of students entering the university with DE credits. This might be because articulation agreements between DE programs and colleges and universities in the state of Louisiana stipulate that all public institutions of higher education within the state must accept dual enrollment credits earned from accredited institutions within the state of Louisiana. Thus, participants in this study, who were all matriculating in a four-year public university within the state, did not mention any problems in relation to transferring DE credits to the institution.

Curriculum. Overall, participants in the study believed their DE writing experiences adequately prepared them for the challenges of college writing. However, there were a small number of students in both qualitative samples that expressed that their DE writing courses lacked appropriate content and adequate rigor. They believed these courses were ineffective in preparing them for college writing. Some of these students believe they were adequately prepared by other regular high school courses, but unfortunately, there were other undergraduates who believed college writing was extremely challenging for them because the courses they completed as high school students lacked rigor and relevance.

These findings relate directly to research that found DE writing courses to be inconsistent in their effectiveness and lacking in rigor (Taczak & Thelin, 2009; Tobolowsky & Allen, 2016).
In one study, a DE instructor on a college campus described how he felt forced to decrease the “pedagogical rigor and standards” and devote most of his time to helping the DE students, which caused him to neglect the traditional students in the course (Taczak & Thelin, 2009). As a result, that professor felt obligated to inflate grades for the non-DE students to compensate for the assistance he was unable to provide (Taczak & Thelin, 2009). Additionally, due to inconsistencies in DE programs, some participants in previous research also cited DE writing coursework that provided inadequate preparation for subsequent college writing (Tobolowsky & Allen, 2016).

The participants in this study found themselves in a different academic situations than those detailed in the current literature; they mainly reported completing their DE writing courses on their high school campuses with their high school teachers. Based on the available research in this area, the DE survey-takers and interviewees who completed their courses in high school settings were more likely to experience decreased rigor and less relevant content, which according to Karp (2012), would results in students feeling less ready for the academic and non-academic rigors of college. Although the participants in the current research, like their counterparts who are described in the existing literature, value the convenience of completing DE courses on high school campuses with high school teachers, the results of this study – especially those related to curriculum – pointed to a “muting” effect (Karp, 2012). In other words, the convenience sought by the students might have also results in students being less prepared for the rigors of higher education.

**Self-efficacy.** Overall, the students who participated in this study expressed a strong self-efficacy for writing. Survey participants in DE scored an average of 4.3 out of 5 points in self-efficacy, and twelve of fourteen interviewees described themselves as capable of meeting or
exceeding college writing expectations. These students described themselves as having internalized the reading and writing skills taught in their DE composition courses and as being able to incorporate instructor and peer feedback to improve their academic writing. Although participants in this study overwhelmingly described instructor feedback as extremely helpful, they also pointed to opportunities to write various assignments for different purposes as effective in helping them to build writing skills. However, a small number of students in both DE samples (6/84 DE writing survey takers and 2/14 interviewees) rated themselves as below average in self-efficacy for writing. These results are simultaneously similar to and different from the existing research.

A double case study revealed that DE writing students at one college lacked understanding of (1) writing for specific audiences and (2) revising their work based on feedback (Tinberg & Nadeau, 2013). Also, the participants lacked maturation - seeming to possess less “confidence and experience” than traditional college freshman writers (Tinberg & Nadeau, 2013). In contrast, the participants in this study expressed revising their work based on their instructors’ feedback and internalizing that feedback for use on later assignments during high school and college. In other existing literature, students “overestimated” their self-efficacy for writing; this inflation was based on scored essays that revealed the students’ “writing limitations” (Hansen et al., 2006). Thus, the high self-efficacy for writing reported by DE students in this study might also be overestimated because students are unaware of their writing limitations.

In relation to self-efficacy for writing, it is extremely important to note that, with few exceptions, the participants in this study reported receiving detailed, effective feedback from their instructors. Also significant is the fact that the interviewees described – in detail – how they
use the feedback from their DE writing courses to evaluate and improve their college writing assignments. These findings related to feedback support the students’ high self-efficacy for writing because theories social cognitive theory and existing self-efficacy research suggest that social persuasions – in this case writing feedback from instructors – are an important source of self-efficacy (Bandura, 1994, 1997; Martinez et al., 2011; Pajares, 2003; Pajares, Johnson, & Usher, 2007; Merce Prat-Sala & Redford, 2012; Sanders-Reio et al., 2014). Pajares et al. (2007) assert, “effective persuaders cultivate students’ beliefs in their capabilities while at the same time ensuring that the envisioned success is attainable” (p. 107). In the case of the dual enrollment composition students in this study, teacher feedback was the most helpful aspect of most of their DE writing experiences.

Although the students consistently described the effectiveness of instructor feedback, they also described opportunities to write as important in improving their writing skills. This finding is also supported by the literature, which points to mastery experiences – the engagement in the authentic intellectual work of actually writing – as the most important source of self-efficacy for writing (R. Bruning, Dempsey, Kauffman, McKim, & Zumbrunn, 2012; R. H. Bruning & Kaufman, 2015; Kellogg & Raulerson, 2007; Kellogg & Whiteford, 2009; Korat & Schiff, 2005; Pajares, 2003; Pajares et al., 2007; Sanders-Reio et al., 2014; Usher & Pajares, 2008).

Overall, the qualitative findings related to curriculum - which encompasses types of papers written, amount of actual writing, and feedback from instructors – support the high self-efficacy for writing reported by students. In addition, these findings are further supported by the existing literature on writing self-efficacy for high school and college students.
Peer feedback. The students’ evaluations of the courses were largely based on the type of instructor and peer feedback they received on their writing. Although there were some notable exceptions with open-ended survey respondents who described peer feedback as the most helpful aspect of their DE courses and interviewees who described efficient, effective peer review days, both survey and interview respondents generally described peer review as inconsistent or nonexistent. These results suggest that while DE instructors in local programs generally provide helpful feedback to students, peer feedback is not always available and when it is available, it is not always effective. Like other aspects of DE writing experiences explored in this study, the use and effectiveness of peer review is inconstant across DE sections and within DE programs.

This general lack of peer review activities is troubling because multiple studies advance the idea that peer feedback is effective in helping students at all grade levels and ability levels to “plan their learning, identify their strengths and weaknesses, target areas for remedial action, and develop metacognitive and other personal and professional skills” (Topping, 2009). Topping (2009) asserts that teachers must train students to provide effect peer feedback that provides reliable and valid triangulation. Other research on peer review suggests that it is useful for improving students’ writing through the revision process, it can be as effective as instructor feedback, its use can effectively reduces teacher workloads, and it can strengthen the writing performance of peer reviewers (Cheng, Liang, & Tsai, 2015; Cho & Cho, 2011; Nelson & Schunn, 2009; Yangin-Eski, 2012).

In general, the current structure of DE classes on high school campuses seems to lend itself to building systems for peer review that might increase the effectiveness of these courses – especially for students who experience low self-efficacy for writing, low writing performance, and high writing apprehension. Since social persuasion, which includes peer feedback as well as
instructor feedback, is considered to be an important source of self-efficacy for writing, it is important for students to receive consistent, effective feedback from their peers (Bandura, 1994, 1997; Pajares, 2003; Pajares et al., 2007; Usher & Pajares, 2008).

In brief, analysis of the qualitative data suggests that utilization of peer feedback inconsistent in DE programs. However, as feedback is such an important source of self-efficacy and has been documented to improve writing performance, it is important for DE instructors to be confident, consistent, and competent in its use.

Instructor feedback. Based on the students’ responses to open-ended survey items and to semi-structured interview questions, instructor feedback seems to be more consistent and effective than the utilization of peer feedback. In fact, both survey and interview DE participants pointed to instructor feedback as the most helpful aspect of their DE composition courses. This is promising because social persuasion in the form of instructor feedback is instrumental in helping students to increase their self-efficacy for writing and their writing performance (Bandura, 1994, 1997; R. H. Bruning & Kaufman, 2015; Ekholm et al., 2014; Pajares, 2003; Usher & Pajares, 2008). In contrast, some interviewees found the two-instructor model to be problematic; these students explained that they received conflicting feedback from the two different instructors but that they were able to navigate the conflict by relying on the instructor that provided the most useful feedback. These findings point to issues with instructor training and suggest that the DE participants who encountered these issues were able to practice and/or increase non-academic college readiness skills.

Again, the narratives provided by the students raise several issues related to instructor training, inconsistencies within programs, and the students’ college readiness. Although the university’s English department administers a DE composition program that requires high school
instructors to train with writing professors for one week every summer, that type of training has typically not been required until recently, and it is not necessarily required within the DE programs administered by other colleges and universities that act as feeders to the university. In December 2017, the Louisiana Board of Regents released guidelines to ensure the “quality and transferability of [DE] courses” (Academic affairs policy 2.22 minimum requirements for dual enrollment, 2017, p.1). These guidelines require that high school DE instructors must meet “credential guidelines” and “receive appropriate formal training by the postsecondary institution/department on delivery of the particular college course,” including guidance related to the “syllabus, campus and departmental expectations for delivery, grading, and student performance” (Academic affairs policy 2.22 minimum requirements for dual enrollment, 2017, p. 2). The goal of training is to, among other issues, reduce the type of conflicting feedback received by students with two instructors, especially since some of the inconsistent feedback and the exemplary feedback was generated within one university’s DE writing program.

The conflicting feedback also sheds light on the participants’ college readiness; the DE writing students who reported receiving inconsistent feedback from different instructors also described the steps they took to overcome the issue. Both students used the effective feedback and disregarded the ineffective responses to their work; this suggests that these students might be college ready based factors their ability to resolve the issue. In addition, one of the two students communicated directly with the college professor and made arrangements to obtain feedback directly from him and negotiated revision opportunities for the assignments that received lower grades as a result of conflicting feedback.

Indeed, Karp (2012) suggests that college readiness involves an individual’s ability to “navigate a complex system of bureaucratic requirements, learn new study habits and time-
management strategies, and engage in new kinds of social relationships” (p. 22). Karp (2012) also asserts that DE courses provide opportunities for students to practice using these abilities. However, Karp (2012) further suggests that the effect of this role rehearsal is “muted” for students who complete DE courses on their high school campuses. This lessened effect might be due to the convenience factor that emerged as a theme in this study; many students in this study (and in similar studies) elected to complete DE composition precisely because they perceived the courses to be easier with regard to course content and rigor and in relation to their ability to access help from instructors.

Generally, the qualitative findings paint a picture of consistent, effective instructor feedback with some problems in courses that have a two-instructor model (a high school teacher and a college instructor). Joint training with secondary teachers and university personnel might mitigate these issues. The interviews also highlighted how DE writing students successfully resolved the issues with conflicting feedback, so a positive outcome of the instructor feedback issues might be role rehearsal since the students had opportunities to engage with adults to solve academic problems.

Impact. The qualitative data analysis of responses to open-ended survey items and one-on-one interviews sought to determine what impact writing experiences and writing ability have on students’ academic and career decisions. Over half of the surveyed participants indicated no impact, about one quarter said writing had some impact, and the other quarter indicated that writing had a strong impact. In the strong impact category, some students chose majors, such as engineering, to avoid writing while their counterparts chose majors, like mass communication, because they enjoy writing. The interview responses served to illuminate the survey data. All but two of the interviewees indicated no impact. Some of the “no impact” students expressed that
they chose majors early in high school before they had taken any college writing course. Also, two interviewees indicated that writing had some impact on their decisions because they chose careers based on their academic strengths, which were related to science and math and not related to writing. These results suggest that while most DE students do not view writing experiences and abilities as impactful in making decisions about their futures, some students do consider their strengths and weakness in these cases.

Overall, the impact-related results suggest that students’ decisions are informed (sometimes in a reverse way) by their self-efficacy for writing and possibly also by writing apprehension. In addition, the students’ responses also suggest that they tailor their selection of writing courses and their writing effort to those chosen career paths before entering college to ensure that they possess the level of writing expertise for their chosen fields. The current study adds to the literature because it suggests that many DE students have majors in mind before college and, as college sophomores and juniors, continue to pursue those majors. These findings further suggest that DE students generally possess the college readiness skills required for academic planning.

These results are supported by the existing literature, which advances self-efficacy and apprehension as determinants of academic and career choices (Hackett, 1985; Lent & Hacket, 1987; Wiltse, 2006; Zeldin & Pajares, 2000). However, most of the available literature is related to mathematics self-efficacy and related career paths or to general career decision-making; only one study attempts to link writing attitudes to academic choices, and overall that investigation found writing apprehension to be a stronger predictor than writing self-efficacy for pursuing a communications major or non-communications major (Hackett, 1985; Lent & Hacket, 1987; Wiltse, 2006; Zeldin & Pajares, 2000). The discussion in the Wiltse study (2006) further explains
that apprehension overrides self-efficacy because even when self-efficacy increases, writing apprehension tends to stay the same. The results related to writing impact also contrast with the existing literature. While previous studies suggest that DE students feel trapped in majors they choose and begin to pursue in high school, the participants in this study spoke of those majors and their pursuit of them in positive terms (Tobolowsky & Allen, 2016).

The qualitative results associated with impact of writing on academic and career decisions ultimately advance the idea that students have clear ideas about the quality and quantity of writing required by different fields and that they pursue writing experiences that will ensure their success in those fields. Even when students report pursuing majors and careers that will utilize their strengths, they are pointing to an inverse relationship between decision-making and writing ability.

The summation of the qualitative findings suggests that DE students are motivated by factors related to convenience, enrichment, and acceleration; typically, any one dually enrolled writing student is motivated by all three factors. Further, it seems that DE writing students are capable of successfully navigating dual enrollment composition courses by taking advantage of opportunities to write and feedback received from instructors. However, some students point to DE writing curricula that lack appropriate content and adequate rigor; these inconsistencies are clearly shown through the ineffective use of peer feedback activities within and across DE writing programs. Overall, the qualitative data analysis indicates that DE students possess high levels of self-efficacy for writing as well as the college readiness skills to choose academic and career paths that maximizes their strengths, weaknesses, and interests. Notably, the results also support the idea the writing apprehension might play more of a role in decision-making processes than writing self-efficacy.
Mixed Methods Results and Conclusions

**Research question five - enhancing quantitative results with qualitative findings.**

Mixed methods data collection and analysis were utilized to examine various aspects of DE composition. The qualitative methods were embedded into the design in order to enhance interpretation of the qualitative results, specifically with regard to writing curriculum and writing self-efficacy.

*Curriculum.* The statistical analyses of survey data as well as the qualitative analyses of the responses to the open-ended survey questions and the semi-structured interview questions suggest that while DE writing curriculum might be adequate for many students, there are some curricular inconsistencies across dual enrollment courses; some of these disparities occur between courses administered by the same DE provider. With regard to irregularities in curriculum, the statistical analyses suggest that DE students are less likely to experience a typical college writing curriculum than students utilizing other credit pathways, including AP and on-campus composition courses. Specifically, dually enrolled writing students are less likely to write three or more argument/analysis papers than their on-campus and AP counterparts, and they are more likely to engage in creative writing than on-campus and AP students. In addition, participants described not having enough opportunities to write, lack of rigor, and college composition curriculum that was frequently interrupted by high school literature tasks.

The qualitative data revealed another issue with DE writing courses on high school campuses – inconsistency in the use of peer review activities. For most students peer review activities were few in number and ineffective while for others, peer feedback was completely missing from their DE writing practice. Still, for other students, peer feedback was consistently and effectively used. Interviewees who described effective peer feedback tasks typically
described peers who excelled at writing and who challenged them to excel as well. This disparity in peer feedback was the starkest of all the curricular differences between DE and non-DE course pathways because, based on a document analysis websites and syllabi of freshman writing programs in the state, peer review is a cornerstone of college writing courses.

Although the results from both data collection and analysis methods suggest generally effective DE writing curricula, the inconsistencies in writing practice and peer feedback must be addressed. Both writing practice and peer feedback inform students’ self-efficacy for writing and are related to writing performance (Bandura, 1994, 1997; Cheng et al., 2015; Cho & Cho, 2011; Pajares et al., 2007; Topping, 2009; Usher & Pajares, 2008; Yangin-Eski, 2012). Students who would attend and graduate from college without dual enrollment opportunities are very likely able to overcome this issues with curriculum, but for students who struggle with writing and/or who might not visualize a clear path to and through higher education, DE programs must do a better job of providing writing courses that are more equivalent in content and rigor to those delivered on college campuses (Cohen et al., 2006; McDonald & Farrell, 2012; Tinberg & Nadeau, 2013; Tobolowsky & Allen, 2016). This will ensure that role rehearsal opportunities to increase college readiness are not “muted” by courses that are too unlike their on-campus equivalents (Karp, 2012).

Overall, the curriculum-related results advance the idea that DE writing programs must make strides to fulfill their potential as an effective bridge to college enrollment, retention, and graduation – especially for students who might lack confidence in their ability to earn a college degree. DE programs that fail to provide a sufficient equivalent to first-year college composition courses might result in students having lower writing performance and self-efficacy, higher
writing apprehension, and fewer opportunities to rehearse the role of being a college student (Karp, 2007, 2012; McDonald & Farrell, 2012; Topping, 2009).

**Self-efficacy.** The responses to the self-efficacy scale in the survey suggest that DE writers typically view themselves as capable of meeting or exceeding the expectations of college writing assignments. However, even though they reported relatively high levels of writing self-efficacy, their scores were still significantly lower than students who received courses exemptions based on test scores (i.e. AP and ACT/SAT). Similarly, all but one of the interview participants described themselves as able to meet or exceed the expectations of college writing. The qualitative results served to illuminate potential influences of the high and low scores for writing self-efficacy that were reported in the quantitative survey.

The responses to the related interview question provide insight into the potential sources of the students’ self-efficacy for writing – mastery experiences and social persuasion. Participants pointed to mastery experiences, or opportunities to write, which according to Bandura and other researchers are the strongest influence on self-efficacy (Bandura, 1994, 1997; Pajares et al., 2007; Usher & Pajares, 2008). Interviewees who described themselves as capable of meeting college writing expectations described the types of papers they learned to write and specific writing skills they acquired from their DE composition courses. Further, interview participants who described themselves as capable of exceeding college writing expectations described engaging in mastery experiences in high school and college. In addition to mastery experiences, students overwhelmingly pointed to social persuasion, receiving positive feedback about their writing from instructors in subsequent college writing courses. Students who responded to the open-ended survey items and the one-on-one interviews were able to detail how specific feedback helped to improve their writing when they dually enrolled and how they have
internalized that feedback to evaluate their own writing as college students. Some participants, however, received more social persuasion than others because they also received consistent, effective peer feedback on their writing. For more than half of the interviewees, peer feedback was inconsistent, ineffective, or non-existent.

Further, the two interview participants who unequivocally described themselves as capable of meeting the expectations of college writing illuminated a third source of social persuasion – instructor feedback received on the college level. Their personal accounts suggest that their self-efficacy for writing was further informed by the extremely positive feedback they received post high school. In addition, both of these students articulated their writing processes; though these approaches to writing were vastly different, they were both characterized by the use of informal peer review processes, academic sources, and extensive revisions and editing.

Quantitatively and qualitatively, there were few dissenting voices on the topic of self-efficacy. In a single case, an interview participant described meeting college writing expectations as challenging due to negative mastery experiences that resulted from continued problems writing in subsequent college courses. The student also described high school English language arts courses that lacked rigor. In addition to negative mastery experiences, the interviewee also described negative instances of social persuasion; she received feedback from her high school teacher that resulted in lower scores on her writing assignments. In relation to peer feedback, her comments were mixed. There was no mechanism for peer review with the other students in her DE writing class; however, she did recount receiving effective feedback through an online peer review system that the students were required to use. Also, in relation to peer feedback, the interview participant very clearly contrasted the use of peer review in her college writing classes with the lack of in-class peer review in her DE courses. Further, she expressed regret for her DE
participation and says she wished she would have simply completed her writing requirements on campus at the university.

Together, all of these findings suggest that mastery experiences and social persuasion are major sources of DE students’ self-efficacy for writing, which is consistent with the existing theory and findings (Bandura, 1994, 1997; Cheng et al., 2015; Cho & Cho, 2011; Kellogg & Raulerson, 2007; Kellogg & Whiteford, 2009; Nelson & Schunn, 2009; Pajares, 2003; Pajares et al., 2007; Topping, 2009; Usher & Pajares, 2008; Yangin-Eski, 2012). Students with a positive self-efficacy for writing described positive mastery experience and were able to describe specific writing and reading skills that they internalized based on instructor feedback. In addition, some students who viewed themselves as capable writers described positive experiences with consistent, effective peer review activities. Alternatively, the student who described low writing self-efficacy reported contrasting experiences, including conflicting instructor feedback, inconsistent peer feedback, and a general lack of rigor. This suggests that DE composition students who view themselves as having low self-efficacy for writing might have experienced failures (negative mastery experiences) that undermined their confidence in their writing abilities (Bandura, 1994, 1997). The students who described low writing self-efficacy also pointed to DE writing courses that lacked rigor and on-campus writing courses that were extremely difficult; the ease of the courses taken in high school might have initially built a false sense of self-efficacy that collapsed when challenged by the more rigorous college writing courses (Bandura, 1994, 1997).

**Mixed methods conclusion.** The mixed methods results suggest that, in general, dual enrollment students typically view their DE writing courses as effective in preparing them for college writing and view themselves as capable of meeting the expectations of college
composition. However, the quantitative and qualitative results also indicate that (1) there are inconsistencies in DE writing instruction that can lead to negative outcomes for some students but that (2) many dual enrollees are able to overcome these issues due their general academic ability and college readiness. Thus, curricular inconsistencies might be more problematic and damaging to the writing self-efficacy of students who are less ready for college. These findings add to the existing literature that also points to lack of rigor and curricular inconsistencies and expands those findings by specifically highlighting issues with writing assignments and practice, instructor feedback, peer review activities in DE writing courses on high school campuses.

**Implications for Dual Enrollment Composition Programs**

All of the implications discussed hinge directly upon the ability of writing program administrators, secondary school administrators, high school teachers, and college instructors to communicate and collaborate to align DE writing courses more closely to their on-campus equivalents. Within those conversations, sources of self-efficacy must be addressed – including the mastery experiences of writing the appropriate types and number of assignments and the social persuasion of feedback from writing instructors and peers. While the Louisiana Board of Regents has mandated training of all high school teachers who instruct DE writing classes, Denecker has been more specific, calling for “collaboration, conversation, and professional development” involving high school teachers and college instructors (*Academic affairs policy 2.22 minimum requirements for dual enrollment*, 2017; Denecker, 2013, p. 41). This section outlines areas of dual enrollment writing curriculum that might be improved through increased, higher quality collaboration between secondary and college educators.

This research suggests that many DE writing students experience curriculum that is not aligned closely enough with that of Advanced Placement and on-campus courses. However,
through collaborative efforts, high school teachers and college instructors and professors can ensure proper alignment, specifically in relation to the type and number of papers written. The results of this study suggest that DE composition students should be writing three or more argument and analysis assignments and creative or personal writing assignments. Further, the writing in DE courses should be more research-based and require the citation of sources.

Dual enrollment students also experience atypical curriculum when their college writing courses are combined with high school literature courses. DE program administrators, school administrators, and teachers might consider separating high school English language arts courses from college composition courses on high school campuses; this task might be easier in secondary schools with block scheduling that typically allows students to earn credit for up to thirty-two different courses from ninth to twelfth grade (or more for students who begin taking high school courses in middle school). Other considerations within this solution include pairing high school literature classes with college literature classes for DE credit; this might minimize the conflicting curriculum situation that occurs with the typical combining of high school literature courses with a college composition courses. With this English language arts course path, students would complete the first two high school language arts courses, two stand-alone DE composition courses, and then take high school literature courses that are paired with DE literature courses.

Although many participants in this study described writing ability and writing experiences as having little or no impact on their academic and career decisions, students did point out that they based their decisions on their strengths and interests. This suggests the existence of a relationship between how much one views writing as a weakness and the major and career track that one chooses. Thus, maximizing students’ writing capabilities through
rigorous writing coursework might expand their academic and career options as a result of enhanced abilities to engage in critical thinking and construct knowledge.

It is typical for writing students to overestimate their writing abilities (Hansen et al., 2006). However, Bandura’s learning theory (1994, 1997) and subsequent research involving self-efficacy for writing clearly support the idea that feedback (social persuasions) is an important source of self-efficacy (Lent & Hacket, 1987; Pajares, 2003; Pajares et al., 2007; Usher & Pajares, 2008; Zeldin & Pajares, 2000). Although study participants generally described receiving effective feedback from their DE instructors, peer feedback was inconsistent, and some students received conflicting feedback when their courses had two instructors. Improving these issues with feedback might be key to helping students to accurately evaluate their own writing abilities and, consequently, increasing their self-efficacy and improving their performance while reducing their apprehension.

Further, DE writing instructors need to implement clear peer feedback mechanisms with the understanding that students will need to improve their own ability to provide feedback to each other over the course of semester or school year. Where high school teachers and college instructors are co-instructing sections, the two instructors need to arrive at some agreement regarding feedback and scoring before terms begin. This will help the instructors to provide consistent, clear feedback to students who will then have a clearer understanding of writing expectations. The students in this study overwhelmingly described teacher feedback as effective for helping them to understand instructors’ expectations for writing assignments. Thus receiving consistent, higher quality instructor and peer feedback might serve to improve writing performance and help students to accurately estimate their own writing ability.
Finally, DE courses on high school campuses are uniquely poised to implement curricular changes that might be born of professional development involving high school and college writing personnel. In many DE schemas, students spend twice as much time (or more) with instructors at high schools than they would on a college campus (Hébert, 2001). According to Hebert (2001), this additional instructional time might be a catalyst for positive outcomes for mathematics DE students. Thus, the additional time in class might serve DE composition students in a similar way – by providing time for students to receive and apply the feedback received from their instructors and especially from their peers. A typical college composition student will attend three fifty-minute class sessions per week for eighteen weeks – for a total of 2,700 instructional minutes; on-campus writing students are typically expected to use time outside of class to seek writing help in university writing centers, from peers, and from instructors and teaching assistants during their office hours. A typical high school student in a DE writing course on a high school campus might spend anywhere from 4,800 to 9,100 face-to-face minutes with instructors and peers. With a minimum of 2,700 “extra” instructional minutes, DE writing courses are uniquely poised to provide extra support to high school students who are attempting to meet university writing requirements.

**Recommendations for Future Research**

The recommendations for future research relate collecting data from high school teachers and college instructors as well as replicating this research in ways that might lead to clearer findings.

With regard to writing certain types and quantities of assignments in DE composition courses, further research is needed and should consider collecting data from instructors, who might be more knowledgeable about how to classify types of writing assignments, what types of
curriculum (high school literature and college composition) are included in their curricula, and
the average length of assignments. Based on the qualitative results, there also needs to be more
investigation of the creative writing and literature instruction in composition courses. Further
research would target instructors to investigate the presence of high school literature curriculum
in dual enrollment classes, especially since some students cited the presence of high school
curriculum as something they would like to improve about their DE courses.

Future research related to self-efficacy and use of self-regulatory writing strategies might
include survey data from students and teachers from the same secondary schools to permit
testing for correlations between strategies taught by teachers and strategies used by students.
Additionally, future research might also examine self-efficacy with writing performance on a
sample of essays to more conclusively determine if students are overestimating their efficacy for
writing.

Further investigation of writing performance as it is related to racial/ethnic achievement
gaps is needed and might involve analysis of other contributing; future research might include
the following dependent variables: type of high school, parents’ income, ACT scores, and high
school GPA. In addition, future research related to differences investigate the extent to which
students, especially black students, experience academic stress related to negative racial
stereotypes

Research concerning motivation and outcomes for DE students should continue to
conduct investigations, especially qualitative inquiries, on short-term and long-term motivating
factors and results of participation in DE programs – especially in DE composition. This will
provide a clearer picture of push factors for DE writing and allow stakeholders to determine if
DE composition programs are fulfilling their promises.
Future research should also explore instructor feedback and investigate successful models of peer review practices and high school writing centers to ultimately increase the constructive feedback provided to DE writing students and to increase students’ ability to evaluate their own writing.

Lastly, future research in this area can ask more students similar questions about the impact of writing performance, self-efficacy, and apprehension to gain a larger picture of how students’ writing experiences and writing ability impact their academic and career plans.

Limitations of the Study

The limitations in this study are related to participants’ perspectives being limited to those of currently matriculating students at a single institution and self-selection bias resulting from the use of an incentivized online survey and an incentivized interview. Additional limitations are related to the categories used for race/ethnicity and the timing of data collection.

All participant data for this study was generated from surveys and interviews completed by student participants. Students who left the university were excluded, as were dual enrollment instructors. Because research suggests a correlation between low writing performance in composition courses and dropping out of college, the voices of students who might have had more negative DE writing experiences might have been excluded from this study. The inclusion of these students might have yielded lower overall scores in writing self-efficacy, strategy use, and performance as well as more information about the sources of self-efficacy.

Further, DE instructors were not included as participants in this investigation. Their input might have provided rationales for inconsistencies between DE writing courses and on-campus equivalents. Teachers and instructors might have provided clearer data related to curriculum and writing assignments and might have clarified the reasons for inconsistent application of peer
review tasks. In addition, they would have been able to provide details related to any communication and collaboration that occurred among high school teachers, college instructors, and writing program administrators.

Also, the generalizability of these results may be limited by self-selection bias. There is the possibility that any differences detected in the quantitative analysis might be related more to which students chose to complete the survey and which students chose to participate in the one-one interviews than to what credit pathways the participants used to earn credit for FYFS college composition or what demographic categories apply to those students (gender, race/ethnicity, parents’ education).

In addition, more specific results might have been yielded with more defined race/ethnicity categories. Participants who did not describe themselves as white or black were included a third category called “other.” If more students are encouraged to participate in subsequent survey research of this nature, the number of participants might lend itself to race categories that are more defined and consequently, might produce significantly different statistical results.

Finally, the survey in this study was used to collect quantitative and qualitative data, and an interview protocol was used to collect additional qualitative data concurrently. Future investigations of this type might generate more well-aligned surveys and interview protocols by using sequential mixed methods, which would allow for analysis of the quantitative survey data and responses to open-ended survey questions and using the results of those analyses to inform the interview protocol.

**Conclusion**

The current body of dual enrollment research includes very few studies involving DE composition, and those that are related to DE composition have not utilized survey methods to
collect quantitative and qualitative data from such a large sample that includes participants from different composition credit pathways. This research was able to collect data from university students that earned credit for college writing requirements using different methods and compare outcomes for those students based on those pathways and on preexisting characteristics. In addition, the results from much of the quantitative data was explained by two sources of qualitative data, which included DE writing students’ responses to open-ended survey questions and DE writing students’ responses to an interview protocol.

Overall, the quantitative and qualitative results advance the idea that there are differences in DE writing curriculum that must be addressed in order for DE as a credit pathway to provide the same learning opportunities as Advanced Placement and traditional university composition courses. These differences, however, are not consistent across or even within DE writing programs. In addition, the quantitative results indicate that an achievement gap might exist between black and non-black students taking advanced English courses. The qualitative results suggest that most DE students view their pre-college writing experiences as effective in preparing them for subsequent college writing and that, for most students, their academic and career choices are not necessarily predicated upon their ability to write. However, the results from both data collection methods revealed inconsistencies in curriculum that must be addressed and a need for more effective collaboration between high school and college administrators and instructors.

In conclusion, while most DE writing students do feel prepared for college writing, there are dissenting voices that view DE composition courses as ineffective. The inconsistencies in DE writing programs do need to be addressed in a manner that will ensure success for more students, especially considering that the goals of DE include increasing access to college and degree
attainment and that employers across the nation view the writing skills of recent college graduates as lacking.
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Marken, S., Gray, L., & Lewis, L. (2013). Dual enrollment programs and courses for high school
students at postsecondary institutions: 2010-11. Retrieved from papers3://publication/uuid/4F81A8A7-F50E-4CF0-ACB3-3CEF2D559477


University Students’ Writing Experiences Online Survey Consent Form
Please read this document carefully before you decide to participate in this study.

1. Contacting the Researchers: You may contact the researchers if you have any further questions during or after participating in this study: Erin Scott-Stewart, escot26@lsu.edu. Dr. Keena Arbuthnot, arbuthnot@lsu.edu.

2. Purpose of the research study: The purpose of this study is to learn about university students’ experiences in composition courses, writing self-efficacy, and writing practices. All information collected is demographic data (gender, age, etc.) and information related to writing and writing experiences. You do not have to answer any questions that you do not wish to answer.

3. Total Time required: Approximately 15-20 minutes.

4. Risks and Benefits: There are no known risks involved in completing this survey. You may benefit by participating in this study through increased awareness and self-understanding. You will also be contributing to the knowledge that will help researchers further understand students’ writing experiences. You may contact the researchers if you have any further questions during or after participating in this study. Every effort will be made to keep the information you provide confidential.

5. Confidentiality: Your name and identifiable information will not be connected to the answers you provide on your survey. Efforts will be made to keep you study-related information confidential. However, there may be circumstances when this information must be released. For example, personal information regarding your participation in this study may be disclosed if required by state law.

6. Voluntary Participation: Your participation in this survey is completely voluntary. There is no penalty for not participating. You have the right to withdraw from the study at any time without consequence.

7. Procedures: For this portion of the study, subjects will complete an online survey. Subjects must be 18 years or older to participate, and must have received credit for ENGL 1001 by taking the course of by another method. Subjects who opt to participate in focus groups will be able to indicate as such in the survey. There is a separate consent form that will be issued at the time of the focus groups. To participate in this study, you must meet the requirements of both the inclusion and exclusion criteria.

8. IRB Approval: This study has been approved by the LSU IRB. For questions concerning participant rights, please contact the IRB Chair, Dr. Dennis Landin, 578-8692, or irb@lsu.edu.

Agreement: I certify that I have read the preceding document and that I understand its contents. Further, I am agreeing to freely participate in this research study. By continuing this survey, you are affirming that you are 18 years or older, and you are giving consent to participate in this study.
Demographic Items
Q2 My gender is
   ☐ Male (1)
   ☐ Female (2)
   ☐ Transgender (3)
   ☐ Not listed? Please specify. (4) ____________________

Q3 Are you Spanish, Hispanic, or Latino or none of these?
   ☐ Yes (1)
   ☐ None of these (2)

Q4 Choose one or more races that you consider yourself to be:
   ☐ White (1)
   ☐ Black or African American (2)
   ☐ American Indian or Alaska Native (3)
   ☐ Asian (4)
   ☐ Native Hawaiian or Pacific Islander (5)
   ☐ Not listed? Please specify. (6) ____________________

Q5 What is your age?
   ☐ Under 18 (1)
   ☐ 18-19 (2)
   ☐ 20-21 (3)
   ☐ 22-24 (4)
   ☐ 25 or above (5)

Q6 Are you considered an in-state or out-of-state student for tuition purposes?
   ☐ In-state (1)
   ☐ Out-of-state (2)

Q7 Which statement describes your current living arrangement?
   ☐ Residence hall (1)
   ☐ Off-campus housing (2)
   ☐ Fraternity/sorority housing (3)
   ☐ Living at home with my family (4)

Q8 How many credit hours have you earned at the university?
   ☐ 0 – 29 (freshman) (1)
   ☐ 30 – 59 (sophomore) (2)
   ☐ 60 – 91 (junior) (3)
   ☐ 92+ (senior) (4)
Q9 What is your high school GPA?
- Below 2.0 (1)
- 2.0 to 2.5 (2)
- 2.6 to 3.0 (3)
- 3.1 to 3.5 (4)
- 3.6 to 4.0 (5)
- over 4.0 (6)

Q10 What is your ACT score?
- Below 18 (1)
- 18 to 21 (2)
- 22-25 (3)
- 26-29 (4)
- 30-32 (5)
- 33-36 (6)
- I did not take the ACT. (7)

Q11 Check all that apply. Do you consider yourself to be a
- International student (1)
- Veteran (2)
- NCAA athlete (3)
- Commuter student (4)
- Fraternity or sorority member (5)
- Student with a physical disability (6)

Q13 In what state did you receive most or all of your high school education?

Q14 When did you fulfill the university’s first-year, first-semester writing requirement (ENGL 1001), whether you did it by taking the course on campus, by ACT or SAT, by AP, by concurrent or dual enrollment during high school, or by some other means?
- Completing it this term/semester (1)
- Last term/semester (2)
- Within the last year (3)
- Within the last two years (4)
- More than two years ago (5)
- I haven’t completed the requirement yet. (6)
Q15 Which of the following best describes how you fulfilled the first-year, first-semester writing requirement (ENGL 1001) for the university? NOTE: If more than one of these answers could apply in your case, please mark the one you completed most recently.

- I took the university’s ENGL 1001 on campus. (1)
- I took the ACT in high school and got credit from the university by scoring a 26 on the English ACT and a combined English/Composite score of 53 or higher. (2)
- I took the SAT in high school and got credit from the university by scoring 590 or above on the Critical Reading portion of the test. (3)
- I took the Advanced Placement (AP) Language and Composition test in high school and got credit from the university by scoring a 3, 4, or 5. (4)
- I took a first-year writing course at another college or university (NOT as a high school student), for which I received credit from the university (i.e., I came to the university as a transfer student from another college or university). (5)
- I took a dual enrollment (DE) or concurrent enrollment (CE) course in high school and got credit for it from the university. (Note: Dual enrollment is sometimes called concurrent enrollment, dual credit, or concurrent credit, so choose this option if one of these was the name used.) (6)
- None of the above. Please explain. (7) ________________
- I have not received credit for ENGL 1001, and I am not enrolled in the class at this time. (8)

If I have not received credit ... Is Selected, Then Skip To End of Survey
If None of the above. Please e... Is Selected, Then Skip To End of Survey

Dual Enrollment Items
Q16 What grade did you receive in your dual credit/concurrent enrollment course?

- A+, A or A- (1)
- B+, B, or B- (2)
- C+, C, or C- (3)
- D+, D, or D- (4)
- E or F (5)

Q17 How well do you think your dual credit/concurrent enrollment course prepared you for the writing you have to do in your other courses at the university?

- Extremely well (1)
- Very well (2)
- Moderately well (3)
- Slightly well (4)
- Not well at all (5)

Q18 Who taught your dual credit/concurrent enrollment course?

- A high school teacher (1)
- A college teacher (2)
- A high school teacher AND a college teacher (3)
- I don’t know (4)
Q19 Where did you take your dual credit/concurrent enrollment course?

- At my high school (1)
- On a college campus (2)
- Online or through another distance learning arrangement (3)

Q20 Would you like to be contacted to participate in a focus group discussion about your writing experiences? If so, please click yes, and include your email address in the space provided.

- YES, I would like to participate in a focus group discussion. (1) ____________________
- No, I would NOT like to participate in a focus group discussion. (2)

Writing Experience Items

Q21 What was the average length of papers you wrote?

- 1-3 pages (1)
- 4-5 pages (2)
- 6-7 pages (3)
- 8 pages or more (4)

Q22 How often did you write each kind of assignment in your ENGL 1001 or equivalent* course? If your course work did not include this type of assignment, please choose "Never." *Equivalent courses include DE courses, AP courses, and courses transferred from other schools. 1 = Never 5 = Daily

| Analysis of media (advertising, visuals, television, film, etc.) | (1) |
| Analysis of literature (short story, poem, drama, etc.) | (2) |
| Annotated bibliography (or evaluation of a source) | (3) |
| Argument essay | (4) |
| Causal analysis | (5) |
| Cause and effect essay | (6) |
| Common ground essay | (7) |
| Compare and contrast essay | (8) |
| Explaining a concept | (10) |
| Event analysis | (11) |
| Habit analysis | (12) |
Q23 How often did you write each kind of assignment in your ENGL 1001 or equivalent* course? If your course work did not include this type of assignment, please choose "Never."  *Equivalent courses include DE courses, AP courses, and courses transferred from other schools. 1 = Never 5 = Daily

<table>
<thead>
<tr>
<th>Assignment Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literacy analysis</td>
<td>(2)</td>
</tr>
<tr>
<td>Personal narrative</td>
<td>(3)</td>
</tr>
<tr>
<td>Presentation</td>
<td>(4)</td>
</tr>
<tr>
<td>Process analysis</td>
<td>(5)</td>
</tr>
<tr>
<td>Profile essay</td>
<td>(6)</td>
</tr>
<tr>
<td>Research paper</td>
<td>(7)</td>
</tr>
<tr>
<td>Rhetorical analysis</td>
<td>(8)</td>
</tr>
<tr>
<td>Synthesis</td>
<td>(9)</td>
</tr>
<tr>
<td>Textual analysis</td>
<td>(10)</td>
</tr>
</tbody>
</table>

Q24 You may have engaged in one or more of the following writing methods or writing activities in your English composition class. Please complete this section as best you can by selecting how often your teacher did the following activities. If your teacher did not use a writing activity, please select never. 1 = Never 5 = Daily

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taught strategies for planning how or what to write</td>
<td>(1)</td>
</tr>
<tr>
<td>Taught strategies for revising written material</td>
<td>(2)</td>
</tr>
<tr>
<td>Taught strategies for editing written material</td>
<td>(3)</td>
</tr>
<tr>
<td>Taught students to write summaries of what they have read</td>
<td>(4)</td>
</tr>
<tr>
<td>Taught strategies for writing paragraphs</td>
<td>(5)</td>
</tr>
<tr>
<td>Established specific goals for what students are to include in their writing assignments</td>
<td>(6)</td>
</tr>
<tr>
<td>Had me work with other students to plan, draft, revise, and edit a paper</td>
<td>(7)</td>
</tr>
<tr>
<td>Taught sentence combining</td>
<td>(8)</td>
</tr>
</tbody>
</table>
Q25 You may have engaged in one or more of the following writing methods or writing activities in your English composition class. Please complete this section as best you can by selecting how often your teacher did the following activities. If your teacher did not use a writing activity, please select never. 1 = Never 5 = Daily

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had me engage in prewriting activities (e.g. reading and completing a graphic organizer) to help me gather and organize possible writing ideas</td>
<td>1</td>
</tr>
<tr>
<td>Had me engage in inquiry/research to gather, organize, and analyze information/data for my writing</td>
<td>2</td>
</tr>
<tr>
<td>Had me study and imitate models of good writing</td>
<td>3</td>
</tr>
<tr>
<td>Had me use rubrics and/or checklists to monitor my writing performance and writing goals</td>
<td>4</td>
</tr>
<tr>
<td>Provided me with verbal praise and positive reinforcement when I wrote</td>
<td>5</td>
</tr>
<tr>
<td>Taught grammar/conventions of language</td>
<td>6</td>
</tr>
<tr>
<td>Taught me a process for writing</td>
<td>7</td>
</tr>
<tr>
<td>If you did other kinds of writing activities, write each below and then select how often you do them (using the same scale as above).</td>
<td>8</td>
</tr>
</tbody>
</table>

Q26 For each of the statements below, mark how accurately it describes your experience in the writing class that you took—or are taking now—to earn first-year writing credit from the university (e.g., ENGL 1001, AP, transfer course, or dual credit/concurrent enrollment). 1 = Not accurately at all 5 = Extremely accurately

<table>
<thead>
<tr>
<th>Statement</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>I learned how to write appropriately for various audiences, situations, and purposes.</td>
<td>1</td>
</tr>
<tr>
<td>I learned how to develop flexible strategies for generating, revising, editing, and proofreading.</td>
<td>2</td>
</tr>
<tr>
<td>I went through several revisions for each major writing task.</td>
<td>3</td>
</tr>
<tr>
<td>My work was reviewed, critiqued, or edited by my peers.</td>
<td>4</td>
</tr>
<tr>
<td>I learned how to support my ideas with library research and how to cite and document that research in my papers.</td>
<td>5</td>
</tr>
<tr>
<td>I learned the principles of effective writing style beyond grammatical rules.</td>
<td>6</td>
</tr>
<tr>
<td>I learned how to write in digital environments (i.e., with computers, Internet, and special software).</td>
<td>7</td>
</tr>
</tbody>
</table>
Q27 For each item, choose the number on the scale that best describes your ability to complete the described task. 1 - Strongly Disagree  5 - Strongly Agree

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I can express my arguments clearly in essays. (1)</td>
<td></td>
</tr>
<tr>
<td>I can link paragraphs to make my essay coherent. (2)</td>
<td></td>
</tr>
<tr>
<td>If I put in a lot of effort, I can write an essay that I am proud of. (3)</td>
<td></td>
</tr>
<tr>
<td>I can provide relevant evidence to support my argument. (4)</td>
<td></td>
</tr>
<tr>
<td>I can write a conclusion that relates to my introduction. (5)</td>
<td></td>
</tr>
<tr>
<td>I can write an effective introduction that informs the reader of my intentions for the essay. (6)</td>
<td></td>
</tr>
</tbody>
</table>
Q28 For each item, choose the number on the scale that best describes your ability to complete the described task. 1 = Strongly disagree 5 = Strongly agree

<table>
<thead>
<tr>
<th>Item</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can demonstrate substantial subject knowledge in my essay.</td>
<td>(1)</td>
</tr>
<tr>
<td>I can think about what is required of me before I write an essay.</td>
<td>(2)</td>
</tr>
<tr>
<td>I can put ideas together in such a way that they are clear to the reader.</td>
<td>(3)</td>
</tr>
<tr>
<td>I can critically evaluate ideas and arguments in an essay using evidence, but without using personal opinions.</td>
<td>(4)</td>
</tr>
<tr>
<td>I can plan and write essays because I know what the instructors expect of me.</td>
<td>(5)</td>
</tr>
<tr>
<td>I can use a variety of different methods to enhance my essay writing, based on the requirements of the assignment.</td>
<td>(6)</td>
</tr>
</tbody>
</table>

Q29 A. Indicate how frequently you use each of these strategies for writing. 1 = Never 2 = Always

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think about several ideas related to the theme that was proposed before I start writing.</td>
<td>(14)</td>
</tr>
<tr>
<td>I keep track of the time I need to complete my writing task.</td>
<td>(15)</td>
</tr>
<tr>
<td>I take a break when I finish a writing task.</td>
<td>(16)</td>
</tr>
<tr>
<td>I imagine who might read my text before I start writing.</td>
<td>(17)</td>
</tr>
<tr>
<td>I decide which ideas I want to develop before I start writing.</td>
<td>(18)</td>
</tr>
</tbody>
</table>

Q30 B. Indicate how frequently you use each of these strategies for writing. 1 = Never 2 = Always

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>I write a list of everything I should do to complete my writing task.</td>
<td>(6)</td>
</tr>
<tr>
<td>I look for a way to reward myself when I finish my writing task.</td>
<td>(7)</td>
</tr>
<tr>
<td>I think about what I will write further on as I write my text.</td>
<td>(8)</td>
</tr>
<tr>
<td>I ensure that the text I write is suited for whoever might read it.</td>
<td>(9)</td>
</tr>
<tr>
<td>I register my ideas about the theme in written form before I start writing.</td>
<td>(10)</td>
</tr>
</tbody>
</table>

Q31 C. Indicate how frequently you use each of these strategies for writing. 1 = Never 2 = Always

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Frequency</th>
</tr>
</thead>
</table>
I have a notebook where I register the writing tasks I should do. (5)
I do something that requires less effort when I finish a writing task. (6)
As I write my text, I change it according to who might read it. (7)
I continue to develop my initial ideas as I write. (8)

**Transfer Credit Items**

Q32 What grade did you receive in the first-year writing course that you transferred to the university?
- A+, A or A- (1)
- B+, B, or B- (2)
- C+, C, or C- (3)
- D+, D, or D- (4)
- E or F (5)

Q33 How well do you think your transfer course prepared you for the writing you have to do in your other courses at the university?
- Extremely well (1)
- Very well (2)
- Moderately well (3)
- Slightly well (4)
- Not well at all (5)

Q34 What is the name of the college where you took your first-year writing course?

Q35 In what state is that college/university located?
Alabama (1)  Utah (46)  
Alaska (2)  Vermont (47)  
Arizona (3)  Virginia (48)  
Arkansas (4)  Washington (49)  
California (5)  West Virginia (50)  
Colorado (6)  Wisconsin (51)  
Connecticut (7)  Wyoming (52)  
Delaware (8)  I do not reside in the United States (53)  
District of Columbia (9)
**Advanced Placement Items**

Q36 What score did you receive on the AP Language and Composition test?
- 5 (1)
- 4 (2)
- 3 (3)
- Below 3 (4)

Q37 How well do you think your AP course prepared you for the writing you have to do in your other courses at the university?
- Extremely well (1)
- Very well (2)
- Moderately well (3)
- Slightly well (4)
- Not well at all (5)

**University Writing Course (ENGL 1001) Items**

Q17 What grade did you receive in ENGL 1001?
- A+, A or A- (1)
- B+, B, or B- (2)
- C+, C, or C- (3)
- D+, D, or D- (4)
- E or F (5)

Q18 How well do you think ENGL 1001 prepared you for the writing you have to do in your other courses at the university?
- Extremely well (1)
- Very well (2)
- Moderately well (3)
- Slightly well (4)
- Not well at all (5)
APPENDIX B. INTERVIEW PROTOCOL

Email to Obtain Consent and Collect Demographic Data
Please complete the items below in your reply. There are 3 items TO READ before the consent form AND 5 items TO COMPLETE after the consent form.

1. **Interview Date and Time:** Tuesday 5/2 at 11:55 AM. The interview will take 10-15 minutes.
2. The interview call-in number is **225-366-7137**; interviews will be **recorded**. I will send you a reminder text in the morning and another one 10 minutes before the interview.
3. Please read the consent form (below) and answer the five items at the bottom of this email. **By indicating YES for item 1 and answering the other four items, you will be qualified to complete the interview at the scheduled time.**

**CONSENT FORM**

Consent Form for a Non-Clinical Study: Interview: DE Students' Writing Experiences, Writing Self-Efficacy, and Self-Regulatory Learning Strategies for Writing Performance

1. Study Title: DE Students' Writing Experiences, Writing Self-Efficacy, and Self-Regulatory Learning Strategies for Writing Performance
2. Site: Louisiana State University and Agricultural and Mechanical College
3. Investigators: The following investigators are available for questions about this study:
   - Erin Scott-Stewart [escot26@lsu.edu]
   - Dr. Keena Arbuthnot [arbuthnot@lsu.edu]
4. Purpose of the Study: The purpose of this study is to determine if a relationship exists between how students earn credit for the university’s English 1001 and the students’ writing experiences, writing self-efficacy, and self-regulatory learning strategies for writing.
5. Subject Inclusion: Individuals age 18 and over who have agree to participate in an interview. To participate in this study, participants must meet the requirements of both the inclusion and exclusion criteria.
6. Number of subjects: 12-30
7. Study Procedures: The study will be conducted in two phases. In the first phase, students will complete online surveys about their writing experiences, their writing self-efficacy, and their self-regulatory learning strategies for writing performance. In the second phase, participants will participate in individual interviews.
8. Benefits: The study may yield valuable information about differences that might exist in students’ writing competencies based on how they earn credit for the university’s ENGL 1001.
9. Risks: The only study risk is the inadvertent release of sensitive information found in the interview transcripts. However, every effort will be made to maintain the confidentiality of your study records. Files will be kept in secure cabinets to which only the investigator has access.
10. Right to Refuse: Subjects may choose not to participate or to withdraw from the study at any time without penalty or loss of any benefit to which they might otherwise be entitled.
11. Privacy: Results of the study may be published, but no names or identifying information will be included in the publication. Subject identity will remain confidential unless disclosure is required by law.
Signatures: The study has been discussed with me and all my questions have been answered. I may direct additional questions regarding study specifics to the investigators. If I have questions about subjects' rights or other concerns, I can contact Dennis Landin, Institutional Review Board, (225) 578-8692, irb@lsu.edu, www.lsu.edu/irb. I agree to participate in the study described above and acknowledge the investigator's obligation to provide me with a signed copy of this consent form.

ITEMS TO COMPLETE
1. Do you consent to participate in this study by being interviewed? Type YES or NO.
2. Class: Fresh – Soph. – Jr. – Sr.
3. DE Writing Instructor: a high school teacher – a college instructor – both – don’t remember
4. DE Location: my high school – online – a college campus
5. Major:
Semi-Structured Interview Protocol

Motivation to Take DE Composition Course(s)
   1. Why did you choose to earn credit for college composition through DE?

Quality of DE Writing Experience
   2. Do you believe the grades you received in DE composition were fair? Why or why not?
   3. Other than percentages and letter grades, what other type of feedback did you receive from your composition instructor? How was it helpful or not helpful?
   4. What type of feedback did you receive from your peers? How was it helpful or not helpful?
   5. If you had to make the decision again, would you take DE composition, traditional composition on campus, or use another pathway to get credit for ENGL 1001? Why?
   6. Based on the writing that you might be doing now or that you have done in other courses (200-level and above), do you think your DE writing classes prepared you adequately? Can you elaborate on what makes you feel that way?
   7. How do you view yourself as a writer?

Impact of Taking DE Composition
   8. What has been the impact of your writing experiences on your career path and choice of major?
APPENDIX C. IRB APPROVALS AND MODIFICATIONS

ACTION ON EXEMPTION APPROVAL REQUEST

TO: Erin Scott-Stewart
EDCI

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: October 20, 2016

RE: IRB# E10169

TITLE: LSU Students’ Writing Experiences, Writing Self-Efficacy and Self-Regulatory Learning Strategies for Writing


Review Date: 10/20/2016
Approved________ X _______ Disapproved________

Approval Date: 10/20/2016 Approval Expiration Date: 10/19/2019

Exemption Category/Paragraph: 1; 2a

Signed Consent Waived?: Yes for online, No for in person

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work in Grant proposal: (if applicable)

By: Dennis Landin, Chairman

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING – Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU’s Assurance of Compliance with DHHS regulations for the protection of human subjects.
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
8. SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.

* All investigators and support staff have access to copies of the Belmont Report, LSU’s Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.lsu.edu/irb
ACTION ON EXEMPTION APPROVAL REQUEST

TO: Erin Scott-Stewart
    EDCI

FROM: Dennis Landin
      Chair, Institutional Review Board

DATE: February 22, 2017

RE: IRB# E10169

TITLE: LSU Students’ Writing Experiences, Writing Self-Efficacy and Self-Regulatory Learning Strategies for Writing

Brief Modification Description: Change co-investigator

Review date: 2/21/2017

Approved X Disapproved

Approval Date: 2/21/2017 Approval Expiration Date: 10/19/2019

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (if applicable):

Protocol Matches Scope of Work in Grant proposal: (If applicable)

By: Dennis Landin, Chairman

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING – Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects.
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8. SPECIAL NOTE: Make sure you use bcc when emailing more than one recipient. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.

*All Investigators and support staff have access to copies of the Belmont Report, LSU’s Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.tsu.edu/irb
ACTION ON EXEMPTION APPROVAL REQUEST

TO: 
Erin Scott-Stewart
EDCI

FROM: 
Dennis Landin
Chair, Institutional Review Board

DATE: 
March 6, 2017

RE: 
IRB# E10169

TITLE: 
LSU Students' Writing Experiences, Writing Self-Efficacy and Self-Regulatory Learning Strategies for Writing

Brief Modification Description: include collection of institutional data for statistical analysis

Review date: 3/6/2017

Approved X Disapproved ___

Approval Date: 3/6/2017 Approval Expiration Date: 10/19/2019

Re-review frequency: (three years unless otherwise stated)

LSU Proposal Number (If applicable):

Protocol Matches Scope of Work in Grant proposal: (If applicable)

By: Dennis Landin, Chairman ___

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –
Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
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VITA

The investigator is a Louisiana native. She earned a Bachelor of Science in Management in Accounting from Tulane University in 2001 and subsequently pursued a career in accounting in New York City, where she worked for PricewaterhouseCoopers, LLP and Credit Suisse Group.

In 2005, she changed career tracks and for twelve years, she has been a secondary English language arts teacher in St. James Parish, Louisiana. In her capacity as a high school English teacher, she has also taught dual enrollment composition courses.

The researcher completed a Master of Education in Curriculum and Instruction at Nicholls State University in 2011. She plans to continue her research in the areas of secondary English language arts curriculum and dual enrollment composition studies.