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Differences in the Dual Credit Experience between High School and Institutions of Higher Education

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by

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Dr. Rhonda Bishop, Dissertation Chair — 8-23-18 Date

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work at Lindenwood University and that I have not submitted it for any other college or university course or degree.

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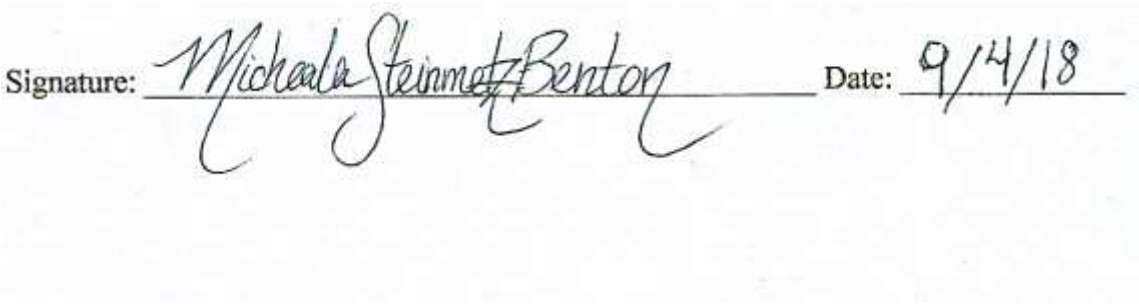

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Abstract

Dual credit courses are college-level courses offered to high school students which are accepted for both high school and college credit (Hughes, 2016). Dual credit positively impacts students by reducing the time to complete a degree, enhancing the high school curriculum, increasing college accessibility, and lessening educational financial burdens (Hughes, 2016). The intention of this study was to survey adjunct instructors who have taught in both high school and college environments to determine their opinions of differences that exist between secondary and postsecondary dual credit experiences. College administrators were also interviewed to obtain insight into any variability of dual credit courses between offerings at high school and college locations. This study was intended to close gaps in the research regarding differences in resources, instruction, and environments between dual credit experiences on high school or college campuses, according to instructors and administrators. Data were gathered from instructors and administrators employed by a Midwestern community college to examine variations of components related to dual credit. Teachers noted differences in social environments, laboratories or lab-based classrooms, financial support, and student services. Administrators focused on accessibility and the need for growth regarding professional development. Study results can be used to further develop dual credit programs and increase quality for students who enroll.

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Chapter One: Introduction

Students spend around 15,000 hours in a classroom by the conclusion of secondary school and approximately 20,000 hours by the end of college (Fraser, 2015). However, regardless of the observable significance of what happens in classrooms, many educators and researchers focus heavily on the assessment of academic achievement (Fraser, 2015; Hughes, 2016). This research study was dedicated to investigating how, and if, classroom learning environments change from secondary settings to higher education based on strategies, resources, and environments used by instructors and institutions.

Part of the research for this study is considered to be learning design research, which focuses on how teachers can behave as designers of learning activities based on specific educational objectives (Hernández Leo, Asensio-Pérez, Derntl, Pozzi, Chacón Pérez, Prieto, & Persico, 2018). Having constructive classroom environments is an important objective of education (Fraser, 2015). According to Fraser (2015), "extensive past research provides consistent evidence that the classroom environment is so consistently associated with student outcomes that it should not be ignored" (p. 154).

The following chapter contains information regarding the background of this study as well as the theoretical framework. Subsequent to this, the problem is identified and purpose of the study is explained in greater detail. A list of research questions and relevant terminology are also included in Chapter One. Furthermore, Chapter One includes a brief explanation of biases, assumptions, and limitations for the study. Finally, an end of chapter summary is used to review key information.

Background of the Study

Dual credit courses are college-level courses offered to high school students which are accepted for both high school and college credit (Hughes, 2016). There are several attractive components of dual enrollment, including reduced time-to-completion and increased affordability for degree-seeking students (Hughes, 2016). Specifically, Hughes (2016) found participants in dual enrollment programs are significantly more likely to experience a shorter time to degree completion and lower costs, as measured by student loans when compared to non-participants. An and Taylor (2015) had similar findings, reporting dual enrollment programs work to enhance high school curriculum, increase college accessibility, reduce time required to obtain a college degree, and ease the financial burden to students.

Hughes (2016) noted dual enrollment participation has a statistically significant positive impact on whether a student will continue to attain a bachelor's degree. Moreover, students who participate in dual credit programs are less likely to enroll in remedial courses (Grubb, Scott, & Good, 2016). The main purpose of offering dual credit courses is to give high-performing high school students the opportunity to experience high-quality college education (Missouri Department of Higher Education, 2009). These higher-level courses are appropriate to challenge students who have grasped high school curriculum and wish to learn college-level material that is more rigorous (Missouri Department of Higher Education, 2009).

Dual credit programs may also benefit institutional enrollment rates as participants are more likely to be academically motivated to enroll in colleges and universities than non-participants (Giani, Alexander, & Reyes, 2014). Giani et al. (2014)

continued by stating dual enrollment is a promising strategy for increasing the probability of students accessing, persisting through, and completing a degree, and is conceivably even more impactful than advanced coursework. In this way, dual credit courses also serve as a way to enhance and develop high school curriculum, provide introductory college coursework, and elude redundancy in coursework as students move from high school campuses to institutions of higher education (Missouri Department of Higher Education, 2009).

In regards to instruction, dual credit courses may be taught by college faculty who instruct high school students either on a campus of higher education, such as a college or university, or on-site at a high school (Missouri Department of Higher Education, 2009). Courses where students can obtain both college and high school credit may also be taught online, and therefore, students may take them using technological devices (Missouri Department of Higher Education, 2009). According to Hicks and Lewis (2015), the environment in which courses are taken may influence student success. Additional research by Hicks and Lewis (2015) found "on campus discourses appear to challenge or support students' existing goals and self-concepts" (p. 21). Furthermore, researchers have found social adjustment to college culture plays a critical role in student persistence in higher education (Gray, Vitak, Easton, & Ellison, 2013).

Because there are different environments in which dual credit courses may be taught, different instructional strategies may also be employed (Taylor, Borden, & Park, 2015). Herein lies the differences of pedagogy and andragogy (Ozuah, 2016). Pedagogy is the term used to describe "the art and science of teaching children" (Ozuah, 2016, p. 83). On the other hand, andragogy is the term used to describe the approach to adult

learning (Ozuah, 2016). Pedagogy is based on four major assumptions, including the idea that younger learners do not know their learning needs, learning is centered on the subject matter, learners need to be motivated extrinsically via rewards and punishment, and prior experience of the learner is not consequential (Ozuah, 2016). Instruction aimed at assisting K-12 students with meeting difficult learning goals is planned by drawing upon knowledge of pedagogy (Burden, 2016). Alternatively, andragogy focuses heavily on the adult learner's previous experiences and ability to problem solve (Ozuah, 2016). These different strategies are based on the concept that adults and children, or adolescents, learn differently (Knowles, Holton, & Swanson, 2014).

Finally, human and fiscal resource availability can vary between high school and college campuses (Taylor et al., 2015). For example, colleges often provide academic supports including "summer bridge programs, learning communities, academic counseling, and tutoring, as well as student supports such as financial aid and child care" (Bettinger, Boatman, & Long, 2013, p. 93). A potential advantage for students that attend classes at the college or university is they have access to all of the support services available as any other student on campus, including tutoring and advising (Hull, 2004).

Furthermore, counselors and advisors at the high school are frequently overworked and sometimes unable to give students the personal attention they need (Hull, 2004). Additionally, many high school counselors are unacquainted with the diversity of career options and educational requirements necessary to enter certain fields (Hull, 2004). Thus, dual enrollment students who attend courses at the college can easily access those counselors as an additional resource for determining their postsecondary plans (Bettinger et al., 2013; Hull, 2005).

Theoretical Framework

Lave and Wenger, as cited in Korthagen (2010), developed situated learning theory as a way to increase and improve understanding of teacher behavior and teacher learning. Situated learning theory is supplemented by experimental data on teacher learning alongside neurological research (Korthagen, 2010). Situated learning focuses on how individuals acquire professional skills, extending research on education into how genuine peripheral participation leads to involvement in a community of practice (Lave & Wenger, 1991). Social and situated learning focuses on the association between learning and the social situation in which it happens (Lave & Wenger, 1991).

The major components of situated learning theory include content, context, community, and participation (Lave & Wenger, 1991). Content includes facts and procedures of a particular task, while context refers to situations, values, and environmental cues (Lave & Wenger, 1991). Community refers to the group with whom the learner will create and communicate, and participation involves a learner working together with others to problem solve (Lave & Wenger, 1991). Situated learning deals with knowledge over the course of an activity and how the learner creates and interprets (Lave & Wenger, 1991).

For the interest of this particular study, the area of context is of the utmost importance. Context is impacted by places and situations in the social, psychological, and physical environment and thus creates a platform to inspect experiences (Lave & Wenger, 1991). According to Lave and Wenger (1991), learning is a social phenomenon and could very well be impacted by the environment in which learning is taking place. The main idea of situated learning theory is learning cannot be accomplished or viewed

independently from the context in which it occurs (Bell, Maeng, & Binns, 2013). Therefore, differences in the environment of a high school campus when compared to an institution of higher education could influence student learning but also how teachers accommodate learning (Bell et al., 2013).

A major assumption of situated learning is interactions between individuals often result in knowledge (Bell et al., 2013). Therefore, the theoretical framework of situated learning is grounded in the social learning theory, beginning with the foundation that humans are sociable and learning takes place as a result of social participation (Thacker, 2017). How people, particularly students and teachers, interact with each other and their surroundings influences both their actions and perceptions of those actions and experiences, therefore shaping learning (Thacker, 2017).

Wenger (1998) listed the four primary components of social learning theory as belonging, becoming, experience, and doing. All of these components are interconnected and relevant to the theory, however, concepts of practice and community are the most pertinent for this study (Wenger, 1998). Doing, or practice, is "a way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action" (Wenger, 1998, p. 5). Belonging, or community, is "a way of talking about the social configurations in which our enterprises are defined as worth pursuing and our participation is recognizable as competence" (Wenger, 1998, p. 5). How students are engaged by teachers, either via andragogy or pedagogy, can impact learning (Thacker, 2017; Wenger, 1998).

Statement of the Problem

Although several aforementioned studies have indicated dual enrollment produces positive effects for students, less is known about the mechanisms these programs employ to support students and how they differ between the high school setting and college (Lile, Ottusch, Jones, & Richards, 2017). As previously established, with dual enrollment all students can obtain the same college credit, but it is offered in different settings (Missouri Department of Higher Education, 2009). Settings may be at an institution of higher education, such as a college or university, or at a high school (Missouri Department of Higher Education, 2009). Because of the variation in settings, there are several items to consider surrounding the determination of quality assurance of dual credit experiences (Taylor et al., 2015). Dual credit courses can be impacted by variables such as resources, teaching strategies, and learning environments (Taylor et al., 2015). Engagement of high school and college faculty on these considerations may lead to benefits, particularly because these individuals could provide a comprehensive understanding of course expectations, curriculum, teaching strategies, and assessment (Taylor et al., 2015). To improve alignment between high school and college and to increase dual credit course quality, one could engage faculty who have taught in both situations to give feedback (Taylor et al., 2015).

Situated learning theory focuses on how individuals obtain skills based on the situation they are integrated in (Lave & Wenger, 1991). The research of Lave and Wenger (1991) established learning is based on social interactions and is thereby impacted by the social environment in which learning is taking place. There may be differences between what high schools teach and what institutions of higher education

expect (Venezia & Jaeger, 2013). Additionally, there can be significant disparities "between the instruction offered by high schools with high concentrations of students in poverty and that offered by high schools with more advantaged students" (Venezia & Jaeger, 2013, p. 117). There is also something to be said regarding the importance of variables, such as the influence of peers and circumstances that embolden academic study (Venezia & Jaeger, 2013).

Purpose of the Study

The purpose of this study was to determine whether differences existed between high school and college settings for dual credit students regarding learning environments, instructional strategies, and resources. Instructors who have taught the same course for dual credit and college, or administrators, may recognize differences between these two educational settings and understand the significance of those differences (Taylor et al., 2015). Identifying whether there is a gap in the educational experience of students who take dual credit courses at a college versus those who take them in a high school classroom is relevant to quality assurance and the legitimacy of dual credit programs (Borden, Taylor, Park, & Seiler, 2013). The goal of this study was to address an existing gap in literature regarding the alignment of dual credit courses with college courses (Borden et al., 2013).

Research questions. The following research questions guided the study:

1. In what ways are social learning environments different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?

2. In what ways are instructional strategies and requirements different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?
3. In what ways are classroom, fiscal, and/or human resources different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?
4. What are college administrator perceptions of courses taught both on campus and as dual credit?

Definitions of Key Terms

For the purposes of this study, the following terms are defined:

Andragogy. Methodology used by instructors of adult learners which focuses on learners' previous experiences (Ozuah, 2016).

Dual enrollment. A college-level course which high school students can take and receive college credit for upon completion, also referred to as dual credit or concurrent enrollment (An & Taylor, 2015).

Pedagogy. The art and science of teaching children, often used by K-12 instructors (Ozuah, 2016).

Limitations, Bias, and Assumptions

The following limitations were identified in this study:

Sample demographics. The sample of this study was a limitation, because it was obtained from one Midwestern community college (Creswell & Creswell, 2017). Therefore, data from this study cannot be widely generalized (Creswell & Creswell,

2017). For potential future studies, more than one institution should be included in the study (Creswell, 2014; Creswell & Creswell, 2017).

Instrument. A web survey was used to obtain data for this study, which can be considered a limitation because no opportunities for open-ended answers were available to participants (Creswell & Creswell, 2017). Additionally, web surveys given via email can put participants into web survey mode (Callegaro, Manfreda, & Vehovar, 2015). Web survey mode effect can create a measurement error, which relates to the difference between the survey response submitted by a participant and the actual answer (Callegaro et al., 2015).

Bias. According to Smith and Noble (2014) bias exists in all research, can occur at any point in the research process, and consequently can influence the legitimacy of a study. There may be bias within this study because the researcher is a dual credit instructor for a Midwestern high school. Additionally, the researcher has previously taught at a community college and dual credit courses.

The following assumptions were accepted:

1. The responses of participants were offered honestly and without bias.
2. The participants are educators who have or currently teach dual college credit courses at both a secondary school and an institution of higher education, such as a college or university.

Summary

Students spend thousands of hours in high school and college classrooms, and these environments may vary enough to impact their learning experiences (Fraser, 2015). Background information has established there could be differences in teaching strategies,

such as andragogy and pedagogy, social environments, and resources (Gray et al., 2013; Hicks & Lewis, 2015). Situated learning theory by Lave and Wenger (1991) establishes the aforementioned variables may impact learning outcomes. Therefore, the purpose of this study was to close the gap of literature regarding legitimacy and consistency of dual credit programs. The goal of this study, of course, was achieved with some bias, limitations, and assumptions regarding the research.

For Chapter Two, a review of literature was conducted to support this study. To solidify the theoretical framework of this research, more information is introduced regarding situated learning and social learning theory. Furthermore, each of the topics for analysis, environments, resources, and teaching strategies for dual credit scenarios, are discussed in detail. Finally, all topics in Chapter Two are summarized to recount major topics of the section.

Chapter Two: Review of Literature

As discussed in Chapter One, dual credit courses are taught by college faculty who teach secondary school students on a college or university campus, or at the high school itself (Missouri Department of Higher Education, 2009). Some dual credit courses are taught online where students have options to either take them from the high school campus, or at home using a laptop or other device (Missouri Department of Higher Education, 2009). According to Hicks and Lewis (2015), the experience of being on campus seems to impact students' self-concepts, either positively or negatively. Moreover, studies indicate adjusting to the cultural environment of a college or university can impact a student's choice to persist through to achieving their degree (Gray et al., 2013).

Faculty may use different teaching strategies depending on the campus, or platform they use to teach (Taylor et al., 2015). Pedagogy is teaching designed for children and adolescents while andragogy is the strategy used to support adult learning (Ozuah, 2016). These two teaching philosophies are centered on the notion adults and children acquire information in different ways (Knowles et al., 2014). Pedagogy is often the type of instruction used in K-12 settings as a way to support younger students in achieving learning goals (Burden, 2016). The purpose of employing andragogy is to support adult learners by expanding on their previous experiences, thus andragogy is often the type of instruction used at institutions of higher education (Ozuah, 2016).

Finally, human and fiscal resources may vary between high schools and colleges or universities (Taylor et al., 2015). Colleges often provide academic assistance including summer programs and academic support centers with tutors and advisors

(Bettinger et al., 2013). Advisors and counselors can be found in high schools as well, but sometimes these individuals are overworked and unacquainted with various career options and program requirements necessary to enter certain fields (Hull, 2004). There may be differences in classroom resources between high school and college as well, such as lab equipment and technology, which could impact how teachers perform in the classroom (Lave & Wenger, 1991). Again, there is limited information on the divergence between college and dual credit experience, so it is an area ideal for study (Taylor et al., 2015).

Theoretical Framework

Situated learning theory is applicable in discussions of adult education because it provides a basis for understanding how adults engage in learning (Buckland, 2014; Lave & Wenger, 1991). According to Buckland (2014), there are three major elements which effect situated learning; relationships, community, and tools. In regard to situated learning, it has been theorized learning takes place within the context of interpersonal relationships where students are able to discuss and debate novel concepts or ideas (Buckland, 2014; Lave & Wenger, 1991). When learners are engaged with one another, conversations can aid in understanding personal biases and assumptions individuals may have (Buckland, 2014).

In situated learning theory, learning is impacted by the geographic community in which a person dwells (Buckland, 2014). As an example, many urban and rural communities can vary significantly in things such as poverty levels, unemployment rates, and social assistance reliance levels (Buckland, 2014). Differences in poverty levels can have important implications for educational environments, and consequently impact a

student's ability to learn (Chandler, 2014). According to Chandler (2014), students are less successful achieving learning outcomes when attending schools in impoverished areas. In the case of dual credit courses, students may be taught on a high school or college campus thus leaving them exposed to different environments and, subsequently, different learning experiences (Tobolowsky & Allen, 2016).

The final factor of situated learning theory is students learn with tools or resources available to them (Buckland, 2014; Lave & Wenger, 1991). The term "tools" refers to resources used to support learning such as technologies, services, and products (Buckland, 2014). Many community colleges which offer dual credit also support students with services such as advising, tutoring, and financial aid (Tobolowsky & Allen, 2016). However, if students are taking dual credit courses at their high school, these resources may not be an option for them (Tobolowsky & Allen, 2016). Furthermore, often dual credit money used to purchase equipment and supplies is dispensed the following academic year (Lukes, 2014). Because of differences with fund disbursement, there can be issues obtaining certain supplies, such as lab equipment, needed by a particular dual credit course (Lukes, 2014).

Another theory which could be applied to this study is the anticipatory socialization theory. According to Merton (1957), anticipatory socialization is the process in which people, who are not a part of the groups in question, learn to take on the standards and ethics of groups they seek to join. Anticipatory socialization, facilitated by social interactions, is meant to ease a person's admission into a group as well as to help the person network capably once becoming a member of the group (Merton, 1957). Dual credit coursework taken in a college setting may socialize students to life in higher

education as they gain familiarity with expectations (Tobolowsky & Ozuna Allen, 2016). The anticipatory socialization and situated learning theories connect regarding this study because situational learning can be influenced by the social environment (Lave & Wenger, 1991).

The Importance of Dual Credit Research

According to Tobolowsky and Ozuna Allen (2016), most research which exists regarding dual credit programs is developed with a perspective too general or too specific to be extrapolated. As an example, many publications on dual credit provide information regarding teacher eligibility, expenses, and student requirements based on location (Tobolowsky & Ozuna Allen, 2016). On the other hand, some articles focus primarily on dual credit topics only significant to an individual school or a specific course, which has limited applicability to the field because of the distinctive components of those scenarios (Bruch & Frank, 2011; Johnson, Jarrell, & Adkins, 2015). Research on the dual credit experience is important because any disparities between these courses need to be uncovered in case those differences can impact student outcomes (Tobolowsky & Ozuna Allen, 2016).

According to Giani et al. (2014), dual credit enrollment likely increases the chances of students obtaining a degree in higher education. However, these authors also noted significant variation in the benefit of dual credit (Giani et al., 2014). Although Hughes, Rodriquez, Edwards, and Belfield (2012) promoted vocational dual credit courses as a way to increase postsecondary accessibility, other researchers disagreed. Giani et al. (2014) found the impact of vocational, or occupational, dual credit courses on student outcomes in higher education was relatively minor. In contrast, researchers

identified dual credit courses in core academic subjects, such as math and science, were more likely to impact student success by way of persistence and completion in higher education (Giani et al., 2014).

Defining dual credit. The term "dual credit" can vary greatly in the way it is used in publications and is often used to describe several different scenarios in education, including concurrent enrollment or dual enrollment (Cetin, Moore, & Bowman, 2014; Giani et al., 2014; Tobolowsky & Allen, 2016). Furthermore, dual credit programs may vary by rigor, content, teaching strategies, and arrangement (Cetin et al., 2014; Giani et al., 2014; Tobolowsky & Allen, 2016). For this study, dual credit refers to a course or a set of courses in which secondary students can enroll to obtain both college and high school credit concurrently without a mandatory standardized test (Tobolowsky & Allen, 2016).

The location of dual credit courses can vary from program to program (Cetin et al., 2014). Dual credit programs can have students enroll in college courses at their high school campus and engage in distance learning, or students may have the opportunity to attend dual credit classes at an institution of higher education (Cetin et al., 2014). Thus, dual credit courses can be taken at institutions such as community colleges, four-year private colleges or universities, and four-year public colleges or universities (Tobolowsky & Allen, 2016). Dual credit courses are more likely to be offered at a high school location than at the college or university campus, according to recent national data (Zinth, 2014).

Differences between courses offered in high school. Dual credit programs can often be confused with advanced placement and international baccalaureate programs,

but these are separate entities (Tobolowsky & Allen, 2016). Both advanced placement and international baccalaureate programs are standardized, meaning they have required exams for students to take to obtain college credit (Tobolowsky & Allen, 2016). Additionally, advanced placement courses and international baccalaureate programs are only offered to high school students considered to be high-achieving (Cetin et al., 2014).

Dual credit courses are different because they allow low-achieving high school students the opportunity to obtain college credit (Cetin et al., 2014). According to Tobolowsky and Allen (2016), advanced placement programs allow students to enroll in specific advanced coursework, while international baccalaureate programs have established curriculum which focuses on the development of global citizenship (Tobolowsky & Allen, 2016). Dual credit differs from these two programs because it does not have a traditional curriculum (Tobolowsky & Allen, 2016).

Because advanced placement and international baccalaureate programs have a conventional curriculum, they often are not questioned for quality as much as dual credit programs (Cetin et al., 2014; Tobolowsky & Allen, 2016). The variability of dual credit programs can prompt colleges and universities to refuse these courses, which can impact a student's decision to attend a particular institution (Tobolowsky & Allen, 2016). However, when students enroll in either dual credit, advanced placement, or international baccalaureate programs they are more likely to experience higher academic rigor and lower costs for college attendance, which can help to ease the transition to higher education (Young, Joyner, & Slate, 2013).

The Dual Credit Experience

The original intention of dual credit programs was to provide academic rigor for high-achieving high school students, but over time these programs have extended opportunities to middle- and lower-achieving students as well (Tobolowsky & Allen, 2016). Results from a previous study indicated dual credit courses help students persist through and graduate from college when compared to their nonparticipant counterparts (Tobolowsky & Ozuna Allen, 2016). On the other hand, some researchers have found dual credit participants do not gain these benefits and exposing younger students to a college atmosphere could be riskier than rewarding (Tobolowsky & Allen, 2016). Moreover, some studies suggest women obtain more academic gains from dual credit, whereas others contend men see greater advantages (Tobolowsky & Ozuna Allen, 2016).

Benefits of dual credit participation. Trends in research indicate several benefits for students enrolling in dual credit programs, including reduced college expenses and time to degree completion (Tobolowsky & Allen, 2016). Additionally, courses offered at a college or university campus serve as a way to introduce students to an authentic college experience which can be a helpful way for students to adjust and transition into a higher education setting (Pretlow & Wathington, 2014). Researchers have also found students who take relatively challenging courses in secondary education are more likely to persist to graduation than other students (Tobolowsky & Ozuna, 2016).

Blankenberger, Lichtenberger, and Witt (2017) found students who did not participate in dual credit were significantly less likely to obtain a baccalaureate degree than their peers who took dual credit courses. Postsecondary degree attainment is statistically more likely for dual credit participants than nonparticipants, even when

considering the multiple selectivity levels of different colleges and universities (Blankenberger et al., 2017). For these reasons, the popularity of dual credit programs has grown considerably since the 1990s (Karp, 2012).

According to the Education Commission of the States (2013), there are additional advantages to affiliating with institutions of higher education for dual credit programs. Students who have participated in dual credit programs are more likely to enroll at both four-year institutions and community colleges upon high school graduation (Lichtenberger, Witt, Blankenberger, & Franklin, 2014). Agreements with four-year institutions help increase the quality of dual credit programs and guarantee credits will be accepted by other colleges and universities (Education Commission of the States, 2013). Dual credit programs offered at community, or junior colleges, can increase accessibility for students because they are typically situated near students' homes and may seem more approachable (Education Commission of the States, 2013). Enrollment in dual credit programs can provide a college course experience to populations of students which are traditionally underserved by higher education (Kilgore & Wagner, 2017).

Types of dual credit offerings. There are three categories of dual credit programs which have been generally recognized, including singleton, comprehensive, and enhanced comprehensive (Bailey & Karp, 2003). If students take a single course which fulfils their required credit hours for high school and college simultaneously, the program is known as singleton (Bailey & Karp, 2003). Dual credit courses identified as singleton are typically electives intended to familiarize students with college-level coursework (Tobolowsky & Ozuna Allen, 2016). In singleton dual credit programs, the student does not necessarily experience the full impact or rigor of postsecondary

education because their schedule does not contain all college-level courses (Tobolowsky & Ozuna Allen, 2016).

Although dual credit programs are not meant to mimic the higher education experience in its entirety, they can enhance students' high school educational experience and allow students to advance academically (Tobolowsky & Ozuna Allen, 2016). According to Tobolowsky and Ozuna Allen (2016), singleton dual credit programs are often offered by the high school and taught by high school teachers. Some dual credit courses fall into the singleton category, although advanced placement courses are often what comprises singleton programs (Tobolowsky & Ozuna Allen, 2016). Singleton courses are usually taken by driven students who are seeking an academic challenge to be better prepared for higher education (Tobolowsky & Ozuna Allen, 2016).

If courses taken by students can earn them high school and college credit concurrently, the dual credit program is characterized as comprehensive (Bailey & Karp, 2003). Comprehensive programs allow students to enroll in particular college-level courses in their final years of secondary education (Tobolowsky & Ozuna Allen, 2016). The main objective of comprehensive programs is to present students with the challenge and opportunities of higher education (Tobolowsky & Ozuna Allen, 2016). International baccalaureate programs are the primary type of comprehensive programs seen in high schools, however, some dual credit programs fall under this category as well (Bailey & Karp, 2003). Gifted individuals and students with average academic records can both enroll and participate in comprehensive programs (Tobolowsky & Ozuna Allen, 2016).

If the majority of courses taken by students earns them secondary and postsecondary credit hours simultaneously, the dual credit program is categorized as an

enhanced comprehensive program (Bailey & Karp, 2003). Enhanced comprehensive programs provide rigorous classes to students while also offering support services which focus on the transition from secondary to postsecondary education (Tobolowsky & Ozuna Allen, 2016). Counseling, mentorship, and other student support services are traditionally provided to students in enhanced comprehensive programs (Tobolowsky & Ozuna Allen, 2016). Students who are from underrepresented groups or students with average to below average academic records often enroll in enhanced comprehensive programs (Tobolowsky & Ozuna Allen, 2016). Early or middle college programs provided by high schools and colleges would be classified as enhanced comprehensive programs (Tobolowsky & Ozuna Allen, 2016).

Student participants and eligibility for dual credit. It has previously been established dual credit participants are more likely to obtain postsecondary degrees than the nonparticipants (Blankenberger et al., 2017). However, according to Blankenberger et al. (2017), the most significant effects of dual credit participation on postsecondary degree attainment is observed for students who choose to attend community colleges after high school. According to the Education Commission of the States (2013), policymakers for the state determine which students are qualified to enroll in dual credit programs. School districts, colleges, and universities may also govern academic requirements for students via dual credit agreements and communications (Education Commission of the States, 2013). Tobolowsky and Ozuna Allen (2016) found private institutions and community colleges are less likely to implement dual credit eligibility requirements than public four-year institutions. Secondary grade level, class rank, cumulative grade point average, standardized test scores, parental permission, letters of recommendation,

prerequisites, and placement exams can all be factors in determining whether or not a student is considered to be eligible for a dual credit program (Marken, Gray, & Lewis, 2013).

Most students enrolled in dual credit programs are juniors and seniors in the 11th or 12th grade, although some institutions of higher education will allow 9th and 10th graders to enroll as well (Borden et al., 2013). Younger high school students are more commonly accepted at community colleges than any other institution-type (Marken et al., 2013). In certain locations of the United States, such has Maine or Arizona, postsecondary institutions can waive age restrictions and provide dual credit opportunities to middle school students (Education Commission of the States, 2013). According to the Florida Department of Education (2014), 6th graders are eligible to participate in dual credit programs as long as their grade point averages and placement exam scores are sufficient.

The number of student requirements to participate in dual credit programs have deteriorated in recent years, however, high school grade point averages may still be taken into consideration in certain areas of the country (Education Commission of the States, 2013). A mere 13 states applied grade point average requirements in their dual credit policies in the year 2013 (Borden et al., 2013). By 2015, only six states enforced a prerequisite grade point average for dual credit participants (Education Commission of the States, 2013). Dual credit eligibility requirements can vary significantly between postsecondary institutions and can also differ based on a student's intended major (Tobolowsky & Ozuna Allen, 2016). According to the Education Commission of the States (2013), Georgia and North Carolina require their dual credit students to carry at

least a 3.5 grade point average. However, policies in the state of Maine require students to have at least a 3.0 grade point average to participate in dual credit programs (Education Commission of the States, 2013). In the state of Florida, policymakers require dual credit students in academic courses maintain at least a 3.0 grade point average while students in career courses only need to maintain a grade point average of 2.0 (Florida Department of Education, 2014).

The type of institution may also determine whether or not student grade point averages are significant for dual credit eligibility (Tobolowsky & Ozuna Allen, 2016). Four-year public and private institutions of higher education are more likely to require students to achieve particular grade point averages for dual credit eligibility when compared to other institutions (Hanover Research, 2014). Two-year institutions, such as community colleges, do not often require a particular grade point average for their dual credit students (Hanover Research, 2014).

Another factor often used by institutions to determine student eligibility for dual credit are standardized test scores or placement exams (Tobolowsky & Ozuna Allen, 2016). Less than half of all colleges and universities offering dual credit require students achieve a minimum score on a standardized assessment to be qualified to enroll in a dual credit program (Hanover Research, 2014; Marken et al., 2013). Additionally, it is also common for a placement exam to be required by two-year public institutions (Tobolowsky & Ozuna Allen, 2016). For students to be successful, it is important to insure students enroll in suitable dual credit courses, therefore information from assessments can be useful in determining academic level and eligibility (Tobolowsky & Ozuna Allen, 2016).

Dual credit eligibility requirements can differ between the various types of institutions (Tobolowsky & Ozuna Allen, 2016). Quite often students must achieve a minimum score on a placement exam, obtain an acceptable test score from a standardized assessment, and have a specific grade point average to be eligible for dual credit programs provided by community colleges (Marken et al., 2013). Four-year public institutions often want the aforementioned requirements of their dual credit participants, in addition to letters of recommendation (Marken et al., 2013). According to Marken et al. (2013), private four-year institutions often necessitate a minimum grade point average of students seeking dual credit eligibility in addition to a letter of recommendation and various other requirements. Over time, many institutions have changed eligibility requirements for dual credit programs as they strive to improve accessibility while also working to maintain quality (Tobolowsky & Ozuna Allen, 2016).

Dual credit and racial inequity. Data from other studies suggested enrollment in dual credit programs only benefit certain students (Taylor, 2015). There may be unbalanced educational improvements for students as a result of dual credit participation (Taylor, 2015). According to Taylor (2015), Caucasian students often gain greater long-term benefits from dual credit enrollment than students of other races. Pretlow and Washington (2014) noted minority groups remain significantly underrepresented in dual credit programs when compared to other student populations. Statistics presented by the U.S. Department of Education (2015) found between 2002 and 2012, the percentage of

Caucasian, Hispanic, and Asian/Pacific Islander students enrolled in higher education increased, whereas the percentage of African American students deteriorated.

Pretlow and Wathington (2014) studied dual credit outcomes for students following a state policy change in Virginia. The policy change was developed to promote outreach and access for minority students, so Pretlow and Wathington (2014) sought to investigate if the change expanded dual credit access, participation, and enrollment. Researchers discovered enrollment in one dual credit course increased for all students, however, Caucasian students in dual credit courses remained overrepresented (Pretlow & Wathington, 2014; Taylor, 2015).

In Virginia in 2004, Caucasian students represented 81.6% of the dual credit population, and African American students represented only 13.1% of the dual credit population (Pretlow & Wathington, 2014). Other researchers have similarly found underrepresented groups are less likely to participate in dual credit course offerings and enroll in college when compared to their Caucasian, relatively high-income peers (Tobolowsky & Ozuna, 2016). When a school has a large portion of their student population comprised of minorities and individuals living in poverty, it can be challenging to encourage an environment of college readiness especially while also responding to state accountability standards (Welton & Williams, 2015).

Barriers to obtaining dual credit. Low-income students may face financial barriers which keep them from enrolling in dual credit programs (Roach, Gamez Vargas, & David, 2015). High school students on free or reduced-price meals may be unable to afford tuition, fees, and textbooks required to participate in the dual credit courses (Roach et al., 2015). Additionally, some high school students may depend on school buses for

transportation and are unable to drive to participate in dual credit courses at a college campus (Roach et al., 2015). Transportation is particularly a barrier for students living in rural, low-income areas (Zinth, 2014). According to Roach et al. (2015), students are more likely to enroll in dual credit courses when they are offered at high school locations. However, according to Chavarria (2016), dual credit participants who take courses at the college or university campus instead of in a high school classroom give themselves a relatively higher score of college readiness.

Dual credit in the different subject areas. Another challenge often identified with dual credit programs is whether or not off-campus high school students are receiving the same experience as those students who are enrolled in a conventional college setting (Johnson et al., 2015). According to Johnson et al. (2015), some dual credit courses are impacted by differences in social environments and resources more than others. The results of a previous study found algebra courses had the greatest positive impact on post-secondary outcomes (Giani et al., 2014). However, composition and speech courses are thought to be negatively affected the most (Johnson et al., 2015). Specifically, professors have cited a lack of maturity and weak writing skills of particular concern (Bennett, 2018; Bruch & Frank, 2011; Johnson et al., 2015).

According to a study conducted by Bruch and Frank (2011), composition faculty at Colorado State University reported many incoming dual credit students did not have the same level of knowledge as students from traditional postsecondary courses. Researchers have found areas of concern which could explain discrepancies in the academic performance of dual credit students in composition classes (Bruch & Frank, 2011; Johnson et al., 2015). Several Colorado high schools offer dual credit courses from

multiple institutions (Johnson et al., 2015). Because different groups of students are accessing different electronic collections, the information they are able to obtain can vary (Johnson et al., 2015). Not only can resource availability differ for dual credit composition students, but some of these students may struggle with use of library resources (Bruch & Frank, 2011; Johnson et al., 2015). According to Johnson et al. (2015), only a few academic libraries reach out to students and teachers involved in dual credit programs, and therefore, some dual credit students may not have the opportunity to develop knowledge of information literacy in the way a conventional college student might.

Dual credit English courses were not as beneficial as math, based on another study regarding post-secondary outcomes (Giani et al., 2014). The results of one study indicated dual credit has little to no effect on post-secondary outcomes unless the dual credit courses taken include college algebra (Speroni, 2012). Speroni (2012) found students who enrolled in dual credit algebra were also statistically more likely to earn a degree. Dual credit students are also more likely to achieve greater grade point averages in college and persist through their chosen degree programs if they have taken specific dual credit algebra courses (Chavarria, 2016).

Dual credit science programs may also have some challenges in regard to success and growth (Mattox & Rutherford, 2014). According to Mattox and Rutherford (2014), the success of developing a science dual credit program depends on various factors including program advocacy, administrators from both the secondary school and college or university, high school science department faculty, teachers, and students. Science dual credit programs are more likely to be successful when they have been active for

multiple years, they receive support financially and administratively, teachers are enthusiastic about the subject, students are motivated, and higher education partners are willing to foster relationships (Mattox & Rutherford, 2014). Some of the barriers to dual credit science program success include the limited number of science-certified teachers, little to no support from peers or administrators, course variability, competition with advanced placement courses, inflexible university departments or administrators; and ambiguity regarding standards (Mattox & Rutherford, 2014). However, it is important to improve dual credit science courses because they can increase the likelihood of students will enroll in an institution of higher education and obtain a degree (Giani et al., 2014).

In a study conducted by Dixon and Slate (2014), success rates of designated dual credit courses taken on high school campuses and at community colleges were examined in Texas. Data analysis was conducted from the Texas Higher Education Coordinating Board Interactive Accountability System for the Texas community colleges that offered dual credit courses at high school campuses as well as at community college locations (Dixon & Slate, 2014). Data indicated statistically significant differences in the percentages of student success as compared to student failure, as determined by grades of A, B, C, D, or F (Dixon & Slate, 2014). For specific courses in education, psychology, and government, students were statistically more likely to be successful on high school campuses than at community colleges (Dixon & Slate, 2014). It is important for students to be successful in their dual credit programs because high achievement in core subjects, like social studies, can positively impact student outcomes after high school graduation (Giani et al., 2014).

On the contrary, specific dual credit courses in English taken at community colleges had higher occurrences of D's, F's, and W's (withdrawals) than the equivalent dual credit courses taken at high school campuses (Dixon & Slate, 2014). Differences in academic achievement can be an issue because success in English language arts courses is essential in persistence through higher education (Giani et al., 2014). Students who enroll in and complete core dual credit English courses are more likely to enroll in college and successfully obtain a degree or certificate (Giani et al., 2014).

Requirements of Dual Credit Instructors

Eligibility for instructors of dual credit courses can vary (Borden et al., 2013; Lukes, 2014). According to Lukes (2014), a few requirements need to be met for an individual to teach dual credit courses. Some individuals are required to apply to the affiliated college or university as an adjunct instructor and may also be asked to complete at least 20 hours of Master's level coursework in the appropriate subject (Borden et al., 2013; Lukes, 2014). However, a noted issue with quality assurance of dual credit instruction is the lack of uniform policies in place regarding instructor eligibility and selection (Tobolowsky & Allen, 2016). According to Borden et al. (2013), 79% of states have policies regarding instructor training and credentials for dual credit courses. Policies on instructor eligibility can vary significantly because of the absence of national standards (Tobolowsky & Allen, 2016).

Borden et al. (2013) noted 10 states they researched had no eligibility policies in place at all. Less than half of all states in the United States have unique policies which require dual credit instructors to take specific courses in their Master's degree (Taylor et al., 2015). Guidelines for previous training and continuing professional development for

faculty were included in policy provisions for approximately one third of the states (Taylor et al., 2015). About 14 states had stipulations that dual credit faculty enroll in training before getting to teach dual credit courses (Taylor et al., 2015). Furthermore, 17 states had policies which require dual credit faculty to participate in ongoing professional development activities (Taylor et al., 2015).

There are similarities between state policies as well (Borden et al., 2013). Maryland has a policy which says dual credit instructors are expected to meet the same requirements as regular faculty at the institution of higher education granting the credit (Taylor, et al., 2015). According to Taylor et al. (2015), there are general requirements for dual credit instructors to meet accreditation standards of most colleges and universities. Missouri has a policy for teacher requirements, and regulations clearly state instructor selection "shall meet the requirements. . . as stipulated for accreditation by the Higher Learning Commission" (Taylor et al., 2015, p. 14).

If an instructor does not have the proper credentials to teach for an institution of higher education, they may not be able to hold his or her position when a school implements a dual credit program, even if the instructor has previously had positive student outcomes. (Taylor & Pretlow, 2015). Challenges can be created for high schools and colleges when dual credit instructors fail to fulfill expectations of the college or university (Taylor & Pretlow, 2015). The cost associated with faculty hours needed to offer any discipline-specific training and ongoing professional development can also create a financial challenge for colleges and universities (Borden et al., 2013).

Administrative support of dual credit. Administrative support can be critical to maintaining the quality of a dual credit program (Irvine, 2017). When administrators at

the high school and college level show reduced enthusiasm to continue or expand a program, it is likely to suffer (Irvine, 2017). Deficiencies in the involvement of school administration at both types of institutions such as superintendents, college vice presidents, or deans, can cause a dual credit program to be unsuccessful (Irvine, 2017; Mattox & Rutherford, 2014). A way to avoid administrative frustration is for educational leaders at the college and participating high school to maintain open communication about expectations (Taylor & Pretlow, 2015). For example, when colleges adjust dual credit teacher eligibility, it is important to communicate those updates as lack of communication is a common area of frustration for high school administrators (Taylor & Pretlow, 2015).

When it comes to initiating organizational change and culture, high school principals can play an essential role (Convertino & Graboski-Bauer, 2018). In a study conducted by Convertino and Graboski-Bauer (2018), it was found that when an administrator, such as a high school principal, possesses deficit views of minority and low-income students, those views can conflict with initiatives to support equitable college readiness among students. Additionally, although a principal may successfully develop college readiness supports to put in place, administrative effort could be overcome by various limitations such as weak or ineffective accountability systems (Welton & Williams, 2015).

It can also be important to rely on the expertise of an institution's administrators (Taylor & Prelow, 2015). In a previous study, administration reported dual credit students were taking longer to graduate due to various degree requirements and poor planning of course sequences (Bennett, 2018). At several universities in Texas,

administrators also found that first generation dual credit students were persisting through and graduating college at lower rates when compared to traditional dual credit students (Bennett, 2018). Because administrators have access to information such as time to completion, persistence, and graduation rates, their expert opinions can be valuable when forming preliminary policy recommendations (Bennett, 2018).

Curriculum Alignment, Partnerships, and Faculty Engagement

Another challenge of dual credit involves maintenance of standards between the college and participating high school (Taylor & Pretlow, 2015). College faculty must be willing to work consistently with their high school counterparts in order to guarantee the same curriculum is being taught on campus and off campus (Taylor & Pretlow, 2015). For pedagogy and instructional strategies to be consistent between dual credit courses and the high school, communication should be ongoing between instructors (Taylor & Pretlow, 2015). Furthermore, high school teachers must be willing to adjust curriculum and allow it to be reviewed by relevant college faculty (Taylor & Pretlow, 2015).

Alignment between secondary and postsecondary institutions. In the case of dual credit, ensuring alignment and course equivalency between high school and college level courses is important to provide a smoother transition for high school students to the academic rigor of higher education (Taylor & Pretlow, 2015). Students may struggle when they get to higher level courses if they receive college credit for a class with characteristics and expectations like an average high school class (Taylor & Pretlow, 2015). To maintain a successful dual credit program, it is important to focus on alignment of curricula (Hope, 2016). However, it is the duty of administrative leaders to create buy-in because alignment issues cannot be addressed if only a limited number of

faculty participate in curriculum alignment activities or show little to no interest in the program (Irvine, 2017).

Resources for dual credit programs. Fiscal resources are needed to start and maintain partnerships and activities which allow for improvements to faculty engagement (Borden et al., 2013). Unfortunately, most secondary and postsecondary institutions do not receive additional funding from state policies to support partner or engagement activities for faculty members (Borden et al., 2013). According to Taylor et al. (2015), public institutions of higher education which receive the lowest portion of state funding are community colleges. Therefore, state policies which require colleges to comply with guidelines and procedures regarding partner engagement can come at a cost to those colleges as an unfunded mandate (Taylor et al., 2015).

Support services in dual credit programs. To improve nonacademic and behavioral skills of students, support services provided in dual credit programs may be necessary (Taylor & Pretlow, 2015). For students to be successful, it is essential they learn how to navigate colleges or universities and familiarize themselves with the challenges of higher education (Giani et al., 2014). Orientation programs, academic advisors, career counselors, and tutors are all examples of support services which could be made available to students (Taylor & Pretlow, 2015). These programs and human resources could serve to support the specialized needs of individual students, making it more likely they will be successful in their transition to higher education (Taylor & Pretlow, 2015). However, due to organizational and structural factors, some students in dual credit programs may be unable to gain access to these services (Taylor & Pretlow, 2015). Additionally, even if the college or university does have available services to dual

credit students they could be prevented from taking advantage of them due to time constraints (Taylor & Pretlow, 2015).

School counselors and dual credit programs. Counselors are often responsible for introducing, implementing, and developing dual credit programs in secondary schools (Piontek, Kannapel, Flory, & Stewart, 2016). In recent times, K-12 school counselors have been the focus of initiatives to improve college readiness for students around the nation (Bryan, Young, Griffin, & Henry, 2015). An all-encompassing nationwide educational objective, College Completion Goal 2020, was established to develop better standards and assessments to prepare students for academic success in higher education (Bryan et al., 2015). With College Completion Goal 2020, school counselors are positioned as frontrunners for inclusive school counseling programs meant to endorse a culture of postsecondary accessibility to encourage students to pursue higher education after high school (Bryan et al., 2015).

Academic advisors in higher education. The quality and frequency of academic advising sessions has been positively correlated with student persistence in postsecondary education (Hatch & Garcia, 2017). Research has indicated effective academic advising can be a lead to positive outcomes for students such as relatively higher first-year grade point averages and increased student retention (Kot 2014; Swecker, Fifolt, & Searby, 2013; Young-Jones, Burt, Dixon, & Hawthorne, 2013). For addressing common student issues, such as premature departure from institutions of higher education, academic advising has been noted as a highly successful intervention (Hatch & Garcia, 2017). Academic advisors are concerned, specially trained employees for the institution they

serve and can provide students with an organized academic support system (Hatch & Garcia, 2017).

At the beginning of a student's journey into higher education when novel procedures have been implemented at a college or university or students are unfamiliar with how to register for classes, academic advising can be an essential tool to guide students on their way (Woods et al., 2017). Specifically, academic advising has been found to be most impactful for students attending community colleges (Woods et al., 2017). According to Allen, Smith, and Muehleck (2013), students transferring from community colleges to four-year institutions found advising to be especially important when it came to aligning their academic courses to certain majors and degrees.

Research has previously indicated, when students use advising centers there is a notably positively correlation with higher grade point averages after the first year of college and a negative correlation to attrition (Kot, 2014). Another study revealed the more frequently first-generation college students met with their advisors, the more likely they would be retained for the following semester (Swecker et al., 2013). Young-Jones et al. (2013) found students report greater feelings of responsibility and perceived support when they meet regularly with an advisor.

However, Karp and Stacey (2013) indicated the effectiveness of academic advisors decreases when advisors are met with hefty student caseloads and cannot allocate sufficient time to each student. It appears academic advising is most effective when advisors have enough time to allow for relationship building with their students (Kalamkarian & Karp, 2015). Additionally, advising staff can find it challenging to determine whether a dual credit student has mastered the curriculum of a course well

enough to enroll them in the following course (Allen, Smith, & Muehleck, 2013; Bennett, 2018).

Child care for student parents. Approximately 1 in 6 teenage females is expected to become a parent before the age of 20, indicating teenage pregnancy is on the rise (Mollborn & Blalock, 2012). According to the Mollborn and Blalock (2012), nonparental child care appears to be a promising solution to support education and outcomes of teenage mothers. Students who attend institutions of higher education often have various resources available to them, including child care centers (Hull, 2004). Child care is often provided at college or university campuses, but not at high school locations and can be inaccessible to teenage student parents (U.S. Department of Education, 2018). The Child Care Access Means Parents in School Program is meant to serve low-income parents as they seek to attain degrees by providing them with child care services on college campuses (U.S. Department of Education, 2018).

According to the U.S. Department of Education (2018), monies for the Child Care Access Means Parents in School Program are used to sustain or launch on-campus child care programs. Grants provided through the Child Care Access Means Parents in School Program can also be used to support child care needs of the community in which the college or university is located, thus extending its impact locally (U.S. Department of Education, 2018). Not only can child care impact college accessibility for student parents, but maternal college enrollment and attainment increases the offspring's likelihood of pursuing and persisting through higher education (Monaghan, 2017). The child care program is targeted for institutions of higher education and not high schools,

therefore student-parents who attend dual credit classes on campus could benefit but others would not (U.S. Department of Education, 2018).

Articulation agreements and course transferability. Agreements designed to simplify transfer of credit between educational institutions are articulation agreements. According to Montague (2012), articulation agreements can be valuable as they relate to the transfer of course credits between educational institutions, such as two-year and four-year colleges or universities. Many high school students receive college credit for dual credit courses from two-year colleges they do not necessarily plan to attend after the graduate from high school (Taylor et al., 2015). Although several states have statewide transfer policies and some institutions may even have articulation agreements, many four-year institutions can deny credits obtained from community college dual credit programs (Taylor et al., 2015). Rejection of dual credits has implications for concerns with alignment among institutions and may also create apprehension for students, parents, and policymakers about the quality of dual credit programs (Taylor et al., 2015).

However, the existence of an articulation agreement between institutions is inadequate to ensure success (Irvine, 2017). It is important to develop initiatives to respond to issues which could impact local institutions (Irvine, 2017). Additionally, it is imperative for secondary institutions to maintain responsibility for programs they offer to guarantee dual credit students are appropriately prepared and motivated to transition to their chosen colleges and universities (Irvine, 2017). According to Hope (2016), it is also vital to consider factors outside of the articulation agreement and dual credit program, including curriculum alignment, academic objectives, and strategic planning. Best practices for dual programs should also be identified locally (Montague, 2012).

College readiness, P-16, and P-20 initiatives. Many variables can influence college readiness, including gender, dual credit enrollment, participation extracurricular activities, and timing (Royster, Gross, & Hochbein, 2015). College readiness has been a focus of many educational initiatives, an example being the Common Core State Standards, however, few programs have been developed to track the advancement of younger students toward this aim (Gaertner & McClarty, 2015). Many college readiness systems are established toward the end of a student's K-12 educational experience and these often emphasize academic accomplishments such as grade point averages and standardized test scores (Gaertner & McClarty, 2015). According to Gaertner and McClarty (2015), issues can arise when college readiness interventions are put in place too late in a student's educational career.

School systems have started to establish comprehensive college readiness systems as early as middle school (Gaertner & McClarty, 2015). Research has shown it is important to measure a student's progress on the way to college readiness all through the K-12 career instead of the conclusion of the high school experience to effect change (Mattern, Allen, & Camara, 2016). Moreover, additional factors should be considered and addressed under the topic of college readiness because it comprises more than just academic preparation (Mattern et al., 2016).

P-16 initiatives. Programs developed under state P-16 initiatives are intended to promote college readiness for all students, especially individuals from underrepresented groups (Martinez, Hamilton, Castañeda, Francis IV, & Corcoran, 2015). The P-16 initiatives are largely meant to ease student transitions between the various levels of

education and recognize the different ways in which meaningful interventions and experiences can be supplemented at each phase of the progression (Dixon, 2017). The P-16 and P-20 initiatives and programs are similar because they promote early intervention, early outreach, and college access, however, P-16 initiatives are more focused on reducing the number of students requiring remedial coursework (Martinez et al., 2015).

Different states have developed unique programs under the P-16 initiatives, for example, a university in Texas created a college access summer camp to engage and encourage students to pursue and prepare for higher education (Martinez et al., 2015). In recent times, Ohio has developed P-16 programs which employ business models to approach educational processes (Dixon, 2017). A comprehensive agenda was established by the Completion Task Force, a group formed by policymakers in the State of Ohio, with the intention to provide structure to increase the number of students receiving academic credentials at Ohio's institutions of higher education (Dixon, 2017).

P-20 initiatives. According to the Missouri Department of Education, P-20 initiatives were developed to efficiently link educational systems with the intention to improve student performance, outcomes, and pathways throughout students' academic careers (Missouri Department of Higher Education, n.d.). Missouri is one of many states working to develop a smooth and continuous pipeline between early childhood, elementary, secondary, and postsecondary education through P-20 initiatives (Missouri Department of Higher Education, n.d.). Many state officials have worked to develop and encourage partnerships between K-12 and higher education institutions through state P-20 Councils (Rippner, 2017).

***P-20 Councils*.** P-20 Councils were established to increase alignment between secondary and postsecondary curricular standards (Perna & Armijo, 2014). One reason the state policy makers created these councils is due to higher rates of academic remediation among students entering higher education, which suggested a low level of college readiness (Perna & Armijo, 2014). The goal of state P-20 Councils is to promote collaboration between K-12 and higher education environments (Rippner, 2017). However, according to Rippner (2015), productivity of these councils has declined in recent years as cooperation between K-12 and higher education sectors is difficult to maintain and has been somewhat unproductive about preparing students to be college ready (Rippner, 2015). Due to this lack of productivity, state councils have begun to decline in recent times as the interests of policy makers diminish (Rippner, 2017).

Although it is relatively simple to establish partnerships between different institutions, it can be challenging to sustain these relationships for long periods of time (Rippner, 2017). Maintaining partner engagements between secondary and postsecondary institutions can be an unfunded mandate of the state and therefore expensive to maintain (Taylor, et al., 2015). Research has gone into understanding the inner workings of successful P-20 council operations (Rippner, 2015). One such study has been done to identify factors, such as governance or structural barriers, which could be improved upon to increase the effectiveness of these councils (Rippner, 2015).

P-20 Councils may also serve to collect other types of information aside from alignment data (Bernoteit, Darragh Ernst, & Latham, 2016). For example, in 2013, a P-20 Council in Illinois conducted research on K-12 teachers throughout the Chicago area (Bernoteit et al., 2016). Through data collection, the Illinois P-20 Council was able

to determine there was a lack of diversity among educators (Bernoteit et al., 2016). Based on these figures, administrative decision-makers were able to be proactive about increasing and seeing diversity with teacher candidates to better reflect the student population in Chicago-area schools (Bernoteit et al., 2016). The P-20 Councils may also serve to eliminate barriers students might face regarding dual credit participation (Roach et al., 2015). For example, a council in Oklahoma worked together with education and community leaders to reduce policy, financial, and transportation barriers to minorities and students living in poverty (Roach et al., 2015).

Summary

Chapter Two served as a literature review surrounding theories and research relevant to the topic of dual credit. Challenges, benefits, and requirements of dual credit programs and participation were reviewed and barriers to success were identified. In Chapter Three, the mixed methods research methodology for this study is discussed. The population and sample along with the survey instrument used in the study is presented. Also, in Chapter Three, data collection and analysis procedures used for the study are discussed.

Chapter Three: Methodology

The intent of this research was to determine whether teaching strategies and requirements, social environments, and resources vary between high school and college settings for dually enrolled students using a causal-comparative study approach. In Chapter Three, an overview of the research problem and purpose is provided. Additionally, research methodology used for this research are discussed. The four research questions for this study are also presented in this chapter. Research design, population and sampling information, and instrumentation materials are noted in the chapter. Subsequently, information regarding data collection and analysis processes can be found in Chapter Three.

Problem and Purpose Overview

Results from several studies indicate dual enrollment programs can lead to positive academic outcomes for students (An & Taylor, 2015; Giani et al., 2014; Grubb et al., 2016; Hughes, 2016). However, little information exists regarding how and if dual credit programs offer a different format between high school and college in regard to materials, social environments, and type of instruction (Lile et al., 2017). Dual enrollment allows students to obtain college credit, and dual credit courses can be taken at the college campus or the high school (Missouri Department of Higher Education, 2009).

There are several factors to consider with potential differences between high school and college environments, including resources, teaching strategies and requirements, and social environments (Taylor et al., 2015; Tobolowsky & Allen, 2016). If these factors are inconsistent between high school and college settings available for

dual credit programs, it may impact the equitability of such programs (Taylor et al., 2015; Tobolowsky & Allen, 2016). The purpose of this study was to investigate whether there is a difference in environments, resources, and teaching strategies used between dual credit courses taught at the high school and those taught at a college. For this study, quantitative and qualitative research approaches were implemented.

Research Questions

The following research questions guided this study:

1. In what ways are social learning environments different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?
2. In what ways are instructional strategies and requirements different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?
3. In what ways are classroom, fiscal, and/or human resources different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?
4. What are college administrator perceptions of courses taught both on campus and as dual credit?

Research Design

When elements of qualitative and quantitative research are combined methodically to enhance understanding of a topic, mixed methods research is being employed (Creswell & Clark, 2017). In mixed methods approaches, at least one quantitative method of data collection is used and linked with at least one qualitative

method (Creswell & Clark, 2017). Therefore, researchers using the mixed methods approach should be collecting both close-ended and open-ended data to address research questions (Creswell, 2014).

Creswell and Creswell (2017) specified, a survey-designed method of research offers a numerical description of trends or opinions; therefore, it is quantitative in nature. Specific methods exist in survey research that relate to identifying a sample and a population (Creswell & Creswell, 2017). Survey research provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of a population (Creswell & Creswell, 2017). Quantitative methods often correspond with positivism, which is the idea that objective explanations can be given for various circumstances (Punch, 2013).

Survey research involves using questionnaires for data collection with the intent of generalizing from a sample to a population (Creswell & Creswell, 2017). Researchers can make equitably accurate estimates of the popularity of opinions of many people in a population simply by asking questions of only a few hundred individuals from a well-defined population (Stern, Bilgen, & Dillman, 2014). Survey research is an effective tool because of the ability to generalize and extrapolate data with statistical confidence based on probability (Stern et al., 2014). When it comes to characteristics, attitudes, and behaviors of people, survey research is a more effective way to make assumptions about the general population, especially when compared to focus groups or cognitive interviews (Stern et al., 2014).

Expert interviews were also conducted for this study (Flick, 2014). An expert interview is an interview which targets experts of a particular field, the purpose of which

is to collect information as a way to represent a group of specific experts (Flick, 2014). Although expert interviews can have various aims, the aim of the interviews conducted in this study was to determine the knowledge of administrators about content or gaps related to the college's dual credit program (Flick, 2014). Expert interviews are best implemented as semi-structured and used to complement other research methods (Brinkmann, 2014; Flick, 2014). When used alone in research, interviews would be considered qualitative (Creswell & Creswell, 2017).

For this study, quantitative and qualitative methods alone were found to be undesirable because of their limitations (Creswell & Creswell, 2017). A consequence of using only qualitative research is researchers may have the tendency to apply their own cultural assumptions to the responses of participants (Brannen, 2017; Flick, 2015). On the other hand, a consequence of solely basing research on quantitative methods is it can be overly generalized and focused too narrowly on a set of variables (Brannen, 2017). With mixed methods research, quantitative results can be better explained with follow-up qualitative data (Creswell & Creswell, 2017).

Population and Sample

In statistics, a population includes all members of a well-defined group being studied for data collection (Salkind, 2016). Because of time, expenses, population size, and other variables, it is not always possible to use the entire population for a statistical study (Bluman, 2013). Since collecting data from an entire population is not usually conceivable, researchers must often resort to using samples (Bluman, 2013). If individuals of a sample are appropriately chosen, they should retain identical or comparable characteristics as individuals who comprise the population (Bluman, 2013).

In this study, the defined population was limited to faculty members at a Midwestern two-year college. The Midwestern community college offers various associate degrees in which students may obtain different emphases. The institution in this study also offers certifications and training in many technical fields. An estimated 14,000 students are enrolled at this institution and may attend classes at its three campuses or three education centers. The student-to-instructor ratio at this two-year college is 23:1 and there are approximately 640 faculty members.

The sample size depended on the number of participants at the two-year college who satisfied the study criteria. Educators selected for the sample were all adjunct instructors. There was no length of service restriction. The sample size information was provided by the college's Institutional Research Department, and it was determined there were 425 adjunct instructors employed. Instructors invited to participate in this survey must have previously taught dual credit courses and the college-level equivalents. Courses taught at the college by the adjunct instructor must have been identical to the dual credit course taught at the high school. For example, if an instructor taught anatomy and physiology for high school dual credit, he or she must have also taught the college-level equivalent. If a teacher taught dual credit anatomy and physiology for high school, but taught general biology at the college level, the teacher was not eligible for this survey. Additionally, department heads at the institution were recruited for the qualitative portion of this study. The interview portion of this study included three individuals working in administrative positions for the Midwestern community college.

Instrumentation

Survey. Self-administered surveys are cost effective because there are no travel expenses or time commitments required by the researcher (Rossi, Wright, & Anderson, 2013). An original survey was created to obtain information about the study participants. The original survey was sent in a hyperlink via email to all potential participants (see Appendix A). Questions were developed for adjunct instructors to ask what type of instruction strategies were taking place in the high school and college classrooms and in what subject areas. They were also asked about differences in their own educational requirements to teach dual credit versus college. Furthermore, the instructors were asked about differences, if any, in resources available at the college and high school level for their courses. Finally, adjunct instructors were asked about the difference, if any, in social environments between the high school and college settings.

The questions were field-tested by qualified faculty within a local, public school system before the survey was administered. Questions consisted of only close-ended options presented as a seven-point Likert scale with the options including *strongly agree, agree, neither agree nor disagree, disagree, strongly disagree, unknown, and does not apply*. Close-ended questions must be answered by respondents using predetermined response options (Rossi et al., 2013).

The survey used for this study was checked for reliability and validity. According to Sullivan (2011), when an instrument for assessment gives consistent or dependable results, it can be considered reliable. Furthermore, having a reliable instrument is important in validating a survey-based research study (Sullivan, 2011). When a survey or other assessment tool is used to answer research questions accurately, it can reinforce

study conclusions by providing validity (Sullivan, 2011). Although reliability can be measured with a survey, there is not a way to test for survey validity (Walonick, 2013). According to Walonick (2013), validity is established primarily on the researcher's findings and opinions based on his or her own personal literature review and research.

To assess reliability of the survey, a Cronbach alpha test was conducted to measure internal consistency and calculate the correlation values among responses on the survey (Fraenkel, Wallen, & Hyun, 2016; Sullivan, 2011). Internal consistency is used to designate the degree to which items in a test measure the same concept and should be represented as a number between 0 and 1 (Tavakol & Dennick, 2011). It is important to conduct separate Cronbach alpha tests for different concepts or ideas in a survey, otherwise the resulting alpha values could be inflated, and therefore, would be considered unreliable (Fraenkel et al., 2016; Tavakol & Dennick, 2011). The Cronbach alpha was an appropriate reliability test for the original survey used in this study because it generates values to assist in scoring items that do not have correct or incorrect responses (Fraenkel et al., 2016). Results of the Cronbach alpha test conducted for this study are in Chapter Four.

Interviews. For the qualitative portion of this research, department heads at the Midwestern community college were interviewed in-person or over the phone with a set of pre-determined interview questions. Interview questions (see Appendix B) were developed by the researcher to gather qualitative data regarding perceptions of the administrators at the Midwest community college. Interviews were used to increase the knowledge of administrative perceptions of dual credit programs. All participants were provided a letter of informed consent (see Appendix C) and a copy of interview questions

prior to the interviews taking place. Interview questions were also field-tested and further developed by qualified administrators at a local college before interviews commenced.

Data Collection

The data collection process began with a letter sent to the provost of the Midwest college to ask for authorization to distribute the survey (see Appendix D). After approval from the provost (see Appendix E), consent was sought from both Lindenwood University's Institutional Review Board (see Appendix F) and the participating Midwestern college's Institutional Review Board (see Appendix G). Additionally, an email was sent to the Institutional Research Department of the two-year college to identify the population of adjunct instructors who teach or have taught college as well as dual credit courses (see Appendix H). After all approvals were obtained, a survey was sent out to faculty who had been identified as adjunct instructors.

Before accessing the survey, the instructor was required to provide his or informed consent (see Appendix I) before being allowed to continue with survey questions. After agreeing to participate, instructors were provided with a hyperlink via email to the survey accessed through the Qualtrics software system (Qualtrics, 2018). The first three survey statements were used to establish whether the participant was appropriate for this study by identifying those who have taught in high school and college settings versus those who have not. For participants who had not taught in both environments, the survey ended promptly. For those who had taught in both environments, the survey continued with a series of questions designed to identify

potential differences in variables between college and high school settings. Data were then collected and analyzed using descriptive statistical methods.

Before the interviews started, an email was sent to all participants to explain the purpose of the study and guarantee participants would remain anonymous. Copies of interview questions and informed consent were attached in the email. Participants were given detailed information about the interview process. Each of the administrators interviewed was asked eight identical, open-ended questions. All interviews took place in either a closed office setting or over the phone with only the participant and researcher present. Interviews were recorded on an audio recorder and transcribed by the researcher. Audio and transcription data acquired from this study will be secured for three years. After the three-year time frame, all hard copies, electronic copies, and audio recordings will be destroyed.

Data Analysis

The type of data collected was categorical, meaning it was qualitative as individual observations occur in categorical responses (Peck et al., 2015). Additionally, data were considered multivariate because each category had two or more attributes (Peck et al., 2015). According to Salkind (2016), a collection of data can be described and analyzed via descriptive statistics.

In this study, the researcher was present for and listened to all interviews. Interviews were then transcribed verbatim and transcripts were analyzed. Analysis of transcripts included open coding (Maxwell, 2013). Open coding is a process in which each sentence in the transcript was examined and assigned a meaning relative to the

research question (Maxwell, 2013). Analyzing and interpreting relationships between codes suggested larger themes (Saldaña, 2015).

Ethical Considerations

Survey responses were anonymous to protect participant confidentiality (Fraenkel et al., 2016). Data were downloaded from the survey website; therefore, no identifying information was retained. Adjunct instructors were not required to participate in the survey, just as administrators were not required to participate in the interview. Incentives to participate were not provided to teachers or administrators. At the beginning of the online survey, participants were informed they were being asked to participate in a survey conducted by the primary researcher and research advisor.

The initial survey prompt stated this study was being conducted to determine quality assurance for dual credit courses as compared to their college-level equivalents, as there is a noted gap in the literature on this topic (Taylor et al., 2015). Additionally, it was important to include the purpose and risks of the study so participants could give their informed consent (Department of Health, Education, & Welfare; 2014). Survey participants were also reminded their participation was voluntary and they could choose not to participate or withdraw at any time by simply not completing the survey or closing the browser window (Department of Health, Education, & Welfare; 2014). So, participants could assess the risk of participation, they were also informed there were no risks from participating in this project as no identifiable information was collected (Department of Health, Education, & Welfare; 2014). Finally, the initial survey prompt notified individuals there were no direct benefits for participating in the study (Department of Health, Education, & Welfare; 2014).

Interview participants were given an interview participant consent form to read and sign before the interview was conducted. In the document, participants were asked about topics such as administrative decision-making, professional development, resources, planning, instruction, classroom environments, and alignment (Grady, 2015). Specifically, participants were asked about various topics as related to the dual credit program so participants could authorize activities related to the study based on understanding what the study entailed (Grady, 2015).

In the informed consent, it was noted the interview was voluntary and no risks were anticipated for participation in the study (Department of Health, Education, & Welfare, 2014). Participants were informed identifiable data, such as their names, would not be published and will be known only to the researcher and research advisor (Grady, 2015). Finally, the document contained a written explanation stating there would be no direct benefits for participating in the interview. Only individuals who signed the participant consent form were interviewed (Creswell & Creswell, 2017). Paper records and audio recordings will be kept in locked filing cabinet. All papers, recordings, and data will be destroyed after three years.

This study could present a conflict of interest. When opposing interests create an increased possibility of partiality, a conflict of interest could occur (Kalichman, 2016). Since the researcher was previously a tutor and instructor at the participating institution, a conflict of interest could have occurred. For this reason, it was important to include instructors from all departments who teach various subjects.

Summary

In Chapter Three, quantitative and qualitative research methodologies for this study were discussed. An original survey was developed and utilized to determine if participants believe there are differences between environments, resources, and teaching strategies employed in high school settings versus college settings for dual credit courses. Participants were selected with the assistance of the Institutional Research Department at the participating two-year college. Data analysis procedures used in the study were also discussed. In the following chapter, results of statistical analysis upon collected data are presented.

Chapter Four: Analysis of Data

The purpose of this project was to investigate the ways academic environments, strategies, and resources were different, if at all, between secondary and postsecondary settings for dual credit students enrolled at a Midwestern community college. Furthermore, the goal of this project was to determine if program administrators' perceptions varied in regards to dual credit courses. Data were gathered from 124 surveys received from adjunct instructors employed by the Midwestern community college. Instructors invited to participate in the study had to have taught dual credit courses to high school students and the same course's college level equivalent.

Once each of the instructors gave consent, they were able to complete their survey using an anonymous survey link. The anonymous survey link was sent to all adjunct faculty members via campus email. Survey respondents had to identify the subject(s) they teach and then subsequently fill out a seven-point Likert scale which presented them with statements related to social environments, instructional strategies and requirements, and academic resources. To ensure the reliability of the original survey used in this study, results of the Cronbach Alpha test are also discussed in Chapter Four.

Survey Participants and Demographics of the Population

The community college has employees throughout the Midwest. The survey was distributed to a total of 425 adjunct instructors throughout multiple academic departments. By the end of the two-week date range, 124 volunteers chose to participate in the survey portion of this research study. The overall response rate of the survey was approximately 29% of the total people polled. Of the individuals polled, 122 or 98% stated they had been or were currently an adjunct instructor of the college. Two

individuals had never been adjunct instructors. Table 1 shows the percentage and number of responses to question one of the survey.

Table 1

Adjunct Teaching Statuses of Survey Participants

Respondents	*n*	*%*
Current adjunct instructors	106	85
Previous adjunct instructors	16	13
Individuals who had never been adjunct instructors	2	2
Total	124	100

Note. *n* = number of respondents. The percentage (%) represents the total number of individuals who answered question one of the survey.

Question two of the survey asked participants to identify whether or not they were or had been a high school dual credit teacher. Of the 123 respondents who answered question two, only 34% had taught dual credit courses to high school students at some point in time. Approximately 67% of survey participants for question two did not meet the requirements for the predetermined sample population. The high school dual credit teaching statuses of survey participants are noted in Table 2.

Table 2

High School Dual Credit Teaching Statuses of Survey Participants

Respondents	*n*	*%*
Current high school dual credit instructors	24	20
Previous high school dual credit instructors	17	14
Individuals who had never been high school dual credit instructors	82	67
Total	123	100

Note. *n* = number of respondents. The percentage (%) represents the total number of individuals who answered question two of the survey.

Question three served to remove respondents who did not qualify for the survey sample. The question asked, "Of the dual credit courses you have taught, have you also taught their college-level equivalents? Example: You would mark 'Yes' if you have taught dual credit biology at the high school level and have also taught biology at the college-level." Any individual who marked "No" or "I do not know" in response to this question was not permitted to finish the survey. Question three eliminated 68% of participants from continuing with the survey. Results for this portion of the survey are shown in Table 3.

Table 3

Responses to Survey Question Three

Responses	*n*	*%*
Yes	37	32
No	61	54
I do not know	16	14
Total	114	100

Note. *n* = number of respondents. The percentage (%) represents the total number of individuals who answered question three of the survey.

Although 37 individuals met sample requirements to complete the survey, only 33 individuals answered question four. Question four was designed to allow survey participants to identify the subject areas they taught. Respondents were given the option to select multiple subjects from a list of 21 options. Response rates and subjects taught by participating instructors who submitted question number four of their surveys are displayed in Table 4.

Table 4

Subjects Taught by Survey Respondents

Subjects	*n*	*%*
Business	0	0
Computer sciences	2	6
Communications	0	0
Culinary	0	0
Early childhood development	1	3
Economics	0	0
Education	0	0
English	8	24
Foreign language	1	3
Graphic design	0	0
Geography	0	0
History	6	18
Humanities	2	6
Mathematics	2	6
Music	0	0
Philosophy	0	0
Political science	1	3
Psychology	4	12
Reading	0	0
Religion	0	0
Science	6	18
Total	33	100

Note. *n* = number of respondents. The percentage (%) represents the total number of individuals who answered question four of the survey.

Survey questions one through three were created with the purpose of characterizing the sample population. Survey questions five through seven were designed to address research questions one through three of this study. Only 36 instructors answered question five of the survey.

Data Analysis

Research question one. *In what ways are social learning environments different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?*

Question number five in the survey was related to research question one. Adjunct instructors were asked to what extent they agreed or disagreed with a set of statements related to differences in social environments and learning. Participants were able to select answers from a seven-point Likert scale to indicate their level of agreement or disagreement with the given statement. There were five statements categorized under question five.

The first statement of question five was related to rigor. Question five, statement one was, "*The rigor for the subject(s) I teach differs/differed between the high school and college settings*." Approximately 42% of respondents agreed or strongly agreed with statement one of question five. About 50% of respondents disagreed or strongly disagreed with the statement.

The second statement for question five of the survey was related to rigor and student success outcomes. Statement two was, "*The rigor for the subject(s) I teach can impact student success outcomes*." Of the 36 instructors who completed this portion of

the survey, 83% either agreed or strongly agreed with statement two of question five. Only 6% of participants disagreed rigor impacted student outcomes.

Statement three under question five was about the social environment of the various academic environments. The third statement for question five of the survey was, "*The social environment (including student-student and student-teacher social interactions) differs/differed between the high school and college settings*." About 75% of the 36 participants in question five agreed or strongly agreed with statement three. Approximately 14% either disagreed or strongly disagreed with statement three.

Statement four under question five included social interactions and success outcomes for students. The fourth statement presented in question five was, "*The social environment (including student-student and student-teacher social interactions) can impact student success outcomes*." An estimated 81% of respondents to this portion of the survey agreed or strongly agreed social environment can impact student outcomes. Only 11% of the 36 respondents for question five disagreed with statement four.

The fifth statement of question five of the survey was designed to include the topic of administrative support. The fifth statement was, "*The administrative support for faculty differs/differed between high school and college settings*." When it came to the topic of administrative support, 47% of instructors surveyed agreed or strongly agreed support differed between high school and college settings. An estimated 25% of participants either disagreed or strongly disagreed with statement five of question five.

Research question two. *In what ways are instructional strategies and requirements different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?* Like

research question one, the response for research question two was composed of quantitative data based on a voluntary instructor survey. The sixth question in the survey was related to research question two for this study. Survey respondents were asked to what extent they agreed or disagreed with a set of statements related to differences in instructions strategies and requirements. Instructors were then able to select answers from the same seven-point Likert scale used in question five of the survey. There were 14 statements categorized under question six. Only 31 individuals responded to the sixth question of the survey.

The first statement categorized under question six of the survey was related to labs and experiments. The first statement was, "*The laboratories and/or experiments for the subject(s) I teach differ/differed between high school and college settings*." Of the adjunct instructors who completed the question, 20% either agreed or strongly agreed with statement one. Approximately 20% of respondents disagreed or strongly disagreed laboratories for their subject varied between high school and college classrooms. Almost half of respondents answered "does not apply" to statement one.

The second statement under question six involved andragogy and lesson plans. Statement two under question six was, "*I rely on andragogy to develop lesson plans for college-level learners.*" In response to statement two, 52% of survey participants either agreed or strongly agreed. Only 16% of respondents disagreed with question six's second statement.

Statement three for question six was designed to gather information from participants about lesson plans and dual credit students. The third statement for question six was, "*I rely on andragogy to develop lesson plans for high school dual credit*

learners." About 45% of individuals who responded to question six agreed or strongly agreed with the prompt. Approximately 25% of instructors disagreed or strongly disagreed with statement three.

The fourth statement was created by the researcher to obtain information from participants about pedagogy and lesson planning. Statement four for question six was, "*I rely on pedagogy to develop lesson plans for college-level learners*." Of the 31 participants who responded to statement four, 54% either agreed or strongly agreed with the statement. About 26% of respondents either disagreed or strongly disagreed with statement four.

Statement five was created to determine whether participants use pedagogy when developing lesson plans for dual credit students. The fifth statement for question six of the survey was, "*I rely on pedagogy to develop lesson plans for high school dual credit learners.*" Approximately 58% of instructors agreed or strongly agreed they rely on pedagogy for the lesson plans developed for high schoolers. Individuals who disagreed with statement six comprised 23% of responses.

Statement six was designed to gather information from participants regarding lesson plans and whether they impact student outcomes. The sixth statement categorized under question six was, "*The lesson plans I create for the subject(s) I teach can impact student success outcomes*." The majority of participants agreed or strongly agreed lesson plans can impact student success. An estimated 96% of instructors agreed with statement six and none of them disagreed.

The topic of class activities was the focus of the seventh statement. Statement seven for question six was, "*The class activities for the subject(s) I teach can impact*

student success outcomes." About 97% of survey participants agreed or strongly agreed with the seventh statement. None of the instructors disagreed with statement seven.

None of the participants disagreed with the eighth statement of survey question six. The eighth part of question six stated, "*The laboratories and/or experiments for the subject(s) I teach can impact student success outcomes*." Half of the 30 participants marked "does not apply" to statement eight. Another 46% agreed or strongly agreed labs can impact student success.

The ninth statement of survey question six was created to determine whether participants noted differences in their lesson planning. Statement nine of question six read, "*The lesson plans for the subject(s) I teach differ/differed between high school and college settings*." Of the 31 participants in this portion of the survey, 39% either agreed or strongly agreed with the statement. More than half of participants, about 55%, disagreed or strongly disagreed there was a different in lesson plans between high school and college settings.

Statement 10 of survey question six was created to determine whether instructors noted differences in activities between the college and high school classrooms. The tenth statement categorized under question six in the survey was, "*The class activities for the subject(s) I teach differ/differed between high school and college settings*." About 35% of the participants for this statement agreed or strongly agreed. About 51% of respondents disagreed with statement 10.

Statement 11 was created to gather information related to teacher education levels. The eleventh statement of question six read, "*The teacher education level for the subject(s) I teach differs/differed between high school and college settings*." Only 19%

of survey participants agreed or strongly agreed with statement 11. Approximately 58% of survey respondents disagreed or strongly disagreed there were differences in education level expectations between the high school and college settings.

The twelfth part of the sixth question was made to obtain information from survey participants about instructor training. Part 12 of question six was, "*The training for faculty differs/differed between high school and college settings*." About 48% of participants agreed or strongly agreed training was different for faculty at the different levels. Participants who disagreed or strongly disagreed with statement 12 comprised 32% of the responses.

Professional development was the topic of the thirteenth statement under question six. Part 13 of question six stated, "*The professional development opportunities for faculty differ/differed between high school and college settings*." Survey participants who agreed or strongly agreed with statement 13 of question six comprised 48% of the responses. Only 24% of the thirty-one respondents disagreed with statement 13.

The fourteenth statement under question six involved instructor education levels and student out comes. The statement was, "*An instructor's educational background can influence student success outcome*." The majority of the 31 survey participants for question six agreed with this statement. Individuals who marked "agree" or "strongly agree" in response to the prompt comprised 87% of responses for statement 14. None of the survey participants disagreed the educational background of an educator can influence student outcomes.

Research question three. *In what ways are classroom, fiscal, and/or human resources different as reported by instructors who have taught both dual credit at a high*

school campus and college level coursework at a campus of higher education? Similar to research questions one and two, the response for research question three was collected from an anonymous survey. The seventh and final question in the instructor survey was connected to the third research question for this study. Survey participants were asked to what extent they agreed or disagreed with a set of statements related to differences in human, fiscal, and classroom resources. Respondents were then able to select responses from the identical seven-point Likert scale used in questions five and six of the survey. There were eight statements categorized under question seven. Although 37 individuals made it through the screening question of the survey, question number three, only 30 participants completed question seven.

The topic of classroom resources was the focus in statement one of question seven. The first statement categorized under question seven of the survey was, "*The classroom resources, including equipment, for the subject(s) I teach differs/differed between high school and college settings*." An estimated 40% of respondents agreed or strongly agreed with statement one. Another 40% of participants disagreed or strongly disagreed with the first statement.

Support services were the primary theme for statement two. Statement two for survey question seven read, "*The student support services (such as career counselors, tutoring centers, and academic advisors) for the subject(s) I teach differ/differed between high school and college settings*." The "agree" and "strongly agree" answers comprised 57% of responses to this statement. Only 20% of respondents disagreed or strongly disagreed with statement two.

Statement three was designed to gather information from participants about library and database availability. The third statement categorized under question seven was, "*The library and/or database availability for the subject(s) I teach differs/differed between high school and college settings*." About 40% of instructors agreed or strongly agreed with the statement while 36% disagreed or strongly disagreed.

Financial support was the subject of the fourth statement. Part four of question seven was, "*The funding and/or financial support for the subject(s) I teach differs/differed between the high school and college settings*." Approximately 57% of instructors agreed or strongly agreed with statement four. Only 16% disagreed or strongly disagreed with statement four, but 20% of individuals responded "unknown."

Statement five was designed to determine if instructors would agree that classroom resources can impact student outcomes. Part five of question seven stated, "*The classroom resources, including equipment, for the subject(s) I teach can impact student success outcomes*." Most instructors agreed with statement five with 80% marking either "agree" or "strongly agree" in response to the prompt. Only 10% disagreed with the fifth statement.

Statement six was created to obtain close-ended responses from instructors regarding student outcomes and support services. The sixth statement of question seven was, "*The student support services (such as career counselors, tutoring centers, and academic advisors) for the subject(s) I teach can impact student success outcomes*." Of the 30 instructors who completed question seven of the survey, 90% agreed student support services can impact student success outcomes. None of the respondents disagreed with statement six.

Only six percent of participants disagreed or strongly disagreed with statement seven. The seventh statement of question seven was, "*The library and/or database availability for the subject(s) I teach can impact student success outcomes*." About 80% of the 30 participants agreed or strongly agreed with statement seven.

Statement eight of question seven was developed to gather information from participants regarding financial support and student outcomes. The eighth and final statement of question seven read, "*The funding and/or financial support for the subject(s) I teach can impact student success outcomes*." An estimated 87% of survey respondents agreed or strongly agreed funding and financial support for their subject can impact student success. Only 7% of respondents strongly disagreed with statement eight.

Research question four. *What are college administrator perceptions of courses taught both on campus and as dual credit?* After consent was given, one face-to-face interview and two phone interviews were conducted with three separate administrators employed by the Midwestern community college. Administrators were asked eight questions about their thoughts and perceptions of topics related to instructors and dual credit experiences. Audio recordings were taken of the interviews using a digital voice recorder. The audio was then transcribed word for word for use in this study.

Some of the administrators requested clarification for certain questions in order to ensure their responses were appropriate and thoroughly aligned with the questions. The time range of interviews from each of the participating administrators was between 11 minutes and 31 minutes. In regard to the qualitative analysis of research question four, data gathered from each interview question were thoroughly analyzed to determine larger themes via open coding (Maxwell, 2013).

Interview question one. *How has the dual credit program offered through the college influenced your administrative decision-making?* There were various responses to question one from the three administrators interviewed. Administrators each provided answers specific to their particular roles at the community college. Administrator One noted the dual credit program influences his administrative decision-making "primarily through enrollment, because normally, when I forecast for enrollment for specific courses, I will plan what happened last year plus about a percent per course. So that is how we forecast what we are going to offer for students."

Administrator One continued his statement, "What dual credit has done is… it's just made an impact on that enrollment because dual credit will take seats for classes before we even start enrolling. Administrator One said, "Before we start enrolling we will have… 4,000 seats or something. And dual credit will take about 400 to 500 off the top of those seats." Administrator One finished his response by saying, "We just had to change [the way] we put courses out to students…that has been the primary impact of [dual credit] for me."

Another administrator focused more on the transition component for students in his response. The administrator also mentioned intentions to reduce redundancy in schoolwork. Administrator Two stated, "We have probably been intentional about offering classes that will help a student who is in a dual credit class be able to be further ahead once they get here or elsewhere in their pursuit of a postsecondary degree."

Administrator Two continued by saying, "We have tried to be very deliberate about making sure students aren't duplicating classwork." Administrator Three focused on how disciplinary issues can be impacted when a student is dually enrolled versus a

traditional postsecondary student. Along with providing a specific example of a challenge she was facing with two current dual credit students, this administrator also sought to clarify all students are held to the same standards when it comes to issues of academic dishonesty.

Administrator Three stated, "with the unique age of the [dual credit] students, there are still always special considerations and… if there is ever an issue, things are always quadrupled, because you have the school district, the parent, and the student involved too." Administrator Three continued by stating, "So, it's not that there are more concerns in dual credit, it's just that any little thing that happens is a bigger deal because there's more people involved." Administrator Three clarified, "…we don't really make any extenuating circumstances for our dual credit students that we wouldn't make for postsecondary students." Administrator Three then noted that although there are more people involved in the communication for dual credit students, they are still held to the same academic integrity policies as any other student enrolled at the Midwest community college. Overall, interview participants each expressed unique opinions on how dual credit has influenced their administrative decision-making.

Interview question two. *What types of professional development opportunities does the college provide high school teachers who teach dual credit for them, if any?* In response to question two, both administrators one and three provided an example of an annual professional development opportunity for adjunct instructors that dual credit teachers are invited to participate in as well. According to Administrator One, "We offer them the same thing we kind of do for our adjuncts. So, they are offered to come to [campus] for our adjunct orientation… the week before school starts on a Saturday."

Administrator One continued by stating, “Most of [the adjuncts] take us up on it. The only issue we tend to have is sometimes dual credit instructors might be teaching for more than one department chair.”

Administrator One went on to clarify dual credit instructors with more than one department chair might miss some of the information provided at the adjunct orientation meeting. Administrator One continued by saying, “If the teacher is teaching at the high school site versus the students coming to [campus] or taking the class online, we try to go out to them and visit them once every year.” According to Administrator One, “We don’t get that done every year, but we do a pretty good job of that. So… our dual credit coordinator [will go] out [to the high school site] or some specific instructors or the department chair.”

Administrator Two was brief in his response to the topic of professional development opportunities available for dual credit high school teachers. When asked question two, Administrator Two replied, “It’s pretty limited. It usually rests back in the district where they’re teaching from.” Administrator Two continued by stating, “We support and go to some of the same types of things that they [high school dual credit teachers] do on the college side, but that really rests within their school district.”

Administrator Three agreed high school dual credit instructors get to attend some of the same events as regular college instructors. Administrator Three elucidated by stating, “At [the Midwest community college] if you’re an approved instructor that also teaches at a high school that offers dual credit there at the location, you’re treated like an adjunct.” Administrator Three then said, “the same opportunities that our adjunct

instructors have access to is true for dual credit teachers too. So, they get the same resources that our adjuncts do."

Administrator Three went on to describe some of the resources provided to adjunct instructors which are also provided to high school dual credit teachers. Administrator Three stated online resources including a YouTube link which explains the dual credit process and library are all available to dual credit instructors. Administrator Three's response also aligned with Administrator One's response regarding the annual meeting for adjunct instructors. Administrator Three stated, "The adjuncts also participate in what we call the Educator Conference in August. So, the dual credit instructors have the same access and they're all invited to participate in that as well."

Ultimately, each of the administrators stated high school dual credit teachers are given some of the same opportunities as on campus instructors. However, only Administrators One and Three clarified dual credit teachers are treated very similarly to adjunct instructors. Administrators One and Three also explained the annual meeting available to dual credit instructors which allows them to meet with department chairs.

Interview question three. *What resources are provided to dual credit instructors through the college?* For question three, the idea was for participants to summarize their knowledge of resources provided to dual credit instructors. These resources could include fiscal, human, or classroom resources. Each administrator had similar answers, stating all dual credit high school teachers had access to the same resources as adjunct instructors at the college. Administrator One provided some detail on the specific materials provided, stating, "You know, we give them all of our material that we give to

every instructor. So, they will get texts, syllabi, objectives, finals, [and] lists of assignments that we do."

Administrator One went on to clarify that although materials are provided to every instructor, some variations might exist. Administrator One stated, "Now, having said that, their course may vary slightly from what our course is, but they're still looking to meet those common objectives that we meet in the course and primarily use our final. Not everybody does that." Administrator One mentioned another local university makes dual credit teachers use the university's final. According to Administrator One, "that's how they say they've met their objectives." Administrator One then continued by saying, "We don't necessarily do that, and so that gets a little bit gray." Administrator One extended the response by stating, "We think through our visits with them and meeting with them prior to the semester we feel comfortable with what they're doing. That's primarily what we provide them with."

The Administrator One also mentioned technology has been a way to provide dual credit teachers with resources. The college has been using an online platform, Canvas, to create course shells which are accessible to all instructors. Administrator One said instructors "have access to all of our teaching sites as well on Canvas." Administrator One concluded by stating, "If the teacher wants to get in and look at the common material we use, they're welcome to do that. They're part of those Canvas sites, and we keep those pretty robust."

The statements of Administrator One and Two aligned with respect to materials being accessible to all instructors. When referring to high school dual credit instructors and resources, Administrator Two said, "They have access to all of our materials and

things here [on campus]. We have course abstracts and objectives. There's textbooks and different things. We have exams and the ability to share what one school is doing with another." Administrator Two then continued by stating the dual credit instructors have a broad network of resources that they have access to.

Administrator Two identified perhaps the common materials are not accessed by every dual credit high school instructor who teaches for the college. Administrator Two stated, "I will say that I don't know that a terribly large number of them access those things, but that's really kind of hard to quantify." Administrator Two also explained many high school dual credit instructors do not necessarily request resources. According to Administrator Two, "Most of the time… we receive our applications for dual credit the other way. Like, 'Hey, I'm teaching this course, and I want for the students to get credit for it' versus 'I'm looking for resources.'"

The statement of Administrator Three aligned with Administrators One and Two. In regard to accessibility, Administrator Three stated, "So, the same access to resources as an adjunct, and the instructor can access those." In regard to materials, Administrator Three said, "Anything that's required on a campus is given to a [high school] instructor."

Administrator Three then provided an example of English 101 and its required materials list. Administrator Three stated adjuncts who teach at, or through, the Midwest college get a copy, and students who are enrolled through the course are responsible for getting their own materials required for the class. Administrator Three continued by stating there are some schools that provide a classroom set of materials. Administrator Three explained if a high school teacher is approved for dual credit and is teaching the same section throughout the day, the school will provide books instead of having all of

the students purchase them. Administrator Three explained "The students that might have financial difficulties can still participate in the class, because they're still paying for the class and still have access to the same resources, but they aren't necessarily responsible for purchasing their own copy."

The researcher asked Administrator Three to clarify whether science materials, such as anatomical models and chemicals, were provided to high school dual credit instructors through the college as well. Administrator Three responded, "If we provide those [science models and chemicals] materials to adjunct instructors, then the dual credit instructors should have it too, but I don't know that we normally provide the chemicals per se." Administrator Three continued by stating, "If it is the materials for the class as far as textbooks, that's supposed to be seamless."

In response to question three of the interview, each of the three administrators responded by saying high school dual credit instructors are provided with the same materials as any other college instructor. Administrator Three also explained laboratory materials are not typically offered, although textbooks for the teacher are provided. Administrator Three further elucidated some high schools provide college-level textbooks to their students by maintaining classroom sets for students and teachers.

Interview question four. *In what ways do teachers plan differently for their dual credit courses than their on-campus college courses?* The fourth question of the interview was developed to see if administrators of the Midwest college suspected any differences in teacher planning for dual credit between the high school and college classrooms. Each of the administrators had a similar answer to this question.

Administrator One responded by noting differences in class time between the high school and college levels.

According to Administrator One, “I think just the sheer time they’re with the student. We meet 50 minutes, three times a week, if it’s a three-credit hour course. They’re meeting much more in the high school than we are.” Administrator One then stated, “I think that’s a little different.” Administrator One continued by saying, “I think they do a lot more work inside the classroom inside the environment that they have than we may do.”

Administrator One also noted how some college-level courses are starting to change. Administrator One discussed the new popularity of flipped classrooms. Administrator One stated, “Some classes here have moved to flipped, and they’re doing a lot of work outside the class, and inside they’re doing just activities primarily.” Administrator One continued by stating teachers are using “more active learning strategies inside the course, and [students] are absorbing the lecture material outside the course. We’re starting to do that a lot more than what we used to.”

To add on to previous statements, Administrator One also explained some teacher planning might be similar. Administrator One noted some teachers who provide dual credit lessons in the high school classroom also come to teach in college classrooms later in the day. According to Administrator One, “We have some teachers that obviously do both. They teach at their local high school, and then they come here and they grab a course from us as an adjunct.”

Administrator Two also took note of the timing differences between high school and college. In particular, Administrator Two noted differences in scheduling.

Administrator Two stated, “I think the way a dual credit course is delivered is different than a college class, because typically they’re going to be in a controlled high school schedule.” Administrator Two provided examples of difference schedules, including seven-period days and block schedules. Administrator Two continued by saying, “You know, they see the same students maybe even during an advisory period of some kind.”

Administrator Two also briefly mentioned differences between high school and college could impact teacher planning in the sense of conveyance. Administrator Two said, “I don’t know that they [high school dual credit instructors] do anything specifically different.” Administrator Two continued by stating, “I just think that the delivery probably lends itself to be received differently.”

Administrator Three was unsure of how to answer the question initially. Administrator Three claimed she had never been a classroom teacher. However, after asking for clarification on the question, Administrator Three responded by stating, “I would suspect that their approach would be different [because of] little things like logistics of how much time [teachers] have in a high school classroom versus how much time [teachers] have in a college classroom…” Administrator Three continued by recognizing the timing of high school dual credit classrooms is “very different but [they] need to meet the same educational objectives in order for these students to get the same credit.”

Scheduling and timing were the major differences between teacher planning according to each of the administrators. Administrator One stated time differences between high school and college classrooms could lead to more work inside the classroom for high school dual credit instructors. Administrator Three noted that

although there are differences in timing between high school and college, every instructor needs to meet the same educational objectives.

Interview question five. *How does instruction vary for students in dual credit classes taken in a high school setting as compared to instruction offered in the same classes on campus?* For question five, the intention was to identify whether the administrators thought classroom teaching styles, such as pedagogy versus andragogy, would differ between the college setting and the high school dual credit classroom. Answers to this question varied for each of the interview participants. Administrator One did not think there would be significant differences in instruction. Administrator One said, "I don't know that the instruction is a ton different. I really think that, again, it's just so much difference in time." Administrator One continued by stating, "High school instructors are doing great things in the classroom. I just don't see that there's a lot of difference between them. Especially as you get into upper level classes in high schools." Administrator One finished his response by saying, "I think some of those classes are very advanced, and students are doing incredible things. I think teaching is teaching."

Administrator Two mentioned there could be some differences in instruction. Administrator Two felt this depended on whether laboratories were a part of the classroom experience or not. Administrator Two said, "It depends largely if there's a lab component involved. We are fortunate here [on campus] to have a lot better equipment in many cases than the smaller local school might. So, that's definitely going to have a difference."

Administrator Two also mentioned differences in the type of student and experiences of the students could impact how a teacher instructs the classroom.

Administrator Two claimed, “I think, honestly… having secondary and postsecondary students in classes here [Midwest college campus] versus there [high school] … it gives them a broader network of people that are here versus in the [high] school.” Administrator Three finished by stating, “They [teachers] may have a person from industry coming back to take a class for a refresher… and that kind of perspective is not something they would see in the [high school] setting.”

Administrator Three also believed there were differences between instruction at the high school level versus the college level. Administrator Three focused more on rules and procedures the instructors need to follow in each setting. Administrator Three responded to the question by stating, “Just the policies. In the high school world, their administration and their policies might direct [instructors] to navigate violations of conduct differently… than it would be at the college.”

Administrator Three also commented that the structure and scheduling of the high school classroom could lend itself to differences in instruction. Administrator Three noted, “When we’re talking strictly dual credit at the high school… I could see how the logistics and the timing and the calendars and the policies would… I think teachers would have to approach those things differently.” Administrator Three also clarified her statement by mentioning all instructors should attempt to be consistent with the goals of the college.

In conclusion, each administrator responded to question five in a unique manner. Administrator One did not comment there would be significant differences in instruction between the college and high school dual credit classroom. However, Administrators Two and Three stated variations exist in the form of laboratory equipment, types of

students, policies, and academic calendars. Subsequently, Administrators Two and Three noted these discrepancies could lead to variations in classroom instruction.

Interview question six. *How is the environment of dual credit classrooms different than courses taken on campus and how does this difference impact student learning?* When this question was developed, it was intended for participants to respond in such a way they were addressing differences in the culture between college and high school institutions. Therefore, the researcher had to clarify to each administrator that question six was referring specifically to social environments. All of the administrators had similar responses to question six. However, Administrator One approached the question somewhat differently by taking into consideration the students who take dual credit courses online. Administrator One said, "Online we mix our classes. There isn't, in that case, any difference. They're all getting the same material, the same due dates, the same videos… it's all homogeneous."

Administrator One continued by commenting on the high school environment versus the college environment. Administrator One stated, "Now, at the high school it's going to be slightly different, because you're in with just the high school students and your own students from the school. I think that could be slightly different." Administrator One then added, "I haven't been out to a dual credit and observed that." Administrator One continued by mentioning, "I have been in some high school courses just with some type of mentorship we've had with [Midwest city] … and I still just have a lot of faith in the classroom teacher." Similar to his response for interview question five, Administrator One stated, "I really just don't see that there's a big difference except with time."

When it came to social interactions and the social environment, Administrator One spoke on behalf of the college. Administrator One said, “I can speak for [Midwest college] and what goes on inside the classroom here, and that is that this is definitely a commuter community college.” According to Administrator One, “Students are coming and going. They’re coming, they’re taking three classes, maybe they’ll take an online class. Administrator One further reflected and continued by saying, “One of the things we need to do better is we need to do better at establishing a learning community.” Administrator One then said, “We don’t really have that because students come, they take their class, they’ve got a very focused time commitment here, and then they’re out.”

Administrator One then mentioned his experience as an educator for the college. Administrator One said, “I think about classes that I teach, and even though you’re inside that classroom for 50 minutes three times a week… depending on how its scheduled, the [college] students… they don’t necessarily know each other.” Administrator One finished by noting, “There’s almost some anonymity.”

Administrator Two stated the students who take dual credit courses at the high school might feel more comfortable than a traditional college student would. In regard to this, Administrator Two commented, “I think there’s probably a greater comfort level… for students in their home [high] school versus here, because they know their teacher. Maybe they’ve had them in previous years. You know, maybe [they have] seen them in the hallway.” Administrator One then added, “That same kind of setting doesn’t lend itself here [on campus] like it would in a [high] school setting like that. So, I think that has a lot to do with it.”

Administrator Two also noted age variances between students. Administrator Two recognized the age range is similar for high school dual credit students. However, at the Midwest community college, the age range of students is much larger. Administrator Two responded, "There's kind of a controlled student age level, and all of that that's in… that [high school] area. These are largely going to be people that are from… that area and the same age." Administrator Two continued his response by saying, "So, that's not what you're going to experience on campus. So, they're going to have those differences."

Administrator Two then wanted the question to be repeated. After the researcher repeated the question, Administrator Two took a moment to respond. Administrator Two then said:

> I would say that because of the differences there, there is a natural difference in behavior. So, the way a student acts in their home [high] school with people that they're more familiar with that are their same age will be different, probably less mature, than if they're in a situation here when they're mixed in with students of all districts around. Maybe, you know, someone who is a long time ago high school graduate. Even different nationalities and things like that that they may not have exposure to in their home [high school] district.

The researcher then asked Administrator Two if he thought the differences he noted could impact student learning. Administrator Two replied, "I do. I would say, in my opinion, it would be more positive than it would be negative because typically students rise to the expectations you put in front of them…" He continued, "I think having those differences… they would rise to the occasion to perform better."

Administrator Two then mentioned not all students would rise to the challenge of learning in a different environment. Administrator Two said, "If I took 10 people, more than half are going to rise to the occasion than if you left them in their home [high school] district."

In the interview with Administrator Three, there were some similar responses to Administrator Two. Administrator Three, like Administrator Two, mentioned age ranges and familiarity in her statements. According to her, "A seated environment with your peers that you've probably known for a while, with a teacher that's more focused in… operating in a high school world where some of the culture is more… supportive." Administrator Three noted "some teachers are better at reminding students what they've missed and helping them get back on track."

Administrator Three also wanted to mentioned the college offers dual enrollment in which high school dual credit students come to the college campus to take their college-level courses. Dual enrollment students may also take online classes in which there are other college students, according to Administrator Three. Administrator Three stated, "We have dual enrollment where there's a select number of classes to choose from. A lot of teachers have no late work policies." When comparing dual credit experiences in the high school classroom versus those in the college classroom, Administrator Three noted, "You don't have the same comradery. You might be the only dual [enrollment] student in that class. And then you have a lot of peers who are college students at various ages." Similar to the response of Administrator Two, Administrator Three stated, "In some ways, I think that leads towards exponential growth for the student to step up and rise to the occasion of college-level academics."

Administrator Three also mentioned some challenges that could go along with dual enrollment. Administrator Three noted, "On the polar opposite end of the spectrum, I think some students really flail because they're not really ready to be thrown in and have to be so independent and have more rigidity, especially with English and math." In regards to English and math, Administrator Three said, "Those are very difficult to do just from data I've seen over the years with dual credit students." Administrator Three concluded his response by stating, "I would definitely say there's different culture happening with both of those options [high school and college]."

Although each of the administrators had similar answers to question six, they responded with various approaches. Administrators One and Three mentioned dual enrollment and online classes available to students, but Administrator Three went further in her response by acknowledging some students may struggle with this type of online environment. Administrator Two believed there would be a difference in comfort levels between the high school dual credit classroom and a typical college classroom, and Administrator Three stated high school dual credit teachers might be more supportive. Administrator Two also noted the social environments would vary simply because there is a larger age range at the college and students may be exposed to different types of people in the sense of nationalities.

Interview question seven. *In what ways do you as a department chair work to align the dual credit and on-campus settings?* The administrator responses to question seven illuminated how directly or indirectly each of them worked with dual credit alignment. For example, Administrator Three gave examples of her active role in alignment processes. Alternatively, Administrator One responded to question seven by

stating, “I don’t really do that in my area, because I’m not a chair over one specific area. I oversee 13 different chairs.”

Administrator One continued by commenting on the components of alignment he was familiar with. Administrator One stated dual credit instructors are clearly communicated with regarding course objectives. Administrator One explained, “I think in terms of content we’re very clear with them as far as what we cover and what we want [high school dual credit teachers] to cover. That’s very clear.” Administrator One continued by stating, “We are very clear when providing them the exact same resources to our student teachers or our online teachers or our dual credit teachers. So, that I feel comfortable with.”

Administrator One then referred back to interview question six. Administrator One mentioned the social environment of the college versus the dual credit high school classroom. Administrator One said, “As far as the environment [dual credit high schoolers] have versus the environment we have here, it’s going to be really, really different.” Administrator One continued his response by stating, “We have [dual enrollment] students that come to us in a seated environment, and to me, of all the models, that’s the best. But I understand that’s very hard to have happen.”

In response to his role in alignment between the college and the high school dual credit classroom, Administrator Two stated the following, “That’s really a struggle, because we don’t have regular conversations or meetings with them.” Administrator Two then added, “The only two things that are consistent that I can think of, and I’m sure there are others, we do review our curriculum and push that out to those folks who teach the dual credit [high school] classes.” Administrator Two also mentioned, “We regularly

review that, and then we make those dual credit instructors renew their agreements with us. So, we kind of know where they're coming from."

Administrator Two then considered the ways many schools and colleges stay aligned to the same academic objectives. Administrator Two mentioned national organizations can have a role in maintaining consistent educational standards. Administrator Two said:

> The other standard by which we align ourselves is usually an accreditation type of thing. So, let's use culinary, for example. It's the American Culinary Federation. So, the standards that that national or international organization puts out is how we structure ourselves, which then makes it easier for a school or others to align themselves, because then there's some kind of standard or benchmark that everyone can see. When that's possible, that's what we do.

Administrator Three stated she had a direct role with dual credit alignment because of her position at the college. Administrator Three noted she was newer to the role but said she has worked to improve this component of the dual credit program in her two years as an administrator. According to Administrator Three, "I feel like that has been a lot of my focus this last year. This last year has been trying to work more closely with department chairs and helping them understand dual credit." Administrator Three said, "I think a lot of 'ah-ha' moments for department chairs in the last couple of months have been helpful when I said, 'You know, I'm here'."

Administrator Three then explained she needed department chairs to be the content experts as she is reviewing course objectives. Administrator Three stated she was not a content expert in all areas and must rely on the expertise of college department

chairs to assist. According to Administrator Three, "When I have teachers from [a local high school] wanting to offer dual credit at their school and they're sending me their transcripts and their application materials, I'm not a content area expert." Administrator Three continued by saying, "I really need [department chair] help in evaluating whether or not they meet our criteria for accreditation, and I also need [department chair] help with the… onboarding process."

Overall, each of the administrators had different perspectives regarding what processes and procedures impact or maintain alignment. Administrator One mentioned feeling comfortable knowing that all instructors, dual credit or not, were provided with the same materials. Administrator Two mentioned the college's attempt to keep curriculum up-to-date and to keep providing instructors with the updated curriculum. Finally, Administrator Three mentioned improving curriculum and alignment by relying on content experts at the college, such as department chairs.

Interview question eight. *What are the benefits of dual credit to students, the college, or both? What areas could be further developed in the sense of instruction, classroom experiences, and/or professional development?* The eighth and final question of the interview had two parts and, in hindsight, could have been separated into two different questions. There were similarities and differences for each of the responses provided by the three administrators. Two of the administrators mentioned price differences for dual credit students, while another focused-on areas which could be further developed. Administrator One started by saying, "I think the benefit is obviously for the student to get a leg up… on their college experience. So, I think that's good." Administrator One also mentioned dual credit students "get [credit] at a cheaper price too

because we discount our price for dual credit." Administrator One noted, "We don't ever make money on dual credit."

Administrator One continued by mentioning ways the dual credit program can benefit the college. Administrator One stated the college gets reimbursement from the state, and this funding can be helpful. Administrator One also stated, "it kind of keeps our head count up." Administrator One continued by saying, "I always want to know how many of those dual credit students then come out and come on to [Midwest college] and become a [Midwest college] student. Because when they do, then that's even more important." Administrator One claimed the dual credit program is "sort of a pipeline." He added, "They [dual credit students] have experienced [Midwest college], and now they want to go ahead and come here and take their credits."

When Administrator One was asked about what could be further developed, he mentioned the college struggles with providing professional development to adjunct and dual credit instructors. According to Administrator One, "We don't do a ton for any adjunct period. We just don't. We do an okay job, I think, up front, but we could do better with all adjuncts and dual credit is the same." Administrator One then stated, "We just don't do enough to… make them [dual credit instructors] feel comfortable with our material."

However, Administrator One mentioned technology has made it easier to support all instructors, including dual credit and adjunct. Administrator One continued by saying, "I think we're doing better, because we've put everything online, and two years ago that wasn't the case." Administrator One said, "It is much easier with Canvas to get teachers into that Canvas site, where in the past… it just was a mess. So, I think we've done

better with that." Administrator One then noted, "It's not face to face, but it is something that instructors can tap into. They can see best practices they can see… how somebody else did this assignment. I think that's important. You can see how we're scaffolding assignments."

Administrator One then continued on the topic of professional development by stating, "The professional development we do at the very beginning of the semester is it." Administrator One stated the aforementioned annual instructor meeting is the only formalized one the college holds. Administrator One also added, "They [instructors] are always welcome to reach out, but you know how that goes."

Administrator Two answered question eight by reflection on previous questions. Once again, Administrator Two mentioned the relatively nurturing environment of the high school and familiarity of teachers. However, Administrator Two also mentioned a difference in pricing offered to dual credit students, which is not offered to students at the college level. Administrator Two said the benefit of enrolling in a dual credit program to the student is it gives them "an opportunity to sort of dip their toe in the water and experience college in a safe environment from their [high] school, and then it allows them to access college credit at a cheaper rate than most cases."

Administrator Two also noted several benefits to the college. Regarding this part of question eight, his answer was very similar to the response provided by Administrator One. Administrator Two stated, "For the college, I think the benefit is that it gives us student exposure to something that they may not otherwise have done." Administrator Two said the dual credit program "allows us to kind of give back to our community in offering a cheaper rate than it would be… for a student that's coming in that's not in that

environment." Administrator Two mentioned another benefit for the college, saying the dual credit program allows the college "to learn from what a [high school dual credit] teacher might be doing and best practices that he or she might be using in their classroom that we can take in and fold into what we're doing here."

Before continuing with his response, Administrator Two asked the researcher to restate the question. Administrator Two then began to address areas he would like to see further developed. Administrator Two noted that he would like to see the college have a stronger training component. Administrator Two believed instructors on campus and off campus can learn from one another. According to Administrator Two, "There's not a lot of difference, really, you know? Usually the person here is doing something with someone that they're familiar with anyway." Administrator Two continued by stating, "A lot of times we have several in different parts of our college that have those relationships because they previously were a teacher in the K-12 setting." Administrator Two then noted, "Having a way for [all instructors] to be able to get together and share those kinds of practices and… advantages and disadvantages of labs and materials and all of that kind of stuff would be helpful."

Administrator Two finished his response by explaining some barriers that keep professional development from occurring more frequently. Administrator Two stated it is "usually a time issue, because schedules don't align, you know, and just the availability of a substitute or however you would do it is just not feasible." Administrator Two finished by claiming, "We just don't have that option in front of us."

Administrator Three focused her response on ways for the college to further develop. Administrator Three claimed, "I have a lot of thoughts about that. So, I would

love to have more professional development just for all of our adjuncts and then I'd love to have dual credit instructors included in that same pool." Administrator Three also noted there are teachers "that are an hour and a half north of [a Midwest city], so offering more professional development through Zoom or any other sort of technology that would be conducive to allowing them to participate."

Administrator Three also mentioned continuing her work with department chairs to improve curriculum and alignment for the dual credit program. Administrator Three stated one of her goals was "continuing to work more closely and trying to build that partnership with department chairs to really better understand the credentialing and the classroom expectations and the common assessments." Administrator Three also mentioned ways in which the college is has been developing. The administrators are working to embrace technology and incorporate more of it into their classrooms.

Administrator Three noted the benefits of online accessibility. Administrator Three stated, "We're doing all sorts of things at the college right now with auto access of course materials, like eBooks and programs that offer the content of the class." Administrator Three continued, "That's a new thing that's starting to impact dual credit, because that's something we're doing at the college level."

Upon reflection, Administrator Three also noted some of the challenges which could come along with auto access. According to Administrator Three, "It [auto access] has kind of been met with lots of pros and lots of cons." Administrator Three said, "That's another thing I would like to see, because it does give students more access… but then we have some schools that don't have… the internet isn't a common thing because they are very rural schools." Administrator Three mentioned some schools "have internet

at the school that's maybe intermittent, but then they don't have internet at home, and that's a barrier to their success."

Administrator Three also mentioned other components that could be further developed for the dual credit program. Administrator Three said, "Just within the department, I'm a party of one, and I've got 877 students, and I think that, in some ways, is a disservice to getting students and parents and schools timely help." Administrator Three finished by stating, "I think we offer a really great program, but I still feel like there's lots of ways to improve, and I'm excited to see where those improvements lead."

In response to the two-part question eight, each of the three administrators interviewed mentioned professional development could be developed for adjunct and dual credit instructors. Both Administrators One and Two discussed how the dual credit program provides exposure for the college to students. Administrators One and Three both discussed how technology has helped the college's dual credit program to develop further.

Interview data analysis. All of the qualitative results were inspected to categorize consistent and recurring themes (Creswell & Creswell, 2017). By means of notes and examining similar responses, summarizations of the interview questions were completed (Creswell, 2014). Upon examining participant responses, themes and sub-themes arose in the data (Creswell, 2014). In order to further validate emerging themes, several transcript readings occurred during the coding process (Creswell, 2014). The following themes were established to summarize the results of the qualitative portion of this study.

Emerging theme: Valuing consistency. Administrators One and Three mentioned course objectives should be seamless. Both administrators felt course content should be consistent despite differences in high school, college, or online settings. Additionally, Administrator Three mentioned all students, whether in the program or not, are consistently held to the same academic standards. According to Administrator Three, "As far as academic content, that should all be seamless and consistent across no matter the location." Particularly, Administrator Three mentioned students will be held consistently accountable for issues with academic dishonestly.

Administrator Two cited two ways in which the college maintains alignment. First, Administrator Two discussed the importance of reviewing curriculum annually and sending it out to dual credit instructors. Second, Administrator Two stated alignment is held by reviewing expectations from national organizations. Administrator Three also mentioned the importance of collaboration with department chairs and lead instructors to improve course alignment. Administrator Three stated when it comes to aligning curriculum, "the department chairs and I are working even more closely than we have together on the past." Administrator Three also discussed the importance of aligning the proper instructors for dual credit classes by having each new teacher evaluated by department heads on campus.

Interview participants for the qualitative portion of this study each discussed accessibility in their responses to the questions. Administrators One and Three focused on instructor accessibility to resources, both online with Canvas and offline with on campus resources. Administrator One also discussed that dual credit instructors are treated very similarly to adjunct instructors in the sense of access to materials. Access

was also discussed by Administrator Two who mentioned adjunct and dual credit instructors can use any on campus resources available. Administrator Three also discussed her personal feelings on the college moving toward auto access for all students. Each of the administrators indicated the importance of accessibility to the success of the college's dual credit program.

Administrators One and Two both mentioned the dual credit program provides many benefits to students and the college. In the case of students, both of the aforementioned administrators agreed the reduced cost of college credits is financially beneficial to dual credit students. Administrators One and Two also agreed the dual credit program can benefit the college by serving as a way to advertise to students and create a pipeline for them to enroll. Furthermore, Administrator One noted the benefit of improving the college's head count via the dual credit program because it can increase state funding to the institution.

Emerging theme: Recognizing variability. Each administrator interviewed agreed dual credit instructors should have the same access to resources as other instructors. Administrators One and Three elaborated by stating all classroom resources, such as syllabi and course objectives, are available online to dual credit instructors. According to Administrator Three, teaching textbooks are provided to all teachers, whether adjunct or full-time. However, Administrators One and Three both recognized certain materials, such as scientific models, are not provided to dual credit teachers through the college. Administrator Three also noted chemicals are not provided by the college for off campus dual credit science classrooms. Dual credit courses with lab components likely have differences in the technology available, according to

Administrator Two. Therefore, each administrator recognized possible variations in lab resource availability. Moreover, Administrator Three acknowledged access to resources, such as the internet, could vary depending on the location of the seated dual credit classroom. According to Administrator Three, "There are schools that are two hours away that might have unique considerations, and they just maybe do the best that they can." Administrator Three continued by stating "the realities of the [high school dual credit] situation might not mirror the policies and what we're all supposed to follow."

When it came to areas in which the college could further develop its dual credit program, each of the administrators believed there were areas for improvement. Administrator One acknowledged the college struggles with professional development when it comes to adjunct instructors and dual credit high school teachers. Administrator Three also mentioned there could be more done to aid adjuncts and dual credit teachers. Administrator Three claimed stronger collaboration could benefit the dual credit program. Administrator Two also agreed stronger collaboration and training for all teachers could benefit the college's dual credit program.

All of the administrators interviewed for this study stated there were differences between the social environment in the high school dual credit classroom and the college campus. According to Administrator One, the social environment of a classroom "would be different at the high school. Just because of the familiarity. You know, [high school students] go from eight to three. I think that would be different." Administrators Two and Three mentioned the age ranges of the students and differences in familiarity could attribute to differences in the social environment. Both Administrator Two and Administrator Three also mentioned the high school likely provides a more nurturing or

supportive environment for students than the college. Additionally, Administrator Three noted classroom policies maintained by teachers likely differ between the two locations. However, Administrators Two and Three also felt students who attend dual credit courses on campus are likely to rise to the occasion and change their behaviors to match what is expected of them.

When it came to the various themes identified throughout the interview transcripts, one that arose the most was time. Administrators One and Two both noted time and scheduling differences between the high school and college were likely the reason why professional development has suffered. These two administrators also stated there are notable differences in schedules between the high school and college classroom, with Administrator One explaining students likely have more time in a high school setting. Administrator Three specifically mentioned how course calendaring likely varies for teachers in the college setting versus those who are in the high school dual credit classroom.

Reliability of Data

It is important to test the reliability of an original survey to ensure scores obtained are consistent (Fraenkel et al., 2016). The Cronbach's alpha test was performed on survey data to confirm reliability of the survey taken by instructor participants. According to Nunnally and Bernstein (1994), an alpha range of .70 to .95 is acceptable for a Cronbach's alpha test. However, in order to guarantee reliability of results, the questions must be interrelated (Fraenkel et al., 2016).

One type of Likert scale was used, and all questions contained a scale of strongly agree, agree, neither agree nor disagree, disagree, strongly disagree, unknown, does not

apply. After inspecting data, the decision was made to run three separate Cronbach alpha tests on the questions related to environment, resources, and instructional strategies or requirements. For the environment-related questions, Cronbach alpha was equal to .8209, which is considered an acceptable value (Nunnally & Bernstein, 1994). Cronbach alpha was equal to .8507 for the questions regarding resources. According to Nunnally and Bernstein (1994), a value of .8507 is acceptable. Finally, the Cronbach Alpha was equal to .8892 for questions related to instructional strategies and requirements, which is also a score in the acceptable range (Nunnally & Bernstein, 1994).

Summary

The purpose of this study was reiterated at the beginning of Chapter Four. Demographics of the survey population were discussed and characterized using tables. Furthermore, each research question was addressed using data collected from surveys and interviews. Survey data for research questions one, two, and three was presented in table format with percentages. Results from the three Cronbach's alpha tests were discussed in detail to determine reliability of the original survey. In Chapter Five the summary and conclusions of this study are included. After findings and conclusions are discussed, implications for practice and recommendations for future research are considered.

Chapter Five: Summary and Conclusions

The percentage of high school students enrolling in dual credit programs has accumulated over time causing policies to develop locally and statewide (Taylor, 2015). Nationwide increases in postsecondary matriculation have been attributed to some extent to the availability of college classes to high school students (Giani et al., 2014). Advocates of dual credit programs believe offering rigorous courses to students can help them in familiarizing themselves with the academic demands of higher education (Giani et al., 2014). Still, it has been argued dual credit policies and programs ought to be further developed to improve program quality and alignment between secondary and postsecondary institutions (Taylor et al., 2015).

Findings and conclusions of this study are explained in Chapter Five. Current literature topics linked to the study and results are also discussed. Implications for practice in the areas of dual credit resources, instructional strategies, and environments are noted. Suggestions for future research in the areas of accessibility, alignment, and administrative support are proposed.

Findings

Four research questions were the focus of this mixed method study. The first three research questions were quantitative and designed to gather information from instructors who had taught dual credit courses at the high school level and their equivalents at the college level. Research questions one through three were created to determine what ways social learning environments, instructional strategies, or resources differed for dual credit high school classes as compared to college level courses, as reported by adjunct instructors. Data for research questions one, two, and three were

obtained in a de-identifiable format from an original survey. Research question four was qualitative and designed to examine the perceptions of administrators linked to the college's dual credit program.

Research question one. *In what ways are social learning environments different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?* The purpose of this quantitative research question was to determine if instructors noted differences in social environments between the high school and college locations. According to situated learning theory, differences in social environments can influence learning and instruction (Bell et al., 2013; Lave & Wenger, 1991). For this reason, question five of an original survey was created to address various parts of an academic social environment.

A total of 36 survey responses were examined in research question one. About 42% of instructors agreed the rigor for the courses they teach differs between high school and college settings, while 50% disagreed. Of the instructors surveyed, 83% agreed rigor can impact student success outcomes, and only 6% disagreed. When teachers were asked if student to student and teacher to student interactions differed between high school and college settings, 75% of respondents agreed, and only 14% disagreed. When asked if differences in the social environment could impact student success outcomes, 81% of participants agreed they could, and only 11% disagreed. Finally, when participants were asked if administrative support differed between college and high school settings, 47% agreed this was true, and 25% disagreed. All other responses for each part of survey question five were marked "unknown," "does not apply," or "neither agree nor disagree."

Research question two. *In what ways are instructional strategies and requirements different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?* The purpose of this quantitative research question was to ascertain in what ways, if any, instructional strategies and requirements differed between secondary and postsecondary institutions according to instructors. Research question two was connected to survey question six, which was designed to address the various components of instruction and instructor requirements. About 31 participants provided responses to question six of the survey. When teachers were asked if labs or experiments differed between high school and college settings, 20% agreed and 20% disagreed, while 45% marked "does not apply." About 46% of instructors agreed labs and experiments can impact student success outcomes, 0% disagreed, and 50% marked "does not apply."

When it came to developing college-level lesson plans, 52% of teachers agreed they rely on andragogy, while 16% disagreed. For high school lesson planning, 45% of teachers agreed they rely on andragogy, while 25% disagreed. About 54% of instructors agreed they use pedagogy in developing college-level lesson plans, while 26% disagreed. When it came to developing high school dual credit lesson plans, 58% of instructors agreed they rely on pedagogy, while 23% disagreed. About 96% of the instructors surveyed agreed the lesson plans they create can impact student success outcomes, and none of the participants disagreed.

Approximately 97% of instructors who participated in the survey agreed class activities can impact student success outcomes. None of the survey participants disagreed class activities can impact student success. However, 39% of survey

participants agreed their class activities differed between college and high school settings, while 55% disagreed with this statement.

Part of question six of the survey was intended to determine if educational requirements or backgrounds and training expectations were different for instructors between secondary and postsecondary institutions. About 35% of respondents agreed education level requirements to teach dual credit differed between high school and college settings, while 51% disagreed. When teachers were asked if professional development training differed between high school and college settings, 48% agreed, and 32% disagreed. When asked if professional development opportunities differed between high school and college settings, 48% of respondents agreed, and 22% disagreed. About 87% of instructors surveyed agreed an instructor's educational background can influence student success outcomes, and none of the instructors disagreed. All other responses for each part of survey question six were marked "unknown," "does not apply," or "neither agree nor disagree."

Research question three. *In what ways are classroom, fiscal, and/or human resources different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?* This quantitative research question was intended to determine if resource availability differed between secondary and postsecondary institutions. Question seven of the original survey was designed to address research question three. For this portion of the survey, 30 participants responded.

The first part of survey question seven was created to obtain information about classroom resources. About 40% of instructors agreed classroom resources, including

equipment, varied between high school and college settings while 40% disagreed. Of participants in question seven of the survey, 80% agreed classroom resources can impact student success outcomes, and only 10% disagreed.

Survey question seven also mentioned student support services, such as career counselors, tutoring centers, and academic advisors. Approximately 57% of instructors agreed student support services differed between high school and college settings, while 20% disagreed. For this portion of the survey, 90% of participants agreed student support services can impact student success outcomes. None of the instructors disagreed.

The next part of survey question seven addressed library and database availability. About 40% of instructors surveyed agreed library and database availability differed between high school and college settings, while 36% disagreed. Of instructors surveyed, 80% agreed library and database availability can impact student success outcomes. Only 6% of the participants disagreed.

The final part of survey question seven included funding and financial support. For this portion of the survey, 57% of participants agreed funding and financial support for their subject differed between high school and college settings. Only 26% disagreed with this statement. About 87% of instructors agreed funding and financial support for the subjects they teach can impact student success outcomes, and 7% disagreed. All other responses for each part of survey question seven were marked "unknown," "does not apply," or "neither agree nor disagree."

Research question four. *What are college administrator perceptions of courses taught both on campus and as dual credit?* This qualitative research question was intended to allow administrators at the college level to elaborate on their perspectives of

the dual credit program. Interviews of eight questions were conducted with three staff members. Staff participants included two deans and a college director to give a more holistic viewpoint of the college and the dual credit program.

One section of the interviews focused on the ways in which the dual credit program has impacted administrators and their decision-making. Another section of the interviews was developed to identify ways in which these administrators had a hand in alignment between high school and college settings. The administrators cited enrollment, disciplinary action, and student experiences have all been impacted by the dual credit program. When it came to alignment between the high school dual credit and college classrooms, staff members pointed to online accessibility, keeping curriculum updated, and relying on content area expertise when necessary.

Another portion of the interviews was centered around the topic of dual credit high school instructors and differences they might experience between the high school dual credit classroom and the college classroom. Administrators reported high school dual credit instructors are treated very similarly to adjunct instructors who work on campus. Although each administrator noted textbooks and course resources are provided to instructors, it was also acknowledged that laboratory resources and equipment are not provided to high school dual credit teachers. The administrators each recognized that instructors likely plan differently between high school and college settings because of differences in timing and schedules. Laboratory equipment, types of students, policies, and academic calendars were listed by staff as potential areas of discrepancy instructors might face when teaching at the high school versus the college.

Social environments between high school and college settings were addressed in the administrator interviews as well. In the interview, staff attributed comfort levels, nurturing high school teachers, diversity, and variance in age ranges to differences in social environments between the high school and college. Administrators noted differences in the social environment could impact student success, as some students might rise to the challenge of college rigor or flail under the pressure.

The final part of the interview focused on benefits of the dual credit program, alongside ways the program could be further developed. Staff members believed the dual credit program benefits students by giving them a head start on college work at a discounted rate. It was stated the dual credit program is beneficial to the college because it serves as a way to promote enrollment to students. However, administrators also noted areas for improvement including professional development and technology.

Emerging themes. Responses from research question four were combined to identify emerging themes within the qualitative portion of this study. Two themes were generated through the focus groups and interviews: valuing consistency and recognizing variability. These themes are discussed in more detail in the next section.

Conclusions

Research conclusions are discussed and compared with the literature reviewed in Chapter Two in this segment. A mixed methods research approach was used in this study to allow for the collection of different types of data (Fraenkel et al., 2016). According to Creswell and Creswell (2017), a mixed method approach allows for a study to include data that can be quantified alongside observations which cannot be quantified. The design of this research was to provide a holistic view of a college's dual credit program

by combining instructor reporting and the individual perspectives of college administrators and decision-makers (Creswell & Creswell, 2017). Conclusions are made to represent administrators and adjunct instructors at a public, two-year, Midwestern institution. Each research question is answered individually; however, results may need to be connected to offer a complete, well-rounded response.

Research question one. *In what ways are social learning environments different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?* Ultimately, the majority of instructors surveyed agreed rigor and differences in social environments can impact student success outcomes. Additionally, most survey participants agreed social interactions between students and teachers is different depending on the class's location. Survey responses indicated instructors recognize learning is about relationships between faculty and students and students and students.

Results from the survey align with the situated learning theory, because in this theory, learning occurs within the context of interpersonal relationships (Buckland, 2014; Lave & Wenger, 1991). However, learning can also be about faculty and staff interactions, as dual credit programs are typically more successful when administrative support is present (Irvine, 2017; Mattox & Rutherford, 2014). A little less than half of instructors surveyed agreed administrative support differed between college and high school settings; therefore, this element of the dual credit program was not as notable as the differences in social environment, according to instructors.

Research question two. *In what ways are instructional strategies and requirements different as reported by instructors who have taught both dual credit at a*

high school campus and college level coursework at a campus of higher education? Less than half of survey participants marked labs and experiments did not apply to their subject areas. Considering the population of instructors surveyed, this is unsurprising. About 42% of survey participants were either English or science instructors. The Midwest community college in this study provides English writing labs and tutoring, while most of the science classes are lab-based. About a fifth of the teachers answered their labs or experiments were different between high school and college settings, while another fifth recorded no differences. A little less than half of the survey participants agreed labs and experiments can impact student success, while the other half recorded it did not apply to their subjects.

These results indicate instructors who rely on labs recognized their importance in student success outcomes, and only a small portion of those instructors used different labs between the high school and college settings. These results coincide with the section of situated learning theory which relates to context (Lave & Wenger, 1991). According to Lave and Wenger (1991), the contextual portion of situated learning is impacted by environmental cues, prompts, and resources (Lave & Wenger, 1991).

Over half of instructors surveyed agreed they rely on andragogy when lesson planning at the college level. Less than half of survey participants relied on andragogy when lesson planning for their high school dual credit classrooms. Over half of the instructors surveyed agreed they use pedagogy in developing college-level and high school dual credit lesson plans. Almost all instructors surveyed agreed lesson plans they create can impact student success outcomes. Although these instructors agreed lesson plans can impact student success, there was some variability in responses. Results

indicated some instructors rely on both andragogy and pedagogy and do not acknowledge a significant dichotomy between the two. Furthermore, instructors may also draw from both learning models to support a wide range of learners. This is related to situated learning, because a student's community can influence his or her understanding of material (Lave & Wenger, 1991). According to Lave and Wenger (1991), community refers to the group surrounding learners as they learn. People who communicate with students as they are developing new knowledge can influence their learning, and this is influenced by how they communicate (Lave & Wenger, 1991). Particularly, lesson planning can influence how a learner works together with others to solve problems (Korthagen, 2010).

Almost all of the instructors who participated in the survey agreed class activities can impact student success outcomes. Less than half of survey participants agreed their class activities differed between college and high school settings, and a little over half disagreed. Results were indicative of some variations in classroom activities teachers offered between high school dual credit classrooms and college classrooms, even though the instructors felt these activities are significant to students and their success. Differences such as these can be noteworthy, because the variability of dual credit programs can cause institutions of higher education to refuse courses students are attempting to transfer (Tobolowsky & Allen, 2016). Additionally, differences in classroom activities can lead to differences in student to student and student to teacher interactions, which can impact situated learning (Lave & Wenger, 1991).

Less than half of survey respondents agreed the education level requirements to teach dual credit differed between high school and college settings, while a little over half

disagreed. When teachers were asked if training and professional development opportunities differed between high school and college settings, about half of the participants agreed. There was some variability in the results, as was expected after performing the literature review in Chapter Two. Previous studies have indicated eligibility for instructors of dual credit courses can vary based on different factors (Borden et al., 2013; Lukes, 2014). Only about 79% of states have policies concerning dual credit instructor training and requirements (Borden et al., 2013). Despite some disparities in survey responses, most survey participants agreed an instructor's educational background can influence student success outcomes. These results indicated the majority of surveyed instructors recognized their training, education, and level of expertise can be important in the classroom.

Research question three. *In what ways are classroom, fiscal, and/or human resources different as reported by instructors who have taught both dual credit at a high school campus and college level coursework at a campus of higher education?* About two-fifths of the instructors surveyed agreed classroom resources, including equipment, varied between high school and college settings, while the same number disagreed. A relatively small percentage of instructors noted differences in resources between high school and college settings, although this may be attributed to the type of class. For the qualitative session of this study, all three of the administrators interviewed mentioned certain resources, such as scientific models, certain technologies, and chemicals, are not provided to high school dual credit teachers. Survey results also showed instructors agreed classroom resources can impact student success outcomes.

When it came to student support services, about three out of five surveyed instructors agreed these differed between high school and college settings. Almost all participants agreed student support services can impact a student's success. Although teachers noted differences between high school and college services, students do have the opportunity to access resources on the college campus, according to the administrators interviewed in the qualitative portion of this study. However, some students in dual credit programs may be unable to gain access to student support services on campus due to various factors, such as time constraints (Taylor et al., 2015).

There are other high school dual credit students, such as those who attend rural schools, who may be reliant on school buses for transportation and are incapable of driving to the college campus for assistance (Roach et al., 2015). In this way, transportation can be a barrier that keeps students from benefiting from the support services which may be available at the institution of higher education (Zinth, 2014). This also means students with special circumstances, such as teenage student parents, may have difficulty accessing available on-campus childcare programs supported by the federal government (U.S. Department of Education, 2018).

Continuing with the topic of resources, about two out of every five instructors surveyed agreed library and database availability differed between high school and college settings. Of the instructors surveyed, most agreed library and database availability can impact student success outcomes. These results corresponded with Johnson et al. (2015), who indicated disparities in student performance in composition and speech classrooms is often due to differences in library resource availability. The three administrators interviewed acknowledged students can access library resources on

campus, should they choose. However, barriers with distance, transportation, and time constraints can also keep students from visiting college or university libraries (Roach et al., 2015; Taylor et al., 2015). Accessibility has improved by making online databases available to students, however, as Administrator Three mentioned in her interview, some rural areas have sporadic internet access, which can impact internet and database usage.

The final element related to resources involved funding and financial support. For this portion of the survey, about three out of every five participants agreed funding and financial support for their subject differed between high school and college settings. These results coincide with research gathered in Chapter Two of this study, which indicated most high schools and colleges do not collect additional funding from the state to back faculty members involved in dual credit programs and partnerships (Borden et al., 2013). This is especially true for the Midwestern community college in this study, because this type of institution receives the lowest portion of state funding (Taylor et al., 2015). The majority of instructor participants in this study agreed funding and financial support for the subjects they teach can impact student success outcomes. These results also aligned with the literature reviewed in Chapter Two which indicated dual credit programs are more likely to be successful when they receive financial support (Mattox & Rutherford, 2014).

Research question four. *What are college administrator perceptions of courses taught both on campus and as dual credit?* In the qualitative interviews, the three administrators provided insight to the college's dual credit program. Although several of the responses had similarities, there were some answers that reflected the staff's unique roles for the institutions. Themes that arose from the interviews are as follows.

Valuing consistency. According to Hope (2016), maintaining an effective dual credit program involves alignment of curricula. Staff members stated online accessibility, curriculum updates, and content area experts have assisted in maintaining alignment between the college campus and the high school dual credit classroom. Alignment issues cannot be addressed, however, if only a limited number of faculty participate in curriculum alignment activities (Irvine, 2017). Administrator Three indicated faculty participation is essential in alignment activities. Administrator Three claimed she relied on content experts, such as department heads, to assist in the onboarding process for new instructors and accreditation. Administrator Two noted curriculum is updated annually and sent out to all instructors, including dual credit high school teachers.

In several of his responses, Administrator One pointed to accessibility as being essential to the dual credit program at the college. Administrator One noted course materials were accessible on the college's chosen online platform, Canvas, for all instructors to access. Administrator Two mentioned dual credit high school students and instructors can access all of the on-campus materials available to other students and instructors at the college. However, as mentioned earlier in Chapter Five, transportation can be a barrier keeping students from accessing resources on campus (Roach et al., 2015; Zinth, 2014). Administrator Three discussed a movement toward improving accessibility to students in the dual credit program through auto access opportunities online. Administrator Three clarified, that although the dual credit program is more complex when issues arise, when it comes to academic integrity "our administrative decisions are still consistent with postsecondary students."

Each of the administrators interviewed recognized the benefits of the college's dual credit program to the institution or students. Administrators One and Two both mentioned students get a "leg up" on their college experience by obtaining college credit at a discounted rate. These results correspond with Tobolowsky and Allen (2016), who recognized dual credit programs benefit students by reducing college costs and the amount of time it takes to complete a degree. Administrator One believed the dual credit program benefits the college in the sense of enrollment, while Administrator Two cited the importance of provided a dual credit program because of how it can benefit the surrounding community.

Recognizing variability. All of the administrators interviewed stated textbooks and course resources are provided to instructors. However, Administrator One and Administrator Two acknowledged laboratory resources, such as scientific models or chemicals, are not provided to high school dual credit teachers. Administrator Two noted the college likely has different technology available as compared to rural high schools with dual credit courses. Of all dual credit courses offered, it was indicated that lab-based courses likely have the most variability. Previous researchers have found dual credit science courses struggle with success and growth, and differences in lab materials could be a reason for this (Mattox & Rutherford, 2014).

Administrator Three also mentioned resources, such as internet access, could vary depending on the high school. This could be an issue in student success, as library resources, such as online databases, may impact student performance in courses such as composition or speech (Johnson et al., 2015). Administrator Three also recognized textbooks are more easily accessible in high schools that maintain a classroom set,

whereas the typical college student would have to purchase his or her own text. This was important to note, as high school students on free or reduced price meals may be unable to afford the required dual credit textbook unless it is provided (Roach et al., 2015). Therefore, having the text provided at the high school without additional costs is an advantage some high school dual credit students have over college students.

Each of the administrators recognized professional development could be an area of improvement at the college. According to Administrator Three, "…adjuncts, dual credit instructors, and full-time instructors all come together every year in August on a Saturday." Administrator Three continued by stating the instructors all meet with their departments "so they get an opportunity to meet with and mingle with other content area experts in the morning." Administrator Three added, "There's also various professional development opportunities they can attend by choice in the afternoon." However, administrators interviewed indicated timing, obtaining substitutes for the high school dual credit teachers, and lack of interest were potential challenges which likely inhibit further development in this area of the college's dual credit program. According to Administrator Two:

> I would like to see our… ability to have a stronger training component both ways, where maybe the college teacher who is the person that says, "Yes, this dual credit class is something that we will accept here," as if they were teaching on our campus and that teacher in the field or in the high school classroom could better work together to learn from each other.

According to Taylor and Pretlow (2015), the cost of professional development can also create a challenge for institutions of higher education. Additionally, state policies

which require colleges to sustain partnerships with high schools for dual credit programs regularly come as an unfunded mandate (Taylor et al., 2015). Administrators Two and Three acknowledged the importance of collaboration between faculty, and previous research has indicated partnership is essential for maintaining consistent curriculum in a dual credit program (Taylor & Pretlow, 2015). Ensuring consistent curriculum is essential in reducing variations between what high schools teach and what colleges expect (Venezia & Jaeger, 2013).

All staff interviewed noted there are likely differences between the social environment in the high school dual credit classroom as compared to the college classroom. Anonymity, timing, level of comfort, instructor support, age differences, variances in student experiences, and policies were all mentioned as areas that could distinguish the social environments between the high school and college locations. According to Administrator Three, high school dual credit students have a "more nurturing kind of relationship in their own [high] school teacher..." Social and resource differences can affect certain dual credit courses more than others (Johnson et al., 2015). However, dual credit programs are not intended to mimic the college experience wholly (Tobolowsky et al., 2016). Administrator One noted an experience that is most likely seamless for college and dual credit high school students is the one provided in an online environment.

Time was a factor mentioned repeatedly throughout staff interviews. Primarily, timing was considered a factor which could differentiate the way instructors lesson plan between the high school and college setting. Each administrator recognized schedules vary significantly between high school and college settings. According to Administrator

Two, "…there's some differences in the way the actual class is delivered because of the way the [high] school schedules versus how we have the [college] schedule here." It was noted that high school students typically get more classroom time than their college level counterparts. According to Administrator One, "at the high school level they have so much more face time with their students than we do, so I think they tend to do that a little bit differently." Administrator One continued by stating, "I think that [time] would be the primary difference between teaching [dual credit] at a high school and then teaching it here." Time was also mentioned as a potential barrier for improving professional development for adjunct and dual credit high school instructors.

Implications for Practice

This study was designed to determine whether there is a gap in the educational experience of students who take high school dual credit courses versus students who attend courses on the college campus. Research on this topic was relevant because the validity and acceptability of dual credit programs may be dependent on existing differences in resources, environments, and instruction between the high school and college settings (Borden et al., 2013). The focus of this study was to address a gap in literature concerning alignment of dual credit high school courses with college courses (Borden et al., 2013).

According to the faculty and staff in this study, social environments are not only different between high school and college settings, but those differences likely impact student success outcomes. Social environments are connected to social learning and situated learning theories, because people obtain knowledge by observing others, so if differences in interaction exist, then so do differences in learning (Lave & Wenger, 1991;

Thacker, 2017). According to Lave and Wenger (1991), learning is fixed in a culture, and this can be influenced by location. Therefore, requiring students to take dual credit courses on campus as opposed to off campus may be the best way to ensure consistency. That being said, one must also recognize the barrier of transportation. According to Zinth (2014), transportation is a barrier for students residing in rural, low-income areas. For students who do not have access vehicles, a bus could be provided by the school. Furthermore, it could be a requirement of students to enroll in afternoon courses at the college so there is more time for the bus to get to the necessary location. This additional transportation need would require additional state funding and support, and could be met with resistance from policymakers.

Another constraint faced by instructors and administrators was time. Perhaps if colleges and high schools developed similar schedules it could create a consistent environment for students but also allow for more ease when scheduling professional development days for faculty. Not only this, but for instructors who teach in both the high school dual credit and college classrooms, lesson planning would not need to differ if schedules were identical. If lesson planning and schedules were the same, this would also support consistency with students' situated learning experiences (Lave & Wenger, 1991).

Differences in labs or laboratory-based classrooms were not only noted in the instructor survey, by participants who did not mark "does not apply," but also by administrators in the interview process. Administrators noted these differences could be attributed to variations in supplies and technology available to high schools, particularly those in rural areas. Again, making it possible for all students to attend courses on

campus could alleviate this issue. However, if this is not a possibility, loaning materials to rural high schools could be an option provided by the college or university providing the dual credit program. Higher education institutions could also begin a budget initiative to obtain additional scientific models or related equipment over the next few years which would be available to be rented by high schools in need. Again, obtaining financial support for these changes could require approaching state officials.

Instructors surveyed also indicated differences in student support services provided at the high school as compared to the college. If students are unable to get to campus, it may be reasonable to accommodate this support in a different way. Perhaps student support representatives, such as advisors or career counselors, could travel to rural areas weekly or monthly to assist high school students in need. If this is too much of a financial constraint, it could also be possible to use online platforms that would allow students to have conversations with representatives via videos or chat rooms. Online accessibility could also be a great option for dual credit students. According to Administrator One, high school dual credit and college students should have seamless experiences in an online environment. However, online accessibility would require rural schools to provide consistent internet access which, according to Administrator Three, can be an issue for some schools.

Recommendations for Future Research

When reviewing the literature and study results, several gaps were identified. In particular, dual credit is often studied generally for its benefits. However, there were few studies that addressed variations in alignment issues in different subject areas. Although studies existed which showed differences in student outcomes based on whether students

took a course as dual credit or as a college freshman, these studies only speculated why these differences exist without exploring them further (Dixon et al., 2014; Giani et al., 2014; Johnson et al., 2015). In order to understand existing alignment issues, it is important to understand why they are present through research-based evidence.

In this study, instructors were surveyed and only provided response opportunities which were close-ended. To understand why participants answered the way they did, it could be beneficial to obtain more information through interviews. Interviewing instructors who have taught in both high school dual credit and college environments could provide a greater level of depth that may be significant to this study (Taylor et al., 2015). Additionally, it is important to expand the study beyond one institution. The sample size for this research was relatively small, and a bigger representation might yield different results (Creswell & Creswell, 2017).

This study focused on differences between dual credit high school and college classrooms. However, during staff interviews, it became apparent some variations may exist because of the location or circumstances of participating dual credit high schools. To expand on this research, it could be beneficial to identify differences between urban and rural high schools with dual credit programs (Zinth, 2014). If one type of high school is met with more barriers than another, it could be beneficial to students and faculty to address these issues and improve the dual credit experience and subsequently the likelihood of student success (Roach et al., 2015).

Finally, it could be beneficial to gather perspectives of state policymakers who directly influence funding for education (Taylor et al., 2015). When interviewing state officials, valuable information could be gathered to better understand financial

difficulties faced by colleges, universities, and public high schools (Dixon, 2017). Not only this, but it may be easier to construct plans for solutions to financial barriers when political decision-making is better understood.

Summary

Chapter Five included a review and thorough inspection of the results of this study. Results from participating faculty and staff noted differences in social environments and laboratories or lab-based classrooms between the high school dual credit and college settings. Financial support and student services were also notable variations recognized by faculty. Administrators focused heavily on accessibility and the need for growth regarding professional development. This investigation was restricted to administrators and adjunct instructors who had also served as dual credit instructors employed by a Midwestern community college. This research was similar to other research on dual credit programs throughout the country (Borden et al., 2013; Johnson et al., 2015; Lukes, 2014; Tobolowsky & Ozuna Allen, 2016).

As previously mentioned, dual enrollment programs provide a pipeline to higher education, improve college readiness among participants, and also increase persistence in postsecondary institutions (An & Taylor, 2015; Pretlow & Wathington, 2014). Students with different academic performance levels and socioeconomic statuses have the potential to benefit from dual enrollment participation (Pretlow & Wathington, 2014). However, it is up to administrators, policymakers, and instructors to improve legitimacy and consistency for dual credit programs by seeking various solutions to improve alignment including corresponding schedules, obtaining consistent internet access, promoting professional collaboration, and more.

Recommendations for further research were suggested to develop this study. It could be beneficial to explore why differences in student outcomes exist between different subjects in the dual credit program. Furthermore, interviewing instructors and policymakers could provide additional understanding to decision-making for dual credit. Finally, identifying any difference in barriers between participating urban high schools as compared to rural high schools could provide insight on existing variations.

Overall, the purpose of the study was to identify if differences in resources, instructor strategies and requirements, and/or social environments existed between dual credit high school and college classrooms. The study was designed to identify whether faculty and staff identified any differences. If variations were recognized, some of the survey and interview questions were specifically framed to determine whether instructors and administrators felt these differences could influence students' success outcomes.

Finally, the value of this study is not only meant to support the growth of dual credit programs for the benefit of students, but to improve their acceptance, particularly in the form of articulation agreements. Articulation agreements are an important component of dual credit programs, because they allow for the transfer of course credits between educational institutions (Montague, 2012). As noted in Chapter Two of this study, many four-year institutions reject credits attained from community college dual credit programs (Taylor et al., 2015). Perhaps this will no longer be an issue when apprehensions with dual credit alignment among institutions are addressed and resolved (Taylor et al., 2015).

Appendix A

Survey Questions

1. Please answer the following statement regarding your status as a college instructor.
    a. I am currently an adjunct instructor.
    b. I was previously an adjunct instructor.
    c. I have never been an adjunct instructor.
2. Please answer the following statement regarding your status as a high school dual credit instructor.
    a. I am currently a high school dual credit instructor.
    b. I was previously a high school dual credit instructor.
    c. I have never been a high school dual credit instructor.
3. Please answer the following questions. Of the dual credit courses you have taught, have you also taught their college-level equivalents?

    Example: You would mark "Yes" if you have taught dual credit biology at the high school level and have also taught biology at the college-level.

    a. Yes
    b. No
    c. I do not know
4. In what subject area do you teach? Check all that apply.
    - Business
    - Computer sciences
    - Communications
    - Culinary

- Early childhood development
- Economics
- Education
- English
- Foreign language
- Graphic design
- Geography
- History
- Humanities
- Mathematics
- Music
- Philosophy
- Political science
- Psychology
- Reading
- Religion
- Science

5. To what extent do you agree or disagree with the following statements regarding social environments? Please select one of the following:

   Strongly agree
   Agree
   Neither agree nor disagree
   Disagree
   Strongly disagree
   Unknown
   Does not apply

   - The rigor for the subject(s) I teach differs/differed between the high school and college settings.
   - The rigor for the subject(s) I teach can impact student success outcomes.
   - The social environment (including student-student and student-teacher social interactions) differs/differed between the high school and college settings.
   - The social environment (including student-student and student-teacher social interactions) can impact student success outcomes.
   - The administrative support for faculty differs/differed between high school and college settings.

6. To what extent do you agree or disagree with the following statements regarding instructional strategies and requirements? Please select one of the following:

   Strongly agree
   Agree
   Neither agree nor disagree
   Disagree
   Strongly disagree
   Unknown
   Does not apply

   - The laboratories and/or experiments for the subject(s) I teach differ/differed between high school and college settings.
   - I rely on andragogy to develop lesson plans for college-level learners.
   - I rely on andragogy to develop lesson plans for high school dual credit learners
   - The laboratories and/or experiments for the subject(s) I teach differ/differed between high school and college settings.

- I rely on andragogy to develop lesson plans for college-level learners.
- I rely on andragogy to develop lesson plans for high school dual credit learners.
- I rely on pedagogy to develop lesson plans for college-level learners.
- I rely on pedagogy to develop lesson plans for high school dual credit learners.
- The lesson plans I create for the subject(s) I teach can impact student success outcomes.
- The class activities for the subject(s) I teach can impact student success outcomes.
- The laboratories and/or experiments for the subject(s) I teach can impact student success outcomes.
- The lesson plans for the subject(s) I teach differ/differed between high school and college settings.
- The class activities for the subject(s) I teach differ/differed between high school and college settings.
- The teacher education level for the subject(s) I teach differs/differed between high school and college settings.
- The training for faculty differs/differed between high school and college settings.
- The professional development opportunities for faculty differ/differed between high school and college settings.
- An instructor's educational background can influence student success outcome.

7. To what extent do you agree or disagree with the following statements regarding human, fiscal, and classroom resources? Please select one of the following:

   Strongly agree
   Agree
   Neither agree nor disagree
   Disagree
   Strongly disagree
   Unknown
   Does not apply

   - The classroom resources, including equipment, for the subject(s) I teach differs/differed between high school and college settings.

- The student support services (such as career counselors, tutoring centers, and academic advisors) for the subject(s) I teach differ/differed between high school and college settings.
- The library and/or database availability for the subject(s) I teach differs/differed between high school and college settings.
- The funding and/or financial support for the subject(s) I teach differs/differed between the high school and college settings.
- The classroom resources, including equipment, for the subject(s) I teach can impact student success outcomes.
- The student support services (such as career counselors, tutoring centers, and academic advisors) for the subject(s) I teach can impact student success outcomes.
- The library and/or database availability for the subject(s) I teach can impact student success outcomes.
- The funding and/or financial support for the subject(s) I teach can impact student success outcomes.

Appendix B

Interview Questions

- How has the dual credit program offered through the college influenced your administrative decision-making?
- What types of professional development opportunities does the college provide high school teachers who teach dual credit for them, if any?
- What resources are provided to dual credit instructors through the college?
- In what ways do teachers plan differently for their dual credit courses than their on-campus college courses?
- How does instruction vary for students in dual credit classes taken in a high school setting as compared to instruction offered in the same classes on campus?
- How is the environment of dual credit classrooms different than courses taken on campus and how does this difference impact student learning?
- In what ways do you as a department chair work to align the dual credit and on-campus settings?
- What are the benefits of dual credit to students, the college, or both? What areas could be further developed in the sense of instruction, classroom experiences, and/or professional development?

Appendix C

Interview Participant Consent

LINDENWOOD

Interview Research Consent Form

Differences in the Dual Credit Experience between High School and Institutions of Higher Education

You are asked to participate in an interview being conducted by Micheala Steinmetz-Benton under the guidance of Rhonda Bishop at Lindenwood University. We are doing this study to determine whether there are differences between high school and college settings for dual credit students in regard to learning environments, instructional strategies, and resources. Participants will be asked about topics such as administrative decision-making, professional development, resources, planning, instruction, classroom environments, and alignment as they relate to the dual credit program. It will take about 30 minutes to complete this interview.

Participating in an interview for this study is voluntary. We will be asking about three other people to answer these questions.

What are the risks of this study?

We do not anticipate any risks related to your participation other than those encountered in daily life. You do not need to answer any questions that make you uncomfortable or you can stop the interview at any time. Every effort will be made to keep your information secure and confidential. Only members of the research team will be able to see your data. We do not intend to include any information that could identify you in any publication or presentation.

Will anyone know my identity?

We will do everything we can to protect your privacy. We do not intend to include information that could identify you in any publication or presentation. Any information we collect will be stored by the researcher in a secure location. The only people who will be able to see your data are: members of the research team, qualified staff of Lindenwood University, and representatives of state or federal agencies.

What are the benefits of this study?

You will receive no direct benefits for participating in this interview. However, we hope what we learn may benefit other people when making administrative decisions about dual credit courses in the future.

If you have any questions about your rights as a participant in this research or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the Lindenwood University Institutional Review Board Director, Michael Leary, at (636) 949-4730 or mleary@lindenwood.edu. You can contact the researcher, Micheala Steinmetz-Benton directly at [redacted] or [redacted]. You may also contact Rhonda Bishop at [redacted].

By signing this document, I confirm that I have read this form and decided that I will participate in the project described above. I understand the purpose of the study, what I will be required to do, and the risks involved. I understand that I can discontinue participation at any time by simply not completing the interview. I also confirm that I am at least 18 years of age.

_____	_____
Participant's Signature	**Date**
_____	
Participant's Printed Name	

_____	_____
Signature of Principal Investigator or Designee	**Date**
_____	
Investigator or Designee Printed Name	

Appendix D

Letter to the Provost

[redacted]
October 29, 2017

[redacted]
Provost
[redacted]

Greetings Dr. [redacted]:

I am interested in conducting survey research at [redacted] for my dissertation. I am currently enrolled as a doctoral student at Lindenwood University, and I am now entering the data collection stage of the process. For this reason, I am contacting you to ask permission to collect and analyze data from specific faculty members at [redacted].

I am requesting a letter of support to conduct research at your institution. Pending your approval, I will also need to be in communication with the Institutional Research Department at [redacted]. I am specifically interested in learning more about:

- The number of adjunct instructors currently employed by [redacted].
- The number of adjunct instructors who have previously taught or currently teach dual credit courses at high school campuses.
- The opinions of the above-mentioned instructors regarding potential differences in social environments, resources, and instructional strategies between the high school and college.

If you would like to be in touch with my dissertation chair, [redacted], she may be reached by phone at [redacted] or by email at [redacted]. If you have any questions about my request, please contact me by phone at [redacted] or by email at [redacted].

Thank you for your assistance. I look forward to hearing from you.

Sincerely,

[redacted]

Appendix E

Approval from the Provost

Micheala,

Thank you for your email. I am happy to provide you with this letter of support for your dissertation research. I approve of your request to communicate with the Research office at [redacted]. They will be able to discuss the specifics of your research request with you.

Please let me know if I can be of further assistance.

[redacted]
Provost
[redacted]

Appendix F

Approval Letter from the Lindenwood IRB Committee

LINDENWOOD

LINDENWOOD UNIVERSITY ST. CHARLES, MISSOURI

DATE:	February 20, 2018
TO:	Micheala Steinmetz-Benton
FROM:	Lindenwood University Institutional Review Board
STUDY TITLE:	[1062998-1] Differences in the Dual Credit Experience Between High School and Institutions of Higher Education
IRB REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	February 20, 2018
REVIEW CATEGORY:	Exemption category # *1*

Thank you for your submission of New Project materials for this research study. Lindenwood University Institutional Review Board has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office.

If you have any questions, please send them to IRB@lindenwood.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Lindenwood University Institutional Review Board's records.

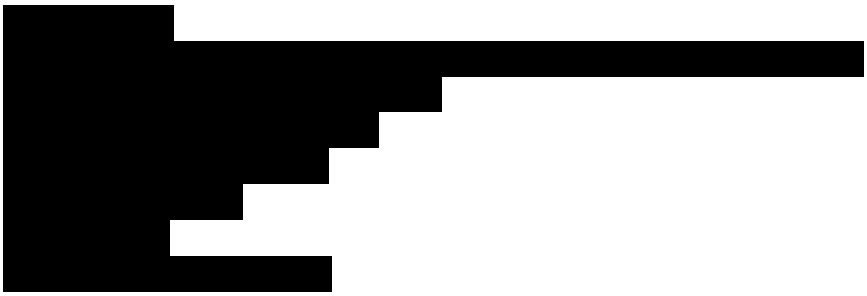
Appendix G

Approval Letter from the Midwest Community College

Micheala,

Your IRB application has been approved.

Thank you and have a great day,



Appendix H

Letter to the Institutional Research Department

[redacted]
October 30, 2017

[redacted]
Institutional Research Department
[redacted]

Greetings:

I am interested in conducting survey research at [redacted] for my dissertation. I am currently enrolled as a doctoral student through Lindenwood University, and I am now entering the data collection stage of the process.

I have already gained approval from the provost, Dr. [redacted], to collect and analyze data from specific faculty members at [redacted]. I am specifically interested in learning more about:

- The number of adjunct instructors currently employed by [redacted].
- The number of adjunct instructors who have previously taught or currently teach dual credit courses at high school campuses.
- The opinions of the above-mentioned instructors regarding potential differences in social environments, resources, and instructional strategies between the high school and college.
- Sending a survey questionnaire to all adjunct faculty members currently employed by [redacted].

If you have any information or questions regarding my request, please contact me by phone at [redacted] or by email at [redacted].

Thank you for your assistance. I look forward to hearing from you.

Sincerely,

[redacted]

Appendix I

Survey Participant Consent

LINDENWOOD

Survey Research Information Sheet

You are being asked to participate in a survey conducted by Micheala Steinmetz-Benton and Rhonda Bishop at Lindenwood University. We are doing this study to determine quality assurance for dual credit courses as compared to their college-level equivalents. It will take about 10-15 minutes to complete this survey.

Your participation is voluntary. You may choose not to participate or withdraw at any time by simply not completing the survey or closing the browser window.

There are no risks from participating in this project. We will not collect any information that may identify you. There are no direct benefits for you participating in this study.

WHO CAN I CONTACT WITH QUESTIONS?

If you have concerns or complaints about this project, please use the following contact information:

Micheala Steinmetz-Benton at [redacted]

[redacted]

If you have questions about your rights as a participant or concerns about the project and wish to talk to someone outside the research team, you can contact Michael Leary (Director - Institutional Review Board) at 636-949-4730 or mleary@lindenwood.edu.

Continuing with this survey indicates that you have read this consent information and are willing to participant in this research.

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Vita

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