ABSTRACT

Title of Dissertation: DUAL ENROLLMENT AND COLLEGE AND CAREER READINESS: AN INVESTIGATION OF ONE SCHOOL SYSTEM

Olivia W. Pearson, Doctoral Candidate, 2024

Dissertation Directed by: Dr. Segun Eubanks, Professor of Practice and Director Center for Educational Innovation and Improvement

Too few students are graduating from high school college and career-ready. For this dissertation, a qualitative design that included a data analysis was implemented to review a dual enrollment program and the impact of implementing various change ideas to increase enrollment of students in the program. The study was conducted in two phases. Phase 1 was a quantitative review of dual enrollment eligibility and registration data of all comprehensive high schools in the studied district over four years. Phase 2 was a focus group comprised of school-based personnel involved with dual enrollment. The focus group provided a more in-depth understanding of school needs in support of dual enrollment. Three research questions guided the study: (1) What does data suggest about implementing change ideas designed to reduce barriers to enrollment in schools and the enrollment of eligible students in college courses? (2) What additional support of the dual enrollment program do school personnel suggest that may increase eligible student enrollment? (3) How do the school personnel's perceptions of dual enrollment impact the way they interact with and support eligible dual enrollment students? Findings from this research suggest that schools that implemented a change idea observed an overall increase in dual enrollment registration over the four-year review period. The research findings also

indicate that multiple factors can influence the implementation of a dual enrollment program such as the knowledge and support of the principal and counselor, and how dual enrollment fits into each school's overall culture.

DUAL ENROLLMENT AND COLLEGE AND CAREER READINESS: AN INVESTIGATION OF ONE SCHOOL SYSTEM

by

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Preface

As a young child, I was frequently told stories about my family's role in the integration of the public school system in our region. My grandfather was so adamant his family deserved a better education that he sued the county school board when they denied the enrollment of his children, my mother included, into a school that was predominantly white. Years after the historic Supreme Court case Brown vs. the Board of Education, my family, also with the last name Brown, was embroiled in a similar struggle for educational equity (Brown vs. County School Board of Frederick County, Virginia). As the victors in the case, my mother and her siblings attended an all-white school. They were escorted by the police to an unwelcoming school environment. Daily, they endured mental and physical injury from a decision that was well intentioned. Although their traumatic school experiences did not facilitate their desire to continue in postsecondary education; they instilled its value in all of us.

I am an advocate, passionate about ensuring equitable knowledge and access to a quality education for every student. My research focuses on such equity in dual enrollment, a program which I supervise that provides access to a college education to students while they are in high school. This dissertation is organized in three sections: Introduction, Study Design, and Results and Conclusions where I make recommendations to support every student's increased knowledge and access to dual enrollment.

Dedication

This dissertation is dedicated to my family.

My children Teanna and Logan who give me the inspiration to do more and reach higher. I hope they will always know they can do anything they dream if they work for it.

My husband for always supporting my dreams.

My grandparents who knew education was the key to social and economic mobility for our family and demanded the best education possible for their children.

My parents, aunts and uncles for leading the way and ensuring that we felt worthy to sit at any table.

My cousins for providing unconditional love and support.

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Section 1: Introduction

Since the early 1980s, there has been increasing attention on the level of preparedness of United States high school graduates entering the workforce or college. The 1983 briefing "A Nation at Risk: The Imperative for Educational Reform" caused much concern regarding the status of the educational system in the United States (Achieve, n.d.). Students were neither academically nor socially prepared for their post-secondary choices whether they joined the military, the workforce or enrolled in a college or university. Even as graduation rates increase, far too many high school graduates are not prepared for post-secondary success. According to a report, 40% of new college students must take remedial courses when they enter college which includes 50% of students entering community college (ICF, 2012; Kozeracki, 2002). About one-third of high school graduates enter college needing remedial coursework and America now ranks 12th in college completion among other nations when it was previously a leader (College and Career Ready Standards (CCRS), n.d.). Employers are also concerned that high school graduates lack the skills needed to join the workforce (ICF, 2012).

To increase college and career readiness in high school graduates, state governors collaborated with state superintendents, teachers, business owners, and educational researchers to develop rigorous common standards in English and mathematics that are referred to as the Common Core State Standards (College and Career Ready Standards (CCRS), n.d.). By 2011, the common core standards were adopted by 45 states, the District of Columbia and several US territories (National Conference of State Legislatures (NCSL), 2014). The Common Core standards are universal standards in core subjects such as English and mathematics that all students should be able to attain through their schooling. The Partnership for Assessment of

Readiness for College and Careers (PARCC) examinations were developed to assess these standards; however, students were not performing well on the PARCC exams. Maryland later refined the Common Core standards to meet the needs of the students in Maryland. These standards are also assessed annually using the Maryland Comprehensive Assessment Program (MCAP). In 2015, President Barack Obama signed the Every Student Succeeds Act (ESSA) (n.d.) which provides guidelines for measuring and reporting access to a quality education, student educational growth and success. ESSA strives to ensure that all students are taught high standards to prepare them for college and careers (Every Student Succeeds Act, n.d.).

In Maryland, each school is assessed on academic achievement, progress in achieving English language proficiency, and school quality and student success. Additionally, elementary and middle schools are assessed on academic progress, while high schools are assessed on graduation rate and readiness for post-secondary success (MSDE, 2018). Maryland high schools are assessed in five ways: academic achievement, graduation rate, progress in achieving English Language proficiency, readiness for post-secondary success, and school quality and student success. Successful participation in dual enrollment is listed as one indicator of readiness for post-secondary success as well as an aspect of providing access to a well-rounded curriculum (MSDE, 2024b).

Problem of Practice: Getting Students College and Career Ready

In 2020, Cedar Hill Public Schools (CHPS) had an overall four-year adjusted cohort graduation rate of 76%. African-American students had a rate of 84% and Hispanic/Latino Students had a rate of 62%. Although the four-year graduation rate is 76%, less than half of all students were identified as meeting the CCR benchmark using measures identified by the state such as Advanced Placement, International Baccalaureate and SAT. This is further illustrated in

Tables 1-3. Cedar Hill Public Schools is a pseudonym for a large urban/suburban school system in Maryland, with a very diverse demographic. The school system is composed of 55% African American students, 36% Latino students, 4% White and 3% Asian with over 60% of the student population receiving free or reduced meals (PGCPS, n.d.). While CHPS has a goal of having 100% of its students graduate college and career ready (CCR), too few of the students meet the benchmarks as discussed above.

The Problem of Practice that grounds this study is that most students in Cedar Hill Public Schools are not graduating college and career ready as defined by the state department of education. In this study one key element of the problem that is more deeply explored is that dual enrollment is an important option for students to demonstrate their readiness for college and careers; however, most of the students who are eligible to enroll in a dual enrollment course, do not register. Education is paramount to the ability of students to compete in a global society. Ensuring that a student graduates with access to a high quality, rigorous education has implications for their future earning potential and socio-economic status (Ma, Pender & Welch, 2019). According to one source, "Higher math performance at the end of high school translates into a 12 percent increase in future earnings" (Benchmarking for Success: Ensuring US Students Receive a World Class Education, 2008, p. 5). Others have noted that about two thirds of the jobs require a college degree, and people who attain a college degree earn more than people who do not and have higher employment rates. (Carnavale, Smith & Strohl, 2013; Ma et al., 2019; Torpey, 2017). As the labor market changes in the future, the workers with a college degree will have the transferrable skills to maintain employment (Carnevale et al., 2013). A college education is also linked to higher pay, lower unemployment rates, upward mobility, improved health outcomes, and greater civic involvement such as increased voting and volunteerism (Ma et

al., 2019). Many of the jobs of the future may not be in existence today which could disproportionately impact students of color. The Economic Policy Institute (2016) cites an increasing wage gap between African American and White workers between 1979 and 2015. African Americans earn between 11.8 and 31% less than other workers with similar education and experience (Wilson and Rogers III, 2016, p. 8). African Americans must seek post-secondary education to better support a living wage as well as to obtain and maintain consistent employment (Ma et al., 2019). Given these factors, it is imperative for the CHPS school system to make every effort to increase opportunities for its graduates to become College and Career Ready (CCR) as CPHS graduates more students of color than any other district in the state.

The Promise of Dual Enrollment

In Maryland, dual enrollment refers to students who are enrolled simultaneously in high school and an institution of higher learning; it can also be called concurrent enrollment. Specific dual enrollment courses also earn high school credit. Courses that earn both high school and college credit are dual credit courses. In 2013, the Maryland State Senate passed the College and Career Readiness and College Completion Act, which requires school systems to pay tuition costs for eligible students to take college courses during their 11th and 12th grade years in high school. Students who demonstrate financial need will have fees and textbooks paid by the school system in addition to tuition. In addition to receiving high school and college credit, students can experience college life, first-hand, while still under the high school umbrella.

Although students can obtain college credits and high school credit through dual enrollment, most eligible students in CHPS do not take advantage of this opportunity. Since the school year 2021, approximately six to seven thousand students were eligible per semester; however, only two thousand students enrolled in courses (Cedar Hill Public Schools, 2018).

Despite the efforts of the county to increase those numbers, enrollment remains low in comparison to eligibility. The school district has created multiple avenues for students to participate in the program such as an increased focus on Accuplacer testing, training for high school counselors as well as the college dual enrollment advisors in most schools.

Impact of dual enrollment programs. There are many benefits for students who participate in dual enrollment programs while in high school such as earning college credits, increasing college matriculation and completion (Taylor, 2015; Karp, 2012). Students can also potentially earn dual credit. Although enrolled in college, they have the supportive environment of high school to help the students navigate the post-secondary institution. There are also many post-secondary benefits, as students can potentially earn credits towards a college certification or degree. Research also shows that students who participate in dual enrollment have higher persistence and graduation rates in college. For example, Taylor (2015) found that in Texas 6 years after high school graduation, dual credit students were 1.66 to 1.78 times more likely to complete college relative to non-dual enrollment students" (p. 358). Rigorous academic preparation is a factor of success in post-secondary institutions (Karp, 2012; Taylor, 2015). Advanced Placement, International Baccalaureate, dual enrollment and other credit-based transition programs can offer students the academic rigor of college level coursework (Hofman, 2012; Klopfenstein & Lively, 2012).

Dual enrollment can provide early college access for students to participate in the social and academic aspects of college. It also allows students to earn college credit. Dual enrollment is the only college readiness indicator that gives students practice with the college environment and the rigor of college level coursework. Dual enrollment and concurrent enrollment are terms used interchangeably in much research and vary from state to state (Tobolowsky & Allen 2016;

Andrews, 2004). Both indicate the student as simultaneously enrolled in two institutions, the high school and the institution of higher education. The percentage of US high school students who are dual enrolled or have earned dual credit has risen dramatically in the last ten years (Nordquist & Lueck, 2020). According to Taylor (2015), "The National Center for Education Statistics (NCES) surveys of public high schools show that the number of high school dual credit enrollments increased from 1.16 million in 2002-2003 to 2.04 million in 2010-2011" (p. 356). Dual enrollment courses can be offered very differently, from a student taking a course at the college, to the college professor coming to the high school to teach the course, and high school teachers working as adjunct professors teaching the dual enrollment courses to their students during the regularly scheduled day (Tobolowsky & Allen, 2016).

In 2003, The United States Department of Education hosted a summit urging dialogue between higher education institutions and secondary schools to address the lack of continuity of skill and knowledge apparent between high school and college, which can lead to fewer students completing college through degree attainment (Hoffman, 2012). Most states now have legislation addressing a "seamless education" of students from high school to at least community college, which largely includes dual enrollment (Andrews, 2004). State dual enrollment policies can vary greatly, however, most address dual credit, college transition as well as additional support for low-income students (Nordquist & Lueck, 2020; Hoffman, 2012; Taylor, 2015).

Defining College and Career Readiness

College and career readiness encompasses academic knowledge as well as skills and abilities that are transferable to multiple situations in the classroom as well as at the workplace. Carnevale, et. al. (2013) defines these skills and abilities to include…:

processing skills such as active learning, critical thinking, learning strategies, and

monitoring.... problem-solving skills involve the identification of complex problems and related information required to develop and evaluate options and implement solutions. Abilities are enduring and developed personal attributes that influence performance at work…. creativity, innovation, mathematical reasoning, and oral and written expression. Each is subdivided into component elements. For example, innovative abilities include deductive reasoning, fluency of ideas, inductive reasoning, and problem sensitivity (p.22).

According to Carnevale et al., the skills used at the workplace and in college settings become very important as the number of new jobs increases in areas that were previously unknown. People who have obtained a formal education or certification in addition to the usefulness of the college and career readiness skills and abilities will be in the best position to maintain employment as the labor market changes (Carnevale et al, 2013). Lombardi, Seburn and Conley (2011) describe four areas that develop college readiness skills in students which include cognitive strategies, content knowledge, contextual skills and awareness and academic behaviors (Conley, 2014; Lombardi et al, 2011). Literature also indicates the difference between students who are college eligible and students who are college ready. Students who are college eligible are able to meet basic college admissions requirements; however, students who are college ready are able to enroll and succeed in credit bearing college courses without remediation (Kilgore & Wagner, 2017; Lombardi et al, 2011).

College and Career Readiness in Maryland

The state of Maryland published a report in 2001 because of findings of a task force assembled to determine the college readiness of students (MHEC, 2001). The task force put forth many recommendations to include reducing the barriers to obtaining higher education, such

as financial aid, improving awareness of the importance of higher education to families, increasing the access of rigorous courses as well as increasing access to counselors. The task force also recommended the creation of a K-16 leadership council to ensure a seamless educational experience with the matriculation of students from one educational institution to another (MHEC, 2001). In 2013, then Governor Martin O'Malley signed The College and Career Readiness and College Completion Act to support increasing the educational attainment level of the people in the state of Maryland to support the growing and changing labor market which increasingly requires people who have obtained college degrees and certifications. The legislation also requires local school systems to assess students no later than their junior year to determine their college readiness and provide opportunities to improve before high school graduation. "Beginning with the 2015-2016 school year, all students shall be assessed using acceptable college placement cut scores no later than 11th grade to determine whether the student is ready for college-level credit-bearing course work in English Language Arts, Literacy and Mathematics" (MSDE, 2018b).

With the passage of the MD College and Career Readiness and Completion Act as well as federal ESSA legislation, the Maryland State Department of Education published the Toolkit to Determine Students College and Career Ready Designation under the College and Career Readiness and College Completion Act of 2013. The toolkit assists local schools and school systems in assessing as well as providing assistance and resources to ensure every student graduates from high school ready for college and careers (MSDE, 2018b). Students who meet qualifying college and career readiness benchmarks on assessments are deemed College and Career Ready. Additional indicators of College and Career Readiness include successful completion of a dual enrollment course as well as success on a Technical Skills Assessment

(TSA) exam after completing a Career and Technical Education (CTE) specific course of study (MSDE, 2018b). Students who pursue Career and Technical Education (CTE) programs of study are assessed with Technical Skills Assessments (TSA) which include industry certifications that deem a student career ready when a qualifying score is attained. In addition to assessments, providing rigorous coursework to high school students is an important part of Maryland's College and Career Ready plan. The Blueprint for Maryland's Future legislation passed in 2021. This legislation provides the basis for major shifts in education in the state and is focused on five pillars or key areas one of which is College and Career Readiness (MSDE, 2024a).

The College and Career Readiness pillar sets a new college and career readiness (CCR) standard and strives for all students to meet the standard before they leave the 10tth grade. After 10tth grade, students will select and participate in a post CCR pathway at no cost to the student. The post CCR pathways include an Advanced Placement program, International Baccalaureate Program, a dual enrollment program leading to a degree, a Career and Technical education program or apprenticeship or a support program which can include coursework at a community college for students who do not meet the CCR standard.

Implementation of Pillar 3 requires the Maryland State Department of Education to determine a new CCR benchmark. As a first action, MSDE set an interim CCR benchmark and commissioned a research study on the effectiveness of the interim benchmark. The interim benchmark is listed below. Students are only deemed college and career ready if they meet the interim benchmark in both English and mathematics.

<u>English - College and Career Ready metrics, English 10 assessment</u>

Score 4 or 5 on the PARCC

Score 2 or 3 on Early Fall MCAP (September 2021)

Score 3 or 4 on Fall Block and Spring MCAP (December – January or March – May)

Mathematics - College and Career Ready metrics o Algebra I, Algebra II, or Geometry assessment

Score 4 or 5 on the PARCC

Score 2 or 3 on Early Fall MCAP (September 2021)

Score 3 or 4 on Fall Block and Spring MCAP (December – January or March – May)

Score of 520 on the Math SAT

(MSDE, 2022).

The commissioned research study found that the interim standard was insufficient in properly identifying students who are college and career ready and recommended multiple measures of assessing students' readiness. The state board of education voted in February 2024 to finalize the CCR benchmark which also includes GPA as a measure of college and career readiness. Since the standard was approved so recently, comprehensive data on the number of students who have met this standard is not readily available for CHPS.

College and Career Readiness in Cedar Hill Public Schools

The current Strategic Plan for Cedar Hill Public Schools (CHPS) states that 100% of the graduates will meet the requirements to enter a 2- or 4-year college/university, technical school, or the military; and/or will hold a license or certification enabling them to enter the workforce within six months of graduation (PGCPS Strategic Plan, n.d., p. 10). Tables 1 through 4 provide data on indicators of college and career readiness as designated by the Maryland State Department of Education (MSDE, 2018b). In March 2020, the school system shut down for two weeks due to the COVID-19 pandemic. After two weeks, the system reopened virtually for the majority of the school year. The school system opened to all students for face-to-face instruction

in the fall of 2021. The long term academic and emotional impact the pandemic has had and will have on students is unknown. The data listed in Tables 1-4 may be incomplete starting in 2020 due to the school system closure and inability to assess all students with the standardized assessments set forth. The data in the Tables also do not represent unique students as the same student's information can be represented in each Table.

The data in Table 1 demonstrates the college and career readiness of students as indicated by their standardized test scores. Due to the COVID-19 pandemic, data does not exist for school years 2020 and 2021 as all PARCC and MCAP testing was paused. All students are required to take the PARCC or MCAP exam at the completion of English 10 and Algebra 1. Scores on the exam suggest between 5.7% and 48% of students are meeting the college and career readiness benchmark in either English or mathematics. The students' scores increased on the English assessment post-pandemic and decreased in mathematics.

Table 1

Cedar Hill Public Schools College and Career Readiness Assessment Success Data

	2017	2018	2019	2022	2023
PARCC/MCAP English 10	27.5%	24.8%	25.4%	45.2%	47.9%
PARCC/MCAP Algebra 1	15%	11.9%	9.7%	5.7%	7.4%

(MSDE, 2017; MSDE, 2023)

The data in Table 2 represent the seniors each year who participated in a Career and Technical course of study and completed an assessment for industry certification or participated in an Advanced Placement course. The greatest success is seen on the Career and Technical Education certification exams; however, less than 15% of seniors are enrolled and assessed in

this course of study. The maximum number of seniors participating in Advanced Placement is 3,000 taking over 8,000 exams in 2017. The number of seniors significantly declines each year to 1,700 students taking 4,000 exams in 2023 (MSDE, 2017; MSDE, 2023).

Table 2

Cedar Hill Public Schools College and Career Readiness Assessment Success Data– Technical Skills Assessments, Advanced Placement, International Baccalaureate

	2017	2018	2019	2020	2021	2022
TSA	55%	55%	*	*	44%	*
AP	27.1%	31.6%	40.3%	43%	42.9%	40.8%
IB	*data is not available for IB assessment and diploma attainment*					

Note: Areas identified with an asterisk (*) indicates unavailable data

(MSDE, 2017; MSDE, 2023)

The data in Table 3 includes college entrance exam scores. Students who anticipate attending college take the SAT or ACT exam and most of the students on track to attend college are not scoring college ready on the exam as the mean score is below the college and career readiness benchmark for both exams. The college and career readiness benchmark for the SAT is 480 for reading and writing and 530 for mathematics (The College Board, n.d.). The ACT college and career readiness benchmarks are English 21 and Mathematics 22 (ACT, 2013). Both the College Board and the creators of the ACT examination, provide research to show students who obtain the college and career readiness benchmark on their respective exams, will have a 75% chance of obtaining a C or higher in credit bearing coursework of the corresponding exam (ACT, 2013; The College Board, n.d.). The average score for the SAT reading is above the college readiness benchmark; however, the math section of the SAT and both areas of the ACT

were below the college and career readiness designated benchmark.

Table 3

Cedar Hill Public Schools College and Career Readiness Assessment Data

College Entrance Assessments, SAT and ACT

	2018		2019		2020		2021		2022	
	ELA	Math	ELA	Math	ELA	Math	ELA	Math	ELA	Math
SAT	508	483	502	478	476	451	464	442	511	482
ACT	18	18	18	18	20	19	20	19	18	17

(MSDE, 2023)

The data in Table 4 illustrates the dual enrollment pass rate for all courses which receive a final grade of A, B, C, or D. Courses with a grade of F, NA (not attended) or W (withdrawal) are not included in the percent passing measure. Students who enroll in dual enrollment courses have a high pass rate. Cedar Hill Community College (CHCC) is a pseudonym for the largest higher education institution supporting dual enrollment for Cedar Hill Public Schools' students. Each year two to three thousand students enroll in up to thirteen thousand dual enrollment courses at CHCC. Valley State University (VSU) is a pseudonym for a partner university of CHPS that has maintained enrollment of about one hundred dual enrollment students per year taking a maximum of almost five hundred courses. All State University (ASU) is a pseudonym for the newest partnership with CHPS as it was developed in the 2020-2021 school year to focus solely on student access to higher level mathematics, specifically Calculus. Participants enroll in a virtual Calculus course with only other CHPS students from various high schools. The maximum enrollment was approximately fifty students. Although the enrollment in dual enrollment courses has grown significantly and the entrance requirements have changed, students

have experienced continued success. When the unweighted GPA of 3.0 was added as an additional college readiness benchmark with CHCC, the success rate changed from 90% to 87% although thousands of additional students became eligible for the opportunity. A similar trend was noted with VSU who also permitted an unweighted GPA of 3.0 as a qualifier. For the ASU Calculus program, the prerequisites include a grade of A or B in PreCalculus and a GPA of 3.5 or higher. With the more rigorous nature of the course work, fewer students exhibited success.

Table 4

Cedar Hill Public Schools Dual Enrollment Success Data

	2017	2018	2019	2020	2021	2022	2023
CHCC	91.7%	91.4%	90%	90%	87%	87%	88%
VSU	95.3%	85%	86%	92%	85.5%	*	*
ASU	*	*	*	*	50%	48%	73%

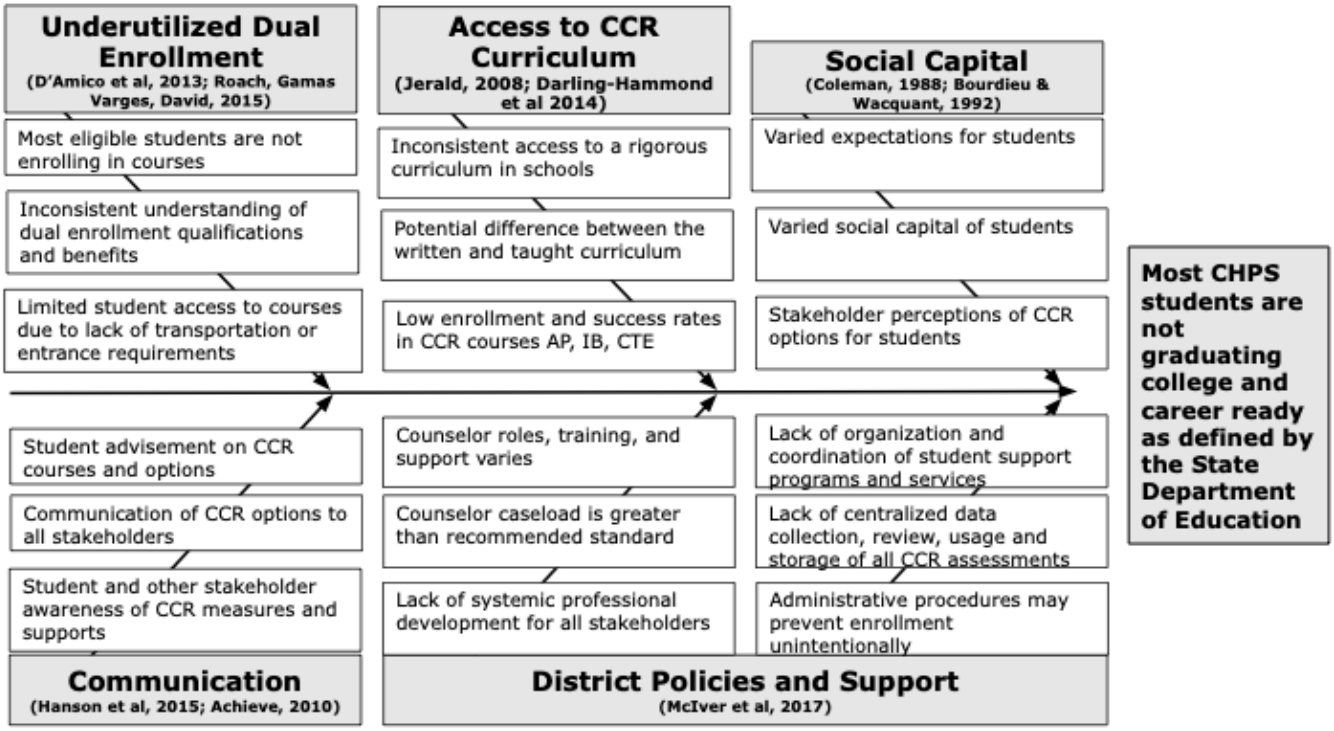
Note: Areas identified with an asterisk (*) indicates unavailable data

(Cedar Hills Public Schools, n.d.)

Causal Systems Analysis

The causal systems analysis was developed based on literary research and the researcher's analysis based on experiences supervising dual enrollment programs in CHPS (Figure 1).

Figure 1: Causal System Analysis



There are several main causal factors that can contribute to low CCR among students in CHPS. These include lack of access and success of a rigorous curriculum, eligible dual enrollment students not enrolling in courses, inadequate communication or misunderstanding about CCR benchmarks and programs, inconsistencies in district policies and support, and "social capital" in terms of family and peer support related to high expectations for college and career attainment.

Access to a Rigorous Curriculum

The biggest factor related to CCR may be a student's access to a relevant and rigorous high school curriculum. Darling-Hammond, Wilhoit and Pettinger (2014) discuss the need for academic standards to be rigorous and realistic as well as using multiple measures to evaluate

these standards. Rigorous coursework includes English and mathematics each year a student is in high school with math attainment at the Algebra 2 level. Students should also have access to a range of Advanced Placement, International Baccalaureate and dual enrollment courses. Providing access to a rigorous curriculum whether it is AP, IB or dual enrollment assists in closing achievement gaps for students and raising academic standards (Klopfenstein & Lively, 2012). The curriculum should align to CCR standards and assess students' high order thinking skills such as critical thinking and problem-solving. This curriculum will set the platform to develop soft skills as well (Darling-Hammond et al., 2014; Achieve, 2010).

Research also indicates that academic preparedness demonstrated on an exam is not the only indicator that supports success in college. Soft skills are just as important as content knowledge when measuring college and career readiness. Conley (2014) and Allen, Robbins, and Sawyer (2010), among others, discuss non-academic factors that also are critical in predicting a student's future college success and persistence. The non-cognitive or psychosocial factors include motivation, self-concept, situational judgments, persistence, and successful intelligence. Lukes and Karp both cite evidence of the benefits of the "non-academic facets of post-secondary education" such as interacting with other people may be just as important as the academic preparation (2014; 2012). Dual enrollment programs offer this perspective of the college experience including academic and non-academic factors for students who can take courses on the college campus.

CHPS has a developed curriculum and several assessments that align with CCR standards; however, the students experience varied success. One factor may be teacher capacity inclusive of professional development. With high teacher turnover, teachers may not have the time to get fully trained to develop and differentiate the curriculum to meet the needs of their

students. Also, enrollment in the most rigorous coursework, AP, IB and dual enrolment is low compared to school enrollment. AP and IB courses have open enrollment, and these programs have decades long history in the district; however, the enrollment in those courses and programs is not maximized. In 2017, of the 36,000 high school students enrolled in CHPS (Prince George's County Public Schools, n.d.), 5,600 were enrolled in AP coursework and 221 students were involved in IB coursework, representing 16% of the high school student population (MSDE, 2017). Dual enrollment course enrollment is more complex. Of the students interested, determined by willingness to sit for the Accuplacer exam, and eligible to enroll in dual enrollment courses, only 11% proceed with enrolling in a course (Cedar Hill Public Schools, 2018). The success rate of dual enrollment is much greater than the success rate of students enrolled in AP and IB courses. Factors that impact success include student preparation and teacher capacity. Dual enrollment is limited to students who have an appropriate GPA and assessment score (MOU, 2015), whereas AP and IB courses are supposed to be open access for all interested students (Klopfenstein & Lively, 2012).

Communication and Knowledge of CCR

The perception and understanding of all stakeholders regarding CCR including benchmarks and program options is important. Teachers and principals must understand the goals in education for students for them to be agents of transformation (Webber, 2015). According to a report from Achieve: American Diploma Project Network (2010), "the goal of college and career readiness for all high school graduates is no longer a radical reform idea promulgated by a handful of states: It has emerged as the new norm throughout the nation." (p. 23). Policymakers across all states agree with developing and assessing rigorous standards supporting college and career readiness (Darling-Hammond, 2014). "Without a well-developed

comprehensive implementation plan that includes student and teacher supports and a communication and outreach strategy to students, parents and other stakeholders, states are likely to be caught in a continuous struggle to protect their new requirements from attempts to backslide and return to the previous status quo" (Achieve, 2010). Districts must take a proactive approach to shift the mindset of all stakeholders to prevent them from regressing. Lack of understanding or knowledge and benefits of the various options for rigorous coursework can be a factor in the low enrollment in these programs (Achieve, 2010). With all the possible options, schools must also ensure the programs are not competing for the same students and are broadening their scope to support all students.

Social Capital

James Coleman (1988) defines social capital as the changes in the relations among persons that facilitate actions. Different people have different social capital based on their relationships. Social capital encompasses influences to include a student's family, friends and school-based staff (Reddick et al, 2011). School based staff can vary from teachers, counselors or non-profit organizations who provide college access services to students. Minority, low-income and first-generation students may not have the same social capital of other students as it relates to college access. This is increasingly more important in Cedar Hill Public Schools as it is a majority-minority school system with a large percentage of students receiving free and reduced meals. More minority students are enrolling in college in recent years; however, high school graduation, college enrollment and degree attainment are still highly correlated to socio-economic status and race (Reddick et al, 2011). Students in CHPS may not have the same access to their school counselor or college access provider due to the large number of students on their caseloads and competing priorities.

Schools and districts can and should make a concerted effort on improving social capital to maximize the financial resources and provide concerted efforts to support and engage students. Salloum, Goddard, and Berebitsky (2018) found that social capital can be three to five times more impactful on student achievement than financial resources. Increasing social capital can positively impact college and career readiness. Building the knowledge and awareness of the program with all stakeholders can increase the number of students who take advantage of the opportunity. Schools who create a college going culture involving all stakeholders, parents, teachers, counselors, administrators, create social networks where a student's disposition to attend college could occur naturally (Bryan et al, 2017).

It is also important for schools as early as elementary to create a college going culture for all students (Bryan et al, 2010, Uwah et al, 205). The belief that a student is capable of attending college can impact their engagement in school as well as their willingness to seek educational opportunities and rigorous coursework. Direct, targeted invitations to participate in school programming, either academic or extracurricular and authentic interactions with members of the school community who believe that they can perform at a high level appear to be more important to African American males than how much they perceive they are liked by others (Uwah et al, 2015). Students who have high academic aspirations are more likely to take advantage of educational opportunities, the reverse is also true as students who do not believe they can succeed in other educational opportunities can influence what they learn in school and how they prepare for their post-secondary lives and their ultimate academic and career attainment. Research indicates no significant difference between African-American males educational and career aspirations versus any other group; therefore, the lack of attainment of these aspirations may represent their reality of lack of resources, prejudice and other social barriers (Uwah et al,

2015). High school students report psychological barriers to their pursuit of college enrollment (Bryan et al, 2017). It is important for school agents to follow up with students with individualized post-secondary planning prior to the start of 10th grade (Bryan et al, 2010; Bryan et al, 2017; Uwah 2015). This allows for school agents to fully understand students and parents knowledge of the college going process. If students want to follow another path, this is also a time to firm the steps in those pathways as well. The school counselor is charged with initiating these conversations; however, due to increasing counselor caseloads and responsibilities, the individualized planning may not occur. School counselors can work collaboratively with teachers to continue the college planning process (Cholewa et al, 2015).

District Policy and Support

A system's policies and infrastructure are central to improving college and career readiness. The policies and supports include creating professional development opportunities to building teacher capacity to deliver college preparatory curriculum, establishing the college and university partnerships, informing college and career readiness policy, data storage and utilization, and creating counselor training and setting counselor caseloads (ACT, 2018; Mac Iver, Clark, & Mac Iver, 2017). Cedar Hill Public Schools has made significant policy and infrastructure changes to support college and career readiness; however, there is still additional support needed. The district supports the use of the Kids2College curriculum in elementary school to provide college and career awareness to students. The curriculum is implemented by the elementary school counselor during classroom guidance visits. The district also implements the Advancement Via Individual Determination (AVID) program for half of its middle schools and four high schools. The AVID program is a college readiness system that provides students with the skills to excel in school and college. During the school year 2021-2022, CHPS removed

AVID from its high schools although it could be used as support for dual enrollment. One district in Texas includes AVID and a study skills course for all students newly enrolled in dual enrollment to support their study skills and organization fostering success in dual enrollment courses (Duncheon, 2020). CHPS also has invested in the Naviance college and career readiness platform to be implemented with all middle and high school students. These are primarily implemented by the school counselor with students to promote self-discovery and college and career awareness. The Blueprint legislation supports career counseling for all middle and high school students; however, it is not yet fully implemented in CHPS.

The system must also invest additional resources to support college and career readiness to include a centralized data system where student CCR information is housed and available for all stakeholder's use. With the new definition of CCR, CHPS has not yet identified the students who meet the criteria in both English and mathematics. The district also does not permit students to participate in dual enrollment during the school day prior to their senior year unless they are enrolled in an early/middle college program or if they have a dual in the school course in their school. The varied access causes an inequity with access for students who may have other responsibilities. Dual enrollment, IB and CTE programs are paid by the district; however, students must pay for their Advanced Placement exams which may be a reason for the decline in enrollment for the assessment.

School counselors are a vital component of implementing a successful dual enrollment program or guidance in rigorous coursework. The school counselor has multiple priorities and needs additional support so they can focus on dual enrollment. A counselor will be pivotal in explaining the dual enrollment program, its benefits as well as guide students to appropriate beginning courses (Kilgore & Wagner, 2017). The counselor caseload varies as well as their

responsibilities in their respective schools.

Underutilized Dual Enrollment

To increase the number of graduates of CHPS that are college and career ready as defined by MSDE, the system must address all the benchmarks. However, a major focus should be on increasing access to rigorous curriculum through increasing enrollment in dual enrollment courses. Dual enrollment courses have been used as not just a manner for students to obtain college credit, but also a way to motivate students (Klopfenstein & Lively, 2012). Unlike the history of the Advanced Placement and International Baccalaureate programs, dual enrollment can and has been used not just for the academically talented student, but also for the unsuccessful student as a means to keep that student interested in high school during their senior year or even as a motivating factor to complete high school when traditional schooling may not be a focus (Andrews, 2004; Klopfenstein & Lively, 2012).

Many dual enrollment programs pair the high school with the local community colleges or technical schools. "Community colleges have historically been the gateway to higher education for many underserved students, providing access to populations who would otherwise not attend higher education" (Taylor, 2015, p. 357). The technical schools can also assist the student in obtaining certifications where they can immediately enter the workplace after graduation, which may not be available at their high schools (Andrews, 2004). Dual enrollment enhances the quality of the workforce and college readiness (D'Amico, Morgan, Robertson, and Rivers, 2013). Although states have enacted legislation to assist with dual enrollment, students and colleges still cite several barriers to participation. Coordinating high school and college schedules, cost and transportation are included as barriers to participation (D'Amico et al, 2013).

Dual Enrollment and the Accuplacer Exam. The Accuplacer exam is an online

computer adaptive exam, which assesses a student's abilities in reading, writing and mathematics (The College Board, 2019). Institutions of higher learning utilize the Accuplacer assessment scores to determine a student's course placement and potential for remediation. The Accuplacer exam is a College Board product similar to Advanced Placement exams, the PSAT and SAT exams. The CHPS uses the Accuplacer exam solely to support dual enrollment, as it is an examination both CHCC and VSU have identified to facilitate proper course placement. The PSAT, SAT and PARCC exams are aligned to the Common Core standards; however, the Classic Accuplacer exam is not aligned to the same standards. Since the Accuplacer is not aligned to the CCSS, students who take the exam are not exposed to the curriculum assessed. In the fall of 2019, CHPS in partnership with CHCC started administering the Next-Generation Accuplacer to eligible students. The Next-Generation Accuplacer exam is more closely aligned with the Common Core State Standards of students (The College Board, 2019).

Students in CHPS have four opportunities to take the Accuplacer exam before they graduate (Cedar Hill Public Schools, 2019) beginning in the spring of their sophomore year and again once a semester until the fall of their senior year. In school years 2018 and 2019 between 8,000-9,000 CHPS students were eligible to take the Accuplacer exam each semester to support dual enrollment. To be eligible, students must have a cumulative grade point average of at least 2.5 and must be a rising or current 11th or 12th grader. Of the eligible students, an average of 4,000 students, less than half, took the Accuplacer exam each semester even though it is the only qualifying exam paid for by CHPS. The number of students who have obtained both the qualifying GPA as well as the exam score ranges between 3,500-4,300 students per semester which suggests that the students who are assessed and score a qualifying score are interested in participating in the opportunity. The enrollment of students per semester in a dual enrollment

course represents approximately 20% of students who meet both the GPA and testing benchmark for participation. Beginning in the school year 2021, MSDE recommended any junior or senior high school student be deemed college ready if he/she has earned an unweighted, cumulative GPA of 3.0. This agreement between the Maryland State Superintendents and the Community College Presidents identified an additional 2,000 students as college ready for the 2020-2021 school year. Although the enrollment in dual enrollment courses is increasing, the number does not reflect the number of students who both show interest and qualify for the opportunity (Cedar Hill Public Schools, n.d.).

The Accuplacer testing window in CHPS includes a two to three week time frame where schools can identify days to administer the exam to qualified and interested students. The testing window occurs twice a year, once during the fall semester for spring college enrollment and once during the spring semester for summer and fall college enrollment. Ideally, the counselor, with the school's testing coordinator, will promote the Accuplacer exam with a pre-Accuplacer workshop or meeting with all students eligible to take the exam with a cumulative GPA of 2.5 or higher. Once the students take the exam, the scores are listed immediately. The counselor is then needed for advice to determine which courses the student would like to take and qualify to take as well as which courses can be counted as dual credit to meet high school graduation requirements and be included in the high school grade point average. Once the advice is complete, the student can complete the application for dual enrollment which must include student, parent, counselor and principal signature. The counselor and testing coordinator are simultaneously balancing many other duties.

The Accuplacer testing window and dual enrollment application period often coincide with other standardized testing, which is more of a priority to the district, such exams include

MCAP and PSAT. The Dual enrollment calendar is illustrated in Table 5. Schools partner with CHCC to provide dual enrollment information sessions, pre and post Accuplacer workshops and college course advice. A counselor will still be needed for final advisement and approval of the application.

Table 5

Cedar Hill Public Schools Dual Enrollment Calendar

Fall Application Period	Spring Application Period	Dual Enrollment Process	Person Responsible
September	February	Accuplacer eligibility letter	District office
		Pre-Accuplacer workshop	School testing coordinator/counselor
		Accuplacer testing window	
October	March	Post-Accuplacer workshop	School testing coordinator/counselor
		College course advisement	Counselor
November	April	College course advisement, application completion and submission	Counselor

The History of Dual Enrollment in CHPS. CHPS schools partnered with Valley State University, All State University, and Cedar Hill Community College to implement the Minority Student Pipeline, Math Science Partnership grant issued by the National Science Foundation in 2008 (National Science Foundation, 2008). The grant was focused on improving teacher quality in science, technology, engineering and mathematics (STEM) and providing access to early

college options for students. Through the partnership, Cedar Hill Community College provided dual enrollment courses during the school day to students in five selected high schools. The courses were approved as dual credit and appeared on the student's transcript with additional weight to reflect the rigor of the course. The program was successful as students obtained college credits; however, it became increasingly difficult to staff the schools with the adjunct professors from the college. The lessons learned from the initial implementation of the MSP grant provided additional support for the CHPS middle college's creation.

The New College Academy (NCA), middle college, opened its doors to its first class of incoming freshmen in the summer of 2011 (Academy of Health Sciences, n.d.). NCA is a pseudonym for the middle college that is housed on the campus of Cedar Hill Community College. Students attending NCA are considered high school and college students and obtain high school and college credits during their tenure at the school. Graduating seniors earn a high school diploma and an Associate's degree. To further expand college access to students, the Pathways to Technology Early College High School (PTECH) was created at one district high school to provide students access to early college as well as work experience in the form of internships and apprenticeships. The Talent Ready program was created at a separate district high school using a similar intent as PTECH. Students enrolled in Talent Ready are exposed to work experience to support their college program of study. Students in this model have as long as 6 years upon entering high school to complete their Associate's degree. The district has also created the 3D Scholars program which is the first program with a definitive path to a Bachelor's degree. Students begin taking college classes during their junior and senior years in high school and have up to 6 years after high school graduation to complete their bachelor's degree. The district has also created the Public Safety Academy which provides students access to courses

and careers supporting public safety such as police officers and firefighters. Lastly, the Information Technology (IT) charter schools created an Information Technology Early College (ITEC) program which provides students an opportunity to early an Associate degree in information technology. The demand for early and middle college programs in CHPS is great; therefore, additional programs are created to meet the demand.

In addition to the specialized programs, the district has provided access to dual enrollment courses to all students who meet grade point average (GPA) and/or testing requirements. The program for students not in specialized dual enrollment programs has grown from 151 students in 2013 to over 1,000 students per semester in the 2022-2023 school year. Dual enrollment options have also been integrated into established college and career readiness signature programs in CHPS such as the Science, Technology, Engineering, and Mathematics (STEM) programs and language immersion programs.

Limiting Dual Enrollment. Although CHPS pays for tuition for students to take dual enrollment courses, funding is also a limiting factor. If a student does not receive free or reduced meals, the parent can pay between $160-$350 for fees as well as any additional funding for textbooks which could be as much as an additional $300 per 3 credit hour course. Many families are not able to support the amount per semester. A student's poor performance can also hinder them from receiving federal aid in the future. If a student consistently fails courses, they may not be able to receive federal assistance when they matriculate to college full time (Loveland, 2017). The district's funds are also limited. As CHPS Administrative Procedure 6155 states that students are not limited to the number of courses they can take, the current budget would not allow each of the eligible students to take a course. If more eligible students decided to pursue dual enrollment, the budget would have to increase significantly, or the number of courses

requested would have to be limited.

Theory of Improvement: Driver Diagram

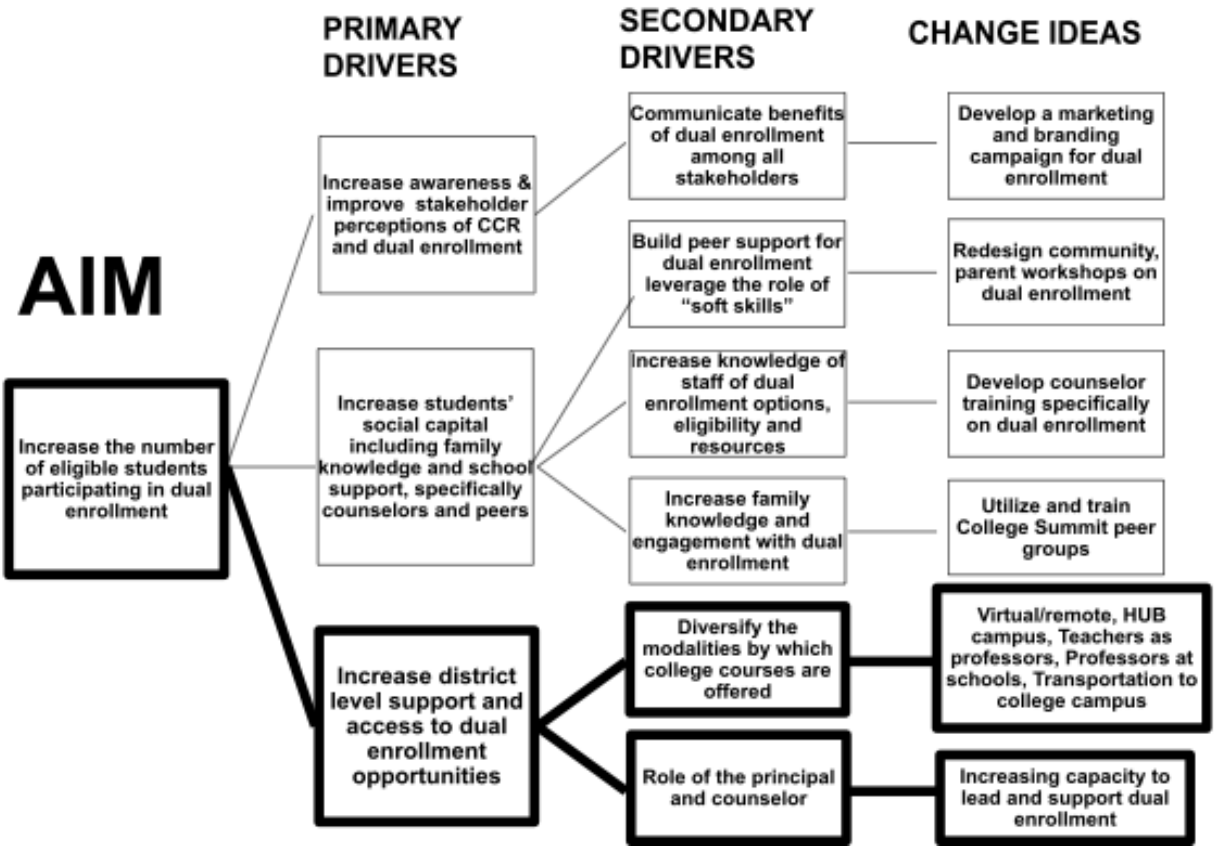
The 2013 Maryland College and Career Readiness and College Completion Act enables public school systems to pay tuition for high school students to enroll in credit-bearing college courses. Research suggests enrolling in dual college courses while students are still in high school increases their chances of enrolling and completing a college degree (Taylor, 2015; Karp, 2012). This advantage is very important for minority, low income and first-generation college students as the rate at which these students enroll, and complete college is lower than that of their counterparts. The future job market requires a college certification or degree to obtain and maintain employment and is integral in the social and economic mobility of students. Although CHPS pays for student tuition for dual enrollment courses, most students who are eligible by both their cumulative GPA as well as the qualifying test score, do not take advantage of the opportunity.

Figure 2 presents three key primary drivers that must be addressed to increase dual enrollment in CHPS. The primary drivers include increasing understanding and improving perceptions regarding dual enrollment on the part of all stakeholders such as counselors, parents, students, school administration as well as the high school teachers and college professors; enhancing social capital of students, and lastly increasing district support, including funding and deepening the college partnerships to increase access to dual enrollment programs. The focus of this research is on the third driver: increasing district level support and access to dual enrollment opportunities. The change idea is to modify the modalities of the course offerings to determine if it has a positive impact on dual enrollment registration. Secondly, the school counselors and other staff will be utilized to determine their understanding and comfortability supporting

students with their enrollment in the dual enrollment courses.

Figure 2

Improvement Drivers for Increasing Dual Enrollment



Increase Awareness and Improve Stakeholder Perceptions of CCR and Dual Enrollment

Professional school counselors are key in promoting college and career readiness. The College Board cites eight components of College and Career Readiness counseling that should be evident in counseling programs beginning in elementary school. The eight components include:

1. College Aspirations: creating a college going culture
2. Academic Planning for College and Career Readiness: Rigorous academic program/schedule
3. Enrichment and Extracurricular Engagement: exposure to enrichment and leadership opportunities
4. College and Career Exploration and Selection Process: research careers, majors and colleges
5. College and Career Assessments: awareness, preparation and participation in assessments such as the Accuplacer, SAT, ACT, TSA exams
6. College Affordability Planning: provide information regarding college costs and options to prepare to pay for college and exposure and support completing documents such as the Free Application for Federal Student Aid (FAFSA)
7. College and Career Admissions process: provide information regarding application and admission to college and career programs.
8. Transition from High School Graduation to College Enrollment: provide support and information regarding student next steps after high school graduation to successfully matriculate to college (The College Board, 2010).

The College Board recommends implementation of the eight components to be tailored to

the individual audience, encompassing all stakeholders and use data to develop strategies to eliminate inequities (The College Board, 2010). The counselor guides a student through their academic career, which can put them on a trajectory to support college entry and career exploration. The school counselor can guide a student to college-level high school options such as AP and IB courses, CTE programs of study and dual enrollment. The counselor is also important in ensuring that students are aware of and take college entrance and placement exams such as the SAT, ACT, and Accuplacer.

The professional school counselors are typically the main source of information about college opportunities and access and can guide students and families. The counselor is also key in assisting students with developing goals and providing career assessments to focus learning (Lapan et al, 2017). A key component of college readiness is not just the coursework, but the awareness of all aspects of college such as time management and the social and emotional skills needed to persevere in a college setting. College readiness also depends on an awareness of the college selection and entrance process such as completing the FAFSA, matching the student to the correct college choice. Despite the importance of school counselors in increasing college and career readiness, many professional school counselors have stated that they do not feel prepared to complete all of the expectations of their jobs (Goodman-Scott, 2015) and the counselor certification requirements do not include college and career readiness training (Galassi & Akos, 2012; Goodman-Scott, 2015; McPhillip et al., 2012; Savitz-Romer, 2012).

According to Webber (2015), "school districts need to develop focus groups, professional development, book studies, and Twitter chats about college and career readiness." Counselors can be creative in communicating with parents via text and email as well as hosting events in the evenings and ensuring interpreters are available for non-English speaking families (Bryan et al,

2011; Cholewa et al, 2015). According to Hanson, Prusha and Iverson (2015), the success of a dual enrollment program requires that each stakeholder have a role in advertising and supporting a student in his/her decision to participate in dual enrollment courses. The success of the Advanced Placement, International Baccalaureate and Career and Technical education programs will also require each stakeholder to have a role in advertising and supporting student enrollment.

Increase Students' Social Capital Including Family Knowledge and School Support Specifically Counselors and Peers

Social capital is found in the structure of relations between people, such as relationships in families, in close friends, school relationships and community relations. A professional school counselor serves as an important source of social capital for all students in the school (Bryan et al., 2011; Cholewa et al, 2015; Lapan et al, 2017; McPhillip et al., 2012) . Students who aspire to attend college who also have parents who have attended college are able to utilize their parents as social capital as well as the professional school counselor. There are many other students who have aspirations to attend college and their parents may also have the same aspirations for their children; however, if the child is a first-generation college student or comes from a household with less financial means, the counselor can become the most important and sole source of social capital (Bryan et al., 2011; Cholewa et al, 2015; McPhillip et al., 2012). Many students and parents are unaware that the course decisions made early in a child's education could put the child in a position where he/she is limiting the choice of colleges and college majors (Carolan-Silva & Reyes, 2013; Galassi & Akos, 2012). The school counselor can become the person who is able to facilitate college access which enables the upward social and economic mobility of the student which impacts the student's life (Farmer-Hinton and Adams,

2006; Lapan et al, 2017, Ma et al, 2019). The relationship that the counselor has with the student has a direct impact on how comfortable the student is with sharing his/her goals and potential to attend college. This is especially true for students who may not be in the top academic percentile, but still have aspirations and the ability to attend college (Farmer-Hinton and Adams, 2006). African-American, Latino, and first-generation students are most likely to name their professional school counselor as the most influential person in their thinking of post-secondary education. African-American students are almost twice as likely to name their school counselor as the most influential person compared to white students (Cholewa et al., 2015). There is also conflicting research that states Latino students are less likely to apply to college when they contact their school counselor, as many students rely on family members and peers to assist with academic advising and college access (Bryan et al, 2011; Carolyn-Silva & Reyes, 2013)

The school counselor is an influential gatekeeper for students in their college awareness and application process. The school counselor is a source of social capital as their expectations for a student's future academic goals can tailor the support and advice they give students regarding college and career readiness. Hinton and Adams (2006) list the importance of the school counselor to help build college-going expectations for students. School counselors must begin engaging students and families in college preparation in elementary school (Bryan et. al, 2011; Hinton & Adams, 2006). As part of building a college going culture, the counselor's role includes imparting a belief in college attendance for all students (Bryan et al, 2011). The college enrollment process can depend on the academic choices that students make throughout their high school careers, which include their choice to enroll in rigorous college-preparatory courses and curricula. The predisposition to enroll in these courses can begin in the 7th grade. In the 7th grade students begin developing their potential aspirations for enrolling in certain tracks, such as

advanced math courses which can better prepare them for college (Carolan-Silva & Reyes, 2013). Research indicates students who have high educational aspirations are more likely to seek rigorous curricula. Educational aspirations are developed very early in a child's educational career and can influence what and how they learn (Uwah, McHamon, Furlow, 2008). An invitation to participate in school programming can impact a student's perception of inclusiveness and positively impact their educational aspirations (Uwah et al, 2008). In CHPS, students apply for specialty programs which are rigorous college preparatory programs such as the STEM programs and early/middle college programs in the 8th grade. The student's 7th grade GPA along with standardized test scores in the 8th are used as admission criteria (PGCPS, n.d.). The specialty programs all contain Advanced Placement, International Baccalaureate or dual enrollment courses in their mandatory curriculum, which gives students an advantage with access to a college preparatory curriculum and rigorous coursework. Each program also has a program coordinator and another professional school counselor staff position in the school. The program coordinator, who works in tandem with the school counselor to counsel, monitor and guide the students and their families. Access to these rigorous, college preparatory programs begins with the grades students receive in the 7th grade. Dual enrollment and Advanced Placement courses are accessible to all high school students; however, the counselor is integral in advising students on the qualifications and ability to participate in these programs. Research indicates college advising conversations must be initiated before the student begins the 10th grade (Bryan et al, 2011; Lapan et al., 2017).

Roles of Non-Profit Organizations in Building Social Capital. With the large student caseloads and varied needs of their students, many counselors rely on non-profit organizations to assist students with career exploration, the college search, application and matriculations

processes. There are national TRIO programs funded by the United States Department of Education to assist lower income students with their access and matriculation to college. These types of programs assist in providing guidance, support and potentially wrap-around services for students from the most economically disadvantaged backgrounds to ensure they have academic and social support to excel in school and successfully matriculate to college. The TRIO programs include Upward Bound which provides small caseloads of students to a particular advisor to assist students in their journey to attend college. CHPS has Upward Bound programs which have partnered with local colleges and universities to support the students. Research demonstrates that students who participate in the Upward Bound TRIO program are more likely to matriculate to college and earn a degree as compared to their peers of like backgrounds (Cowan Pitrie & Pitrie, 2009). The research on the impact of TRIO programs on students during high school is varied as there is no series of definitive studies which show participation in a TRIO program supports higher grades of students, students taking more rigorous coursework, or a decreased drop-out rate (Cowan Pitrie & Pitrie, 2009).

There are additional college access programs and partnerships in CHPS which include STAR, Generational Firsts, Youth CareerConnect, and College Summit/Peer Forward. The major focus for these programs is supporting college access for students who may have barriers to their matriculation to college such as low income or first generation to attend college. Each of the programs also supports students and encourages them to participate in rigorous courses such as dual enrollment, AP or IB. These programs support the role of the counselor; however, they may occur in the same schools.

Generational Firsts (GF) is a non-profit organization founded by a former teacher ("FGCB", 2018). The organization was founded in 1990 to empower low to moderate income

youth to obtain a college degree through academic and college access support and guidance. Currently, the senior year program provides college access and guidance to 150 high school seniors, 30 at each of five CHPS high schools which may have a higher portion of low-income students. In 2017 with the financial support and guidance from a state grant, the organization created a Success Academy for students in four middle/high school pairings to ensure students will have access to academic support and financial guidance for college, also in high needs areas. In 2018, 142 students enrolled in GF enrolled in college garnering $1.8 million in financial assistance ("FGCB", 2018).

The Youth CareerConnect program was funded through a United States Department of Labor grant to reduce the number of Visas needed to fill vacancies in the United States for jobs organizations to support education, work experience, and industry-specific certifications to assist the students in obtaining jobs. The program is housed in schools in some of the high areas in Cedar Hill County which have a higher rate of low-income families and higher rates of unemployment. The grant encompasses multiple partners to support the students in their educational, social-emotional, and career aspirations. The program is housed in four high schools with either an Information Technology program or a healthcare program. The program is limited to students in the industry-specific academy at each school. These students receive an onsite college readiness and access support person from Cedar Hill Community College to assist with dual enrollment preparation, enrollment and advice among other college access roles such as FAFSA completion, college tours and college applications. The students also receive support from an onsite career readiness support person who provides job readiness training

The Peer Forward program, formerly known as College Summit, uses the peer influence and assistance to support students in their college aspirations. The organization partners with

schools to identify and train one advisor and junior and senior peer leaders in assisting their peers with three major campaigns; applying to at least three colleges, completion of FAFSA, and connecting their academics to their career goals ("Peer Forward", n.d.). CHPS began partnering with college summit in 2007. The program was utilized in all schools. After the loss of funding, the program only survived in schools that could supply their own funding. In 2016, after College Summit changed their name to peer forward, CHPS signed a contract to partner again with all high schools. The peer summit advisor, CHPS faculty member, is trained and receives a stipend to monitor the peer leaders and facilitate the three campaigns. The program looks different in each school. Some schools utilize the program as an after-school activity or club for students facilitated by the peer leaders, other schools utilize College Summit as a class for students grades 9-12 and the peer leaders are utilized to manage the three campaigns as well as other college and career activities at the school. This model utilizes the fictive kin model (Hill, Bregman and Andrade, 2014; Tierney and Venegas, 2006); however, with many programs existing in the school, it is difficult to evaluate the effectiveness of any one program.

Success Transfer Academic Resources (STAR) is a pseudonym for a dual enrollment advising program that began in 2016 in partnership with Cedar Hill Public Schools and Cedar Hill Community College. STAR is a student support program that provides CHCC academic advisors to targeted high school students in specific CHPS high schools. The STAR advisors aid with dual enrollment and additional support to facilitate a student's successful matriculation to college (PGCPS and PGCC, 2016). The STAR coach can provide pre and post Accuplacer workshops, and student advice on college course selection. The STAR coach can also assist with college access activities such as FAFSA completion.

Increase District-Level Support and Access to Dual Enrollment Opportunities

There are multiple stakeholders that are involved in the implementation of a dual enrollment program. The prospective students and their families, the college, and the school-based personnel who are responsible for interacting and facilitating student awareness and enrollment. This section will focus on the varied modalities for dual enrollment programming created to increase access, and the role of the school counselor and the school principal as key facilitators for implementation of the dual enrollment program.

Changing modalities of dual enrollment. Cedar Hill Public Schools provides various support for students to participate in dual enrollment programs. The specific supports the district implemented to increase access to dual enrollment opportunities will be referenced as change ideas. The change ideas implemented were based on common barriers to participation such as the cost of the program, college readiness assessment scores, and transportation to the college courses (D'Amico et al, 2013; Roach, Gamas Varges, David, 2015). In the fall 2020, CHPS in alignment with the Maryland State Department of Education's toolkit will begin using an unweighted grade point average in lieu of Accuplacer scores for students to enroll in credit bearing courses after their junior year of high school (MSDE, 2018b). CHPS and CHCC collaborated on official guidelines for using the unweighted 3.0 GPA to include which classes a student could qualify to take using only GPA and recommending no more than two courses for the first semester's enrollment. This allowed thousands of additional students to qualify for dual enrollment. With the Blueprint for Maryland's Future legislation, CHPS also began paying for all dual enrollment students' tuition, fees and textbooks. The Blueprint supports dual enrollment as a post-college and career readiness pathway (MSDE, 2022).

In addition to paying for student tuition, fees and textbooks based on FARMS status, the

district has a partnership with both Cedar Hill Community College and Valley State University to increase access to dual enrollment options for students and the community. In the fall of 2021, CHPS also engaged in a pilot program with All State University (ASU) to offer a virtual Calculus course for students who may not have access to calculus. In the United States, approximately thirty percent of students participate in post-secondary credit attainment while still in high school (Nordquist & Lueck, 2020; Hornback et al, 2023). This comes as Advanced Placement, International Baccalaureate and dual enrollment. For students taking dual enrollment, 80% nationally take courses in their high school. Cedar Hill Public Schools has partnered with colleges and universities in multiple ways to make dual enrollment accessible to students either in their school or by providing transportation to the college.

High School as a College HUB. CHPS and both CHCC and VSU have collaborated on the creation of satellite campuses located at individual high schools. These satellite campuses or HUB schools expand access to the coursework for students who live near the HUB school locations. CHCC uses a high school in the southern area of the county as a HUB school. VSU uses a high school in the northern area of the county as a HUB school as well. Both HUB schools offer college courses before or after school to CHPS students and other people in the Cedar Hill community. By allowing both community members and high school students the ability to enroll in the courses before or after school, the environment is similar to a college campus.

High School Teachers as Adjunct Professors. CHPS and CHCC also have a partnership where CHPS teachers can serve as adjunct professors during the school day. The professors must include an advanced degree or coursework in the content area that they teach. This is one of the most common methods of dual enrollment offerings (Klopfenstein & Lively, 2012;

Loveland, 2017; Roach et al, 2015). The first courses using this model in CHPS were offered in the fall 2019 in five high schools. The schools and colleges modeled the implementation using the National Alliance of Concurrent Enrollment Partnerships best practices and guidelines (NACEP, 2017). Many districts use this method to save costs from paying full tuition and fees for students who take college courses on the college campus. There are several limitations with implementation, however. National standards do not exist for credentialing an adjunct professor; however, most often teachers must have a Master's degree with at least eighteen credit hours in the specific content. Educators with a Master's degree often have the degree in education instead of a subject such as Psychology or Biology. Many of the teachers without the Master's degree in the content area have a longstanding history of success teaching rigorous college-level courses such as Advanced Placement. Another limitation is a teacher's availability to teach a college course instead of a high school level course. The college courses often have class size thresholds that are lower than the equivalent high school section, which causes the other high school teachers to have increased class sizes to support the offering of a college course during the school day (Hornbeck, 2023; Hornbeck & Malin, 2019; Roach et al, 2015).

Adjunct Professors Traveling to the High School. Since many high school teachers may not have credentials to teach as adjunct professors during the school day, adjunct professors from the college travel to the high school to offer courses (Hornbeck, 2023). Cedar Hill Public Schools utilized this method in 2008 with the Math Science Partnership, National Science Foundation grant. There are several limitations of this method as well. College professors may not be adept in classroom management with high school students. Some partnerships request a teacher of record remain in the classroom to maintain an orderly classroom, which can put a strain on scheduling as that teacher would not be able to teach a class during that period. Also,

the high school schedule typically does not follow the same schedule as the college, which can cause confusion, specifically when an unexpected situation occurs which can modify the schedule such as a delayed opening due to weather or a fire drill (Kilgore & Wagner, 2017).

Remote College Sections. In the spring of 2020, the international COVID pandemic forced students to learn virtually for a period of time. CHPS was able to mobilize Chromebooks for all students as well as high speed internet access for any student in need. With this expanded virtual access, CHPS was also able to negotiate with their partner colleges to allow enrollment in multiple course modalities for dual enrollment students. The various modalities are listed below.

Face-to-Face -- On site during scheduled times either at their school or the college

Remote (synchronous) -- Online at a scheduled time via an online platform such as Zoom. Students interact in real time with the professor.

Online (asynchronous) -- Online with no scheduled meeting times. Students complete assignments and assessments by a particular due date and may never interact in real time with the professor.

Hybrid -- Combination of face-to-face sessions and online instruction

Previously, CHPS utilized a similar format at the school when there was a shortage of math teachers. A teacher in one school would project their lessons to another school where a teacher of record was located. All courses were through a television system. As the internet gained in popularity and access, colleges were able to offer courses online. Nationally, approximately 8% of all dually enrolled students participate virtually (Hornbeck, 2023). Dual enrollment students in CHPS are not permitted to enroll in asynchronous courses until they successfully complete two face-to-face courses. The COVID 19 pandemic facilitated the expansion of all versions of virtual coursework.

Transportation to the College. There are many benefits for students who participate in college courses on a college campus. The students integrate with other college students socially and adjust to the independence of managing the college campus. Students must provide their own transportation to college; therefore, it is limited to students who have access to a vehicle. In Ohio, the school district reimbursed students for their gas or transportation expenses to get to college (Hornbeck & Malin, 2019). In Cedar Hill, students have been able to access public transportation with their school identification; however, Cedar Hill Public Schools also provides bus transportation to the college campus. One unique support that CHPS offers is not just transportation to the college campus, but transportation back to the high school so students can ride their school bus home or participate in after school activities such as sports and clubs.

Role of the Counselor and Principal in Supporting Dual Enrollment. The exposure and implementation of dual enrollment in high schools must be supported by two key positions in the school for success. The first is the school counselor as he/she is integral in promoting awareness and advising students for dual enrollment. Secondly, the school principal must support the school master schedule to allow students to enroll in college courses and ensure counselors have dual enrollment identified as a key priority.

Role of the Counselor. The college advice, including promoting dual enrollment, provided by school counselors depends on both a counselor's relationship with the student as well as the counselor's background knowledge regarding dual enrollment and other college advice (Kilgore & Wagner, 2017). Counselor training programs are not standardized across the nation and even across the state to include college and career readiness preparation for students. If the counseling program contains college and career readiness preparation, it typically includes training on guiding students through career selection and not specifics around college access. A

counselor must be well versed on all aspects of college readiness to include academic advising to ensure students are academically ready for the rigors of college as well as college knowledge, such as college search, personal statement, standardized preparation information, FAFSA completion, and final selection and confirmation (Galassi & Akos, 2012; Goodman-Scott, 2015; Savitz-Romer, 2012; Stone-Johnson, 2015). Since most counseling preparation programs do not include this training, it depends on each individual district to create and deliver. Many districts rely on non-profit organizations or grant funded programs focusing on college access.

Professional school counselors also have expanding caseloads of students which makes it difficult to provide individualized guidance and counseling. In high-poverty, high-need areas where students need the most support, professional school counselors have caseloads of students that exceed the American School Counseling Association (ASCA) recommended ratio. ASCA recommends a counselor-to-student ratio of 250 students per counselor; however, in the 2014-2015 school year, the national average is 482 students per counselor and Maryland's average is 369 students per counselor (National Association for College Admission Counseling and American School Counseling Association, 2018). It is also recommended that school counselors spend 80% of their time providing direct access to students (Cholewa et al, 2015). With higher caseloads, counselors are less likely to be able to spend the appropriate amount of time providing direct access to students. Research shows a positive correlation between the number of school counselors and the number of students applying for a four-year college or university (Cholewa et al, 2015). A lower student-to-counselor ratio has additional benefits such as a reduction in suspension and disciplinary referrals and high graduation and attendance rates (Dimmit & Wilkerson, 2012; Lapan, Whitcomb & Aleman, 2012). The average caseload for professional school counselors in CHPS is 385 students per counselor (Patel and Clinedinst,

2019). The high school professional school counselors' caseload in CHPS range from less than 100 students for some department chairs and specialty program counselors to almost 900 students for other counselors.

In addition to the increasing responsibilities and excessive numbers of students on their caseloads, high school counselors cite other barriers to effective college and career readiness advising. The barriers include low expectations and misinformation of the students and a general apathy towards post-secondary expectations and deadlines. Many students have compounded personal circumstances and limited parental support (Savitz-Romer, 2011). Savitz-Romer further found that counselors felt increasing pressure to ensure they supported their students appropriately, they worried about the student's success in college as they had to provide an immense amount of support to the student to complete the college application process (2011). Counselors fear the outcome when they are not present to continue the additional support when they begin college full-time.

Role of the School Principal. The principal and other school leaders are important in creating and supporting a college-going culture. As it relates to dual enrollment, school leaders are integral in creating an atmosphere where students know of dual enrollment and developing a master schedule that permits students to enroll in college courses. Although much emphasis is placed on the role of the school counselor, the school principal must work collaboratively with the counselor to create this environment. The collaborative work of the school counselor and principal will support a college-going culture, such as prioritizing time for counselors to advise students and permitting college visits and exploration. The school principal is also integral in creating the master schedule. The master schedule can be aligned to emphasize collaborative planning and vertically aligning teams such as English 9, 10, 11 and 12 to allow teachers to plan

and create the curriculum alignment and preparation for higher-level courses such as Advanced Placement or dual enrollment. The master schedule must also be aligned to allow seniors to participate in dual enrollment such as placing their required courses during a time in the day such as the morning where they can take their college courses in the afternoon (Martinez and Everman, 2017). Studies have shown that the collaborative relationship between the counselor and the principal improves student success and college and career readiness, specifically when a principal understands the role of the school counselor and provides the support for the counselor to help develop a college going culture (Yavus et al, 2017). The school principal may request the school counselor to perform duties that are not within the counselors' professional scope, such as substituting in classrooms or other administrative or compliance duties. When this occurs, it removes the school counselor from performing duties such as academic advising and post-secondary planning, inclusive of dual enrollment. The principal is key in promoting a college-going culture and ensuring that all faculty and staff in the school can also do so. The school principal has the most authority on the master schedule and the priorities of the school counselor (Karatas & Kaya, 2015).

Summary: Theory of Improvement

Too few students are graduating college and career ready in Cedar Hill Public Schools. Among the causes are low test scores, inequitable access to rigorous coursework, and lack of knowledge of college and career readiness measures and outcomes. One method to increase the number of students who are college and career ready as defined by Conley (2014), is to increase the number of eligible students who participate in dual enrollment. Dual enrollment provides the four areas of college and career readiness which includes cognitive strategies, content knowledge, contextual skills and awareness and academic behaviors. There are at least three

major drivers for increasing dual enrollment which include college and career readiness awareness, increasing social capital and district level support. The focus of the research study is the third driver: increasing district-level support and access to dual enrollment opportunities. If the district increases support for dual enrollment by diversifying the modalities of course offerings, then the number of eligible students participating in dual enrollment should increase. Secondly, the roles of the school principal and school counselors are examined as key influencers of dual enrollment implementation.

Investigation

The study encompasses a review of the district and school dual enrollment program data and the change methods in place to determine the impact on enrollment in college courses. The professional school counselor is an important source of social capital for students in CHPS to pursue their college and career readiness goals. The school administration is also important in providing support and access to rigorous coursework, including dual enrollment. Reviewing quantitative data coupled with the feedback from key personnel such as the professional school counselor and school-based administrators may provide insight into the discrepancy between the number of eligible students interested in dual enrollment and the number of students registered for a college course.

Section 2: Study Design

Purpose Statement

This investigation's proposed purpose is to improve the access and awareness of the dual enrollment program in CHPS to eligible students. Several thousand students are eligible to participate in the program; however, approximately 20% of eligible students enroll in a college course. Students become eligible for the program by attaining a college readiness benchmark score on the Accuplacer exam and/or through a qualifying grade point average. The Accuplacer exam is a voluntary exam for high school juniors and seniors with the sole purpose of qualifying students for the dual enrollment program; therefore, by taking the Accuplacer exam students have demonstrated their interest in participating in dual enrollment. Most of the eligible students have expressed interest in the program as demonstrated by the Accuplacer exam results, however, the majority are not enrolling in courses. The district and the school have implemented various models to reduce perceived and actual barriers to enrollment. The Accuplacer exam was a potential hurdle that many interested students were not able to master; therefore, in the 2019-2020 school year, the state colleges agreed to accept an unweighted grade point average instead of an Accuplacer score solely as a determination of college readiness. The enrollment data does not align with the perceived interest in the program. It is important to assess the school personnel's role in potential enrollment and analyze the impact the varied models have on eligible students' enrollment rates. Currently, CHPS maintains the eligibility and enrollment information; however, it is not housed in a central location for systemic review and analysis.

Research Questions

The following research questions were used to determine the impact of the change ideas on the registration of eligible students into college courses.

1. What does data suggest about the implementation of change ideas designed to reduce barriers to enrollment in schools and the enrollment of eligible students in college courses?
2. What additional support of the dual enrollment program do school personnel suggest that may increase eligible student enrollment?
3. How do the school personnel's perceptions of dual enrollment impact the way they interact with and support eligible dual enrollment students?

Researcher Positionality

The researcher's positionality is important to examine as a lens for data collection and interpretation, specifically in qualitative studies. The researcher elected to research improving access to dual enrollment to better understand and improve the dual enrollment program in CHPS. The researcher currently serves as the lead in Cedar Hill Public Schools for dual enrollment and college access programs. As an African American female who grew up in a small town that did not widely promote college as an option for students of color, the researcher is dedicated to facilitating the opportunity for dual enrollment and post-secondary success for all students. Most of the district is minority students, which the researcher identifies as an African American female. The researcher also identifies as someone from an underserved economic community and experienced the socio-economic mobility provided by a college education. Most Cedar Hill Public Schools' students receive free or reduced-price meals. The researcher hopes

all students who want to participate in dual enrollment can enroll in a college course with appropriate support.

As the lead for college access in Cedar Hill, the researcher has seen the number of students who show intent to enroll in a college course not match the actual enrolled students. The researcher focused the research study on these students to streamline support for students to enroll and to identify the potential gap(s) that may prohibit a student who wants to enroll in a course. The researcher also acknowledges that as district leader, others in the district may be more willing to provide support and data for the research study and participate in the focus group. The researcher has benefited from a college education and believes in the dual enrollment program which can make it challenging to review the research objectively.

Study Design

A qualitative study using a sequential, mixed methods approach was utilized to review the dual enrollment program and the impact implementing various change ideas have on the rate of enrollment of students in the program. A mixed methods approach includes the collection and analysis of qualitative and quantitative data (Stuffflebean & Coryn, 2014). Although the study is qualitative, descriptive statistics were used to inform the selection and design of the focus group. The study was conducted in two phases. Phase 1 was a quantitative review of dual enrollment eligibility and registration data of all comprehensive CHPS high schools for a four-year period. Phase 2 was a focus group. The data review in Phase 1 provided guidance on the selection of focus group participants. In Phase 2, school-based personnel involved with dual enrollment were interviewed to gain a more in-depth understanding of their roles and support of the program. The school-based personnel may have knowledge of additional factors which may prevent an interested student from pursuing dual enrollment. A focus group is used to obtain

narrative, qualitative data directly from the subjects (Vaugh, Schumm, Signabab, 1996). Qualitative research is often used as a follow up on quantitative research to provide more detail on the findings from the quantitative study. This is especially useful when a particular group may have an important perspective on a topic that cannot be fully explored or explained by reviewing quantitative data (Ritchie et al, 2014).

Phase 1: Data Review

Phase 1 addresses research question #1. *What does data suggest about the implementation of change ideas designed to reduce barriers to enrollment in schools and the enrollment of eligible students in college courses?* Phase 1 is a quantitative data analysis of dual enrollment eligibility and registration in all comprehensive high schools in CHPS (Green, Camilli, Elmore, 2006; Perry, Zambo & Crow, 2020). Data for dual enrollment registration is maintained in the CHPS student information system (SIS) and with the CHPS IT department. The researcher received high school enrollment and college registration data for four consecutive years; 2018-2019, 2019-2020, 2020-2021 and 2021-2022. The dual enrollment eligibility data is compiled twice per school year in alignment with high school semesters and Accuplacer testing. The college registration is reported separately for each college semester; summer, fall and spring. The dual enrollment eligibility semester data was combined in Excel to create one eligibility database for each school year. The duplicate information was removed to ensure each eligible student was listed once. The same process was completed for the college registration data. Complete data sets do not exist for charter schools or alternative schools; therefore, they are not included in the data set. The high schools were each assigned a random letter to protect their identity as illustrated in Table 7. The annual dual enrollment registration trends were reviewed to determine the impact the implementation of specific change ideas had on dual enrollment

registration in each school. The partner colleges and universities Cedar Hill Community College (CHCC), Valley State University (VSU) and All State University (ASU) implemented various change ideas with Cedar Hill Public Schools as illustrated in Table 6. Data was compared per school before and during the year of implementation of each change idea to determine possible impact.

Table 6

Dual Enrollment Change Ideas and participating college(s)

Change Idea #	Change Idea	Participating college or university	Impacted Students
1	Bus transportation to and from college campus	CHCC	Select high school(s)
2	Dual in the School–High school teachers serving as college adjunct professors	CHCC	Select high school(s)
3	Dual in the School–college professors traveling to high schools to teach courses	CHCC	Select high school(s)
4	HUB School locations at CHPS high schools before or after school	CHCC and VSU	Select high school(s)
5	Remote college sections for targeted high school students only	ASU, CHCC and VSU	Select high school(s)

Each school implemented a change idea in a different year. Some schools maintained a consistent change idea throughout the four-year period and some schools may have changed to a different change idea as illustrated in Table 7. Years where no change idea is implemented are denoted with a 0.

Table 7

Change ideas and schools

School	2018-2019 Year 1	2019-2020 Year 2	2020-2021 Year 3	2021-2022 Year 4
A	0	0	0	0
B	0	0	0	0
C	1	1	0	1
D	0	2	2	0
E	0	0	0	0
F	4	4	4	4
G	0	0	0	0
H	0	0	0	0
I	0	3	0	0
J	0	0	0	0
K	0	0	0	0
L	0	2	0	0
M	0	0	0	0
N	0	2	2	0
O	0	0	0	0
P	0	3	5	2
Q	0	0	0	0
R	0	2	2	2
S	4	0	0	0
T	0	3	5	0
U	0	1	0	1

Each change idea was assigned a number as represented in Table 7.

Change Ideas

0 = no change idea implemented

1 = transportation back and forth to the college

2 = dual in the school, teachers as college adjunct instructors

3 = dual in the school, college professors traveling to the high school

4 = HUB school location

5 = Remote high school sections only

The student enrollment, dual enrollment eligibility and college course enrollment data were compiled and reviewed for each school and each school year from 2017-2022. The percentage of eligible students per school was calculated and a proportion or percentage assessed. School eligibility and college registration data was reviewed and placed into a sample matrix based on their eligibility and college enrollment trends. A high proportion of dual enrollment eligible students is defined by the proportion eligible compared to the mean proportion of all eligible students. Enrollment represents the percentage or proportion of eligible students who enroll in college courses. High enrollment represents an enrollment percentage at or above the mean proportion enrolled of all eligible students. Low enrollment represents an enrollment percentage that is below the mean. Each combination of eligibility and enrollment are organized into quadrants (see Table 8).

Table 8

Dual enrollment eligibility and enrollment matrix

Quadrant 1	**Quadrant 2**
high eligibility	high eligibility
high enrollment	low enrollment
Quadrant 3	**Quadrant 4**

low eligibility	low eligibility
high enrollment	low enrollment

Select school personnel associated with dual enrollment from each quadrant of the matrix were invited to participate in the focus group.

Phase 2: Focus Group

Phase 2 addresses each research question by utilizing a focus group.

1. What does data suggest about the implementation of change ideas designed to reduce barriers to enrollment in schools and the enrollment of eligible students in college courses? 2. What additional support of the dual enrollment program do principals and counselors suggest that may increase eligible student enrollment? 3. How do the counselor and administrator perceptions of dual enrollment impact the way they interact with and support eligible dual enrollment students? Purposive sampling of schools and focus group participants was employed. Purposive sampling is used when conducting focus groups to ensure the people selected have a background and experience in the study area (Ritchie et al, 2014; Vaugh et al, 2006). Purposive sampling is important in this study as school personnel who are involved and have influence on the enrollment of students in college courses. Purposive sampling was also utilized to ensure representation from each quadrant in the dual enrollment sample matrix. A focus group was used to gather data and insight on dual enrollment that may not be shown through the data review or an individual interview (Green et al, 2006; Perry et al, 2020). A focus group interview protocol specified in Appendix C guided the discussion. The focus group interview protocol was created from the guidelines set forth by Krueger and Casey (2015). The dual enrollment specific

questions were modified from the National Alliance of Concurrent Enrollment Partnerships (NACEP) resources (NACEP, 2015; Stugglebeam & Coryn, 2014; Vaugh et al, 1996).

One focus group was conducted with 10 participants. Qualitative samples are small for several reasons. There is a saturation point where new data is not obtained from adding new participants. Krueger & Casey (2015) recommend focus groups remain between 8-12 participants to ensure all voices are heard. The type of data that comes from focus groups is so rich in detail that adding more participants would limit the level of analysis that can be conducted. Due to the limited number of participants, purposive sampling becomes crucial to ensure the intended viewpoints are included (Ritchie et al, 2014; Krueger & Casey, 2015). The quota for each quadrant in the sample matrix is two to three participants. With two or three participants per quadrant, it will yield 8-12 participants in the focus group. Purposive or selective sampling was used to invite participants with the experience or responsibility with supporting the dual enrollment program. Participants in this focus group include counselors, program coordinators, assistant principals and principals of schools identified in each quadrant of the sample matrix. Research suggests focus groups should be homogenous to facilitate open discussion; however, groups can be heterogenous to generate richer discussion and insight. (Krueger & Casey, 2015; Ritchie et al, 2014; Vaugh et al, 1996). The group encompassed principals, counselors and program coordinators which is a heterogenous group; however, it is hopeful that with the specific content focused on district level policies and student access the participants will be able to feel comfortable to speak freely. Invitations were not sent to individuals who supervise other participants to avoid a power differential (Krueger & Casey, 2015). For example, a counselor and principal from the same school will not be invited to participate as the counselor may not feel free to express themselves in a dialog with their

supervisor. More than 12 participants were invited as typically 20-30% of registered participants do not participate (Vaughn et al, 1996). Four individuals per quadrant of the sample matrix were invited with the hope of meeting the two to three persons per quadrant quota. The number of participants per quadrant was later modified based on the analysis in Phase 1.

Methods

The study took place using the high schools in Cedar Hill Public Schools district that were reviewed in Phase 1 of the study. The school system has 136,000 students. Student demographics: African-American 55%, Hispanic 36%, Asian 3%, White 4% and 2% other or mixed race. Most students, 66% receive free or reduced price meals, 21% of students are English Language Learners, and 10% receive Special Education services. The district encompasses urban, suburban and rural communities and schools.

Phase 1: Review of District and School Data

All comprehensive high school data was reviewed for four consecutive school years; 2018-2019, 2019-2020, 2020-2021, and 2021-2022. The data also reviewed includes school enrollment, student eligibility for dual enrollment and student college course enrollment. This data was compared to the implementation of specific change ideas in each school to determine if the change idea had an impact on the enrollment of students into college courses.

Phase 2: Focus Group

An email description of the research study and invitation to participate in the focus group was sent to the dual enrollment point person in all comprehensive high schools (Appendix A). During Phase 1 of the data analysis, it was discovered that schools often change quadrants from

year to year; therefore, each school point person was invited. The point person is the person with dual enrollment responsibilities at the school. This position varies per school but includes principals, assistant principals, counselors and program coordinators Once a participant confirmed their availability and willingness to participate, in the focus group, they were sent a consent form via DocuSign. Twenty-one invitations were extended and fourteen educators agreed to participate. Virtual reminders were sent to participants leading up to the focus group (Appendix B). The focus group was held via the Zoom platform. Each participant expressed comfortability with Zoom; therefore, a Zoom training prior to the focus group was not needed. The focus group was facilitated using the Focus Group protocol (Appendix C). Since the focus group was facilitated virtually, the pace of the discussion may have been increased as compared to in person focus groups. Also, the researcher was not able to note body language and other characteristics that will be present during a face-to-face focus group (Ritchie et al, 2014). Each question was read aloud and pasted in the chat for reference. Participants were able to respond verbally and in the chat feature of the Zoom platform. This limited the cross talk as well as ensured all voices were heard.

The researcher used probing questions to obtain the depth of response needed. Ritchie et al (2014) provide examples listed below of probing questions used to seek a deeper knowledge:

- Can you say a bit more about that?
- Can you give me an example?
- Did your approach change when you found out that….?
- What difference did it make that …?

It was anticipated that the researcher would probe during question B2 “From your perspective, which programs and/or supports are most effective and why?” to obtain the practitioner’s

perspective of beneficial supports that were examined in Phase 1. This can be tied together to answer research question #1 *What does data suggest about the implementation of change ideas designed to reduce barriers to enrollment in schools and the enrollment of eligible students in college courses?* Similar probing techniques were enlisted while addressing question C2 "What are the most common factors limiting students from enrolling in dual enrollment coursework?" in the focus group to address research question #2 *What additional support of the dual enrollment program do school personnel suggest that may increase eligible student enrollment?* The same probing was necessary while addressing question D4 "What do you view as your role in engaging and supporting students in dual enrollment?" which addresses research question #3 *How do the school personnel's perceptions of dual enrollment impact the way they interact with and support eligible dual enrollment students?* All focus group questions are important in addressing the research questions; however, the three questions listed above provided much of the rich dialog and information for the study. The researcher continued to probe to ensure participants from each quadrant of the sample matrix have fully responded to each question.

Data Analysis

The data analysis for the focus groups is qualitative. The constant comparative method was used for analysis (Krueger & Casey, 2015). The transcript from the focus group was reviewed and placed in Microsoft Excel. The questions with their responses were listed sequentially. Each question was separated with its responses. The responses were labeled to obtain themes (Hahn, 2014; Stewart, Shamdasani, & Rook, 2007; Vaugh et al, 1996). The themes and salient participant statements were organized into categories. The categories were reviewed and organized based on several concepts listed below.

- frequency-how often a concept is mentioned

- extensiveness-how many people mention the concept
- intensity-how much passion or force was behind the comments
- specificity-how much detailed was provided by the participants
- internal consistency-if individual participants remain consistent in their views
- perception of importance-how important the participant cites the concept

(Krueger & Casey, 2015, p.147)"

The focus group supported all three research questions. *1. What does data suggest about the implementation of change ideas designed to reduce barriers to enrollment in schools and the enrollment of eligible students in college courses? 2. What additional support of the dual enrollment program do principals and counselors suggest that may increase eligible student enrollment? 3. How do the counselor and administrator perceptions of dual enrollment impact the way they interact with and support eligible dual enrollment students?* A thorough analysis of the focus group transcript yielded five themes: access to dual enrollment, knowledge and support of dual enrollment, student motivation, the role of the professional school counselor and the STAR coordinator.

Confidentiality

The focus group was conducted using the Zoom platform. It was recorded and transcribed for analysis. The recordings and transcripts are secured and will be destroyed after five years. The participants submitted a registration before the focus group and only registered participants could access the virtual room. The audio and video during zoom was watermarked to protect against unauthorized sharing. Image watermarks on a shared screen superimpose an image, consisting of a portion of a meeting participant's own email address, onto the shared content they are viewing and the video of the person who is sharing their screen. With an audio

watermark a user's information appears as an inaudible mark in any offline recording of the meeting. If the audio file is shared without permission, Zoom may help identify which participant recorded the meeting (Zoom, 2021).

The focus group participants were given a consent form in alignment with the IRB protocol. Participants were able to refrain from responding to specific questions or they could have discontinued participation at any time. The school district and partner colleges and universities were given pseudonyms to protect their identities. Focus group participants and high schools within the district were assigned generic letters or numbers to protect their identities.

An expedited IRB was submitted and approved as part of the research study (Appendix E and F) as student enrollment information was evaluated and human subjects were used for the focus group.

Summary

This section reviewed the qualitative methodology used to determine the dual enrollment registration trends and impact of innovative programs geared toward increasing enrollment and access. High school enrollment, eligibility and registration data was analyzed to quantify the potential impact a specific change idea may have on the proportion of eligible students who register for courses. Schools were organized into quadrants based on eligibility and dual enrollment. Charter and alternative schools were not included as a complete data set does not exist. A focus group was conducted with participants from high schools categorized in each quadrant specified above. Five themes emerged from the focus group.

Section 3: Results and Conclusions

College and career readiness for all graduates is a goal for Cedar Hill Public Schools; however, most students graduate without the designation. Dual enrollment is a valuable tool in supporting students to be ready for college and careers; however, most students who are eligible for dual enrollment do not take advantage of the opportunity. Descriptive statistics were used to review four years of eligibility and registration data in schools to determine any trends and assess if the implementation of a change idea impacted the enrollment of eligible students in dual enrollment courses. The data review was also used to determine which schools were invited to participate in the focus group. The intent was to ensure participants from each quadrant participated. Each year the schools in the quadrants varied significantly as well as the number of schools in each quadrant. Due to the change in quadrant from year to year, the researcher invited the dual enrollment point person from each comprehensive high school to the focus group to further discuss the change ideas and their perceptions of dual enrollment. Once schools started to confirm, the researcher followed up with certain schools to ensure representation from each quadrant for each year of the data review.

Three questions have guided the research.

1. What does data suggest about the implementation of change ideas designed to reduce barriers to enrollment in schools and the enrollment of eligible students in college courses?

2. What additional support of the dual enrollment program do school personnel suggest that may increase eligible student enrollment?

3. How do the school personnel's perceptions of dual enrollment impact the way they interact with and support eligible dual enrollment students?

Summary of Phase 1 Results: Data Analysis

Four years of dual enrollment eligibility and enrollment data were analyzed for all comprehensive high schools to address research question *#1 What does data suggest about the implementation of change ideas designed to reduce barriers to enrollment in schools and the enrollment of eligible students in college courses?* The school population was calculated for students in grades 11 and 12 for each year. Juniors and seniors are the target population for dual enrollment. The proportion of students eligible for dual enrollment was calculated. Of the proportion of students who are eligible for dual enrollment, the proportion that enrolled in courses was also calculated. The annual data is illustrated in Appendix H.

During the school year 2018-2019, 23% of the juniors and seniors in CHPS were eligible to take dual enrollment courses. This percentage represents the average proportion of juniors and seniors in all CHPS schools eligible for dual enrollment. High schools where at least 23% of their juniors and seniors were eligible for dual enrollment were designated high eligibility schools. Schools with 22% or fewer of their juniors and seniors eligible for dual enrollment were designated low eligibility schools. Of all CHPS eligible students, 34% enrolled in courses. Schools where at least 34% of their eligible population enrolled or registered for a college course were designated high enrollment schools. Schools where 33% or fewer of the eligible students enrolled in a college course were designated low enrollment schools. School C implemented a change idea prior to the first year of review. School C was a quadrant 1 school with high eligibility and high enrollment. Schools F and S are both in quadrant 2 with high eligibility and low enrollment. Both schools began implementing their change idea before the first year of data review as illustrated in Table 9. The individual school enrollment, eligibility, and registration data are further illustrated in Appendix H for the 2018-2019 school year.

Table 9

Eligibility and Enrollment Matrix 2018-2019

Quadrant 1	**Quadrant 2**
high eligibility	high eligibility
high enrollment	low enrollment
Schools: **C*, O**, **R, U**	Schools: **F***, K, **S***
Quadrant 3	**Quadrant 4**
low eligibility	low eligibility
high enrollment	low enrollment
Schools: **D**, H, J, N, **P**, Q	Schools: **A, B, E**, G, **I,** **L**, M, **T**

Note: The asterisk * represents a school where a change idea was implemented. Schools listed in bold agreed to participate in the focus group.

During the school year 2019-2020, 26% of the enrolled juniors and seniors in CHPS were eligible to take dual enrollment courses. This percentage represents the average proportion of juniors and seniors in all CHPS schools eligible for dual enrollment. High schools where at least 26% of their juniors and seniors were eligible for dual enrollment were designated high eligibility schools. Schools with 25% or fewer of their juniors and seniors eligible for dual enrollment were designated low eligibility schools. Of all CHPS eligible students, 39% enrolled in courses. Schools where at least 39% of their eligible population enrolled or registered for a college course were designated high enrollment schools. Schools where 38% or fewer of the eligible students enrolled in a college course were designated low enrollment schools. Schools D, I, L, N, P, R, T and U implemented change ideas for the first time during this school year.

School I, L, T moved from quadrant 4 with low eligibility and low enrollment to quadrant 3 with low eligibility but high enrollment. Schools N, R and U remained constant in high enrollment quadrants and schools D and P moved from quadrant 3 a high enrollment quadrant to quadrant 4 with low enrollment as illustrated in Table 10. The individual school enrollment, eligibility, and registration data are further illustrated in Appendix H for the 2019-2020 school year.

Table 10

Eligibility and Enrollment Matrix 2019-2020

Quadrant 1	**Quadrant 2**
high eligibility	high eligibility
high enrollment	low enrollment
Schools: **R*, S, U***	Schools: **C***, **F***, K
Quadrant 3	**Quadrant 4**
low eligibility	low eligibility
high enrollment	low enrollment
Schools: H, **I***, J, **L***, N*, **O**, Q, **T***	Schools: **A, B, D*, E**, G, M, **P***

Note: The asterisk * represents a school where a change idea was implemented. Schools listed in bold agreed to participate in the focus group.

During the school year 2020-2021, Maryland added an unweighted GPA as a qualifier to participate in dual enrollment. With this change, more students became eligible for dual enrollment; however, they may not have expressed interest. The 2020-2021 school year was a virtual learning year due to the COVID-19 pandemic. Students nationwide expressed a lack of interest in schooling, evident by the increase in absences and failing grades. The proportion of

juniors and seniors eligible for dual enrollment rose to 40%, up from 26% the prior school year. The total number of students enrolled in college courses decreased by 36 students from the prior year; however, the proportion of eligible students who registered for courses decreased from 39% to 25%. The proportion of eligible students who enrolled changed so drastically due to the larger proportion of students who were eligible. High schools where at least 40% of their juniors and seniors were eligible for dual enrollment were designated high eligibility schools. Schools with 39% or fewer of their juniors and seniors eligible for dual enrollment were designated low eligibility schools. Schools where at least 25% of their eligible population enrolled or registered for a college course were designated high enrollment schools. Schools where 24% or fewer of the eligible students enrolled in a college course were designated low enrollment schools. No schools implemented new change ideas; however, Schools C, I, L and U stopped implementation of their change ideas. Schools I and L moved from being in a high enrollment quadrant to a low enrollment quadrant as illustrated in Table 11. Schools C and U remained in the same quadrant. The individual school enrollment, eligibility, and registration data are further illustrated in Appendix H for the 2020-2021 school year.

Table 11

Eligibility and Enrollment Matrix 2020-2021

Quadrant 1	**Quadrant 2**
high eligibility	high eligibility
high enrollment	low enrollment
Schools: **F***, **R***, **S, U**	Schools: **C, I**
Quadrant 3	**Quadrant 4**

low eligibility	low eligibility
high enrollment	low enrollment
Schools: K, **O**	Schools: **A, B, D*, E,** G, H, J, **L**, M, N*, **P***, Q, **T***

Note: The asterisk * represents a school where a change idea was implemented. Schools listed in bold agreed to participate in the focus group.

During the school year 2021-2022, 33% of the enrolled juniors and seniors in CHPS were eligible to take dual enrollment courses. This percentage represents the average proportion of juniors and seniors in all CHPS schools eligible for dual enrollment. High schools where at least 33% of their juniors and seniors were eligible for dual enrollment were designated high eligibility schools. Schools with 32% or fewer of their juniors and seniors eligible for dual enrollment were designated low eligibility schools. Of all CHPS eligible students, 33% enrolled in courses. Schools where at least 33% of their eligible population enrolled or registered for a college course were designated high enrollment schools. Schools where 32% or fewer of the eligible students enrolled in a college course were designated low enrollment schools. School C reimplemented their change idea and moved from Quadrant 2 a low enrollment quadrant to Quadrant 1 a high enrollment quadrant. School U also reimplemented their change idea and remained in Quadrant 1. Schools D, N and T stopped implementation of their change idea. Schools N and T moved to a low enrollment quadrant and School D remained in a high enrollment quadrant as illustrated in Table 12. School year 2021-2022 the enrollment quadrants are polarized; most schools were either in quadrant 1 or quadrant 4. Only one school was represented in each quadrant 2 and quadrant 3. During this school year more schools were in

quadrant 1 (high enrollment and high eligibility) than any other year with seven schools. The individual school enrollment, eligibility, and registration data are further illustrated in Appendix H for the 2021-2022 school year.

Table 12

Eligibility and Enrollment Matrix 2021-2022

Quadrant 1	**Quadrant 2**
high eligibility	high eligibility
high enrollment	low enrollment
Schools: **C*, D, F***, **O**, **R*, S**, **U***	Schools: **I**
Quadrant 3	**Quadrant 4**
low eligibility	low eligibility
high enrollment	low enrollment
Schools: **P***	Schools: **A, B, E**, G, H, J, K, **L**, M, N, Q, **T**

Note: The asterisk * represents a school where a change idea was implemented. Schools listed in bold agreed to participate in the focus group.

Table 13 illustrates each school and the quadrant per year. Many schools changed quadrants even if they did not implement a change idea.

Table 13

Quadrants and schools by year

	Quadrant			
School	2018-2019	2019-2020	2020-2021	2021-2022

	Year 1	Year 2	Year 3	Year 4
A	4	4	4	4
B	4	4	4	4
C*	1	2	2	1
D*	3	4	4	1
E	4	4	4	4
F*	2	2	1	1
G	4	4	4	4
H	3	3	4	4
I*	4	3	2	2
J	3	3	4	4
K	2	2	3	4
L*	4	3	4	4
M	4	4	4	4
N*	3	3	4	4
O	1	3	3	1
P*	3	4	4	3
Q	3	3	4	4
R*	1	1	1	1
S*	2	1	1	1
T*	4	3	4	4
U*	1	1	1	1

Note: The asterisk * represents a school where a change idea was implemented. Schools listed in bold agreed to participate in the focus group.

The change ideas were implemented to increase access and familiarity with rigorous, college-level course work. Each change idea represents a method the school system used to increase access. By providing transportation to college and back to high school, the students can access college classes and campus. They can interact with other college students and integrate into the college lifestyle. The transportation back to the high school after their college course is

also pivotal as it allows students to participate in their high school extra-curricular activities and clubs. Students who do not participate in clubs can use their school bus back home. Two methods of "dual in the school" were instituted. One method trains and certifies high school teachers as college professors. The high school teachers must adhere to the same credentialing standards as the traditional college professor. For Cedar Hill Community College, the standard is a Master's degree in the content area. Many CHPS teachers are already credentialed and teach at CHCC in the evenings and on weekends. Since the students may already be familiar with the teacher, they could be more likely to enroll in the teacher's course. When trying to implement this model in high schools, additional barriers to implementation were discovered. CHCC maintained different seat hours than the high school schedule. Also, CHCC required a lower number of students per section than the high school schedule. For example, in a communications course, the maximum number of students in a class is 18; however, a high school class could accommodate 30 to 35 students. This created a scheduling concern for the schools and an inequity in teacher caseloads. Teachers who taught a dual in the school model may have 18 students per section while their counterpart who taught the traditional high school course had sections with 40 students each section. Another barrier to this method of implementation was credentialing the teachers. Many teachers earned Master's degrees, but they may not be in the specific content. A teacher may have several years of teaching experience in Psychology to include successfully teaching Advanced Placement Psychology, but their graduate degree major may be education or social studies; therefore, they were unable to obtain approval to teach the college course. To continue college course offerings at the high schools, a college adjunct professor would travel to the school to offer the course, or the college would offer virtual, synchronous college sections identified as "remote" sections for a specific high school during the

course period. The students would participate in their high school courses in a particular location like the library. HUB school sites were established at two school sites, one in the northern area of the county and one in the southern area of the county. The southern county established a partnership with CHCC to allow evening courses two days per week. This HUB school location would service all college students in the southern areaof the county, not just high school students. The northern school partnered with Valley State University to offer a math course before school to any dual enrollment students who wanted to take advanced Calculus and Differential Equations. For the data analysis, schools were categorized based on schools that implemented a change idea compared to schools who had not. The percentage of eligible students who registered for dual enrollment courses are compared each year as illustrated in Table 14. The boxes shaded in gray represent the year a change idea was implemented.

Table 14

Proportion (%) of eligible students who registered in schools that implemented a change idea

School	2018-2019 Year 1	2019-2020 Year 2	2020-2021 Year 3	2021-2022 Year 4
C	45%	39%	15%	81%
D	35%	29%	16%	33%
F	25%	30%	27%	36%
I	33%	45%	23%	28%
L	24%	45%	17%	17%
N	37%	43%	19%	23%
P	37%	33%	20%	39%
R	42%	44%	44%	42%
S	31%	39%	46%	35%
T	30%	69%	20%	27%
U	54%	60%	36%	38%

Eleven schools implemented a change idea for at least one year during the four-year span of the registration data analysis. Each school that implemented a change idea was reviewed for the proportion or percent of eligible students who enrolled in courses the year before and the year of implementation. The percent change between the two years was documented. Two schools implemented change ideas prior to 2018 when the data for this comparison was derived; therefore, they were not included in the comparison. Although schools implemented change ideas during the four-year review period, the comparison chart and subsequent data analysis focuses on the year a change idea was implemented with no change idea the preceding year. School U is represented twice as they implemented a change idea in years 2 and 4 illustrated in Table 15.

Table 15

Percent change of registration during change idea implementation

School	Year of Change Idea Implementation	Proportion (%) of eligible students who register the year before change idea implementation	Proportion (%) of eligible students who register the year of implementation of the change idea	% change
D	Year 2	35%	29%	-6
I	Year 2	33%	45%	12
L	Year 2	24%	45%	21
N	Year 2	37%	43%	6
P	Year 2	37%	33%	-4
R	Year 2	42%	44%	2
T	Year 2	30%	69%	39
U	Year 2	54%	60%	6
U	Year 4	36%	38%	2
C	Year 4	15%	81%	66
TOTAL		36%	49%	13%

Schools that implemented a change idea had 36% of their eligible students enroll in college courses the year before the change idea was implemented. The year the change idea was implemented 49% of eligible students enrolled. This is an overall increase of 13% or 391 students illustrated in Table 15 and further illustrated in Appendix H.

When comparing schools who have implemented a change idea with schools that have not implemented a change idea, schools who have implemented a change idea during at least one year had 35% of their eligible students enroll in at least one course during the four-year review period, compared to 27% of eligible students for schools that did not implement a change idea as illustrated in Table 16. Year 3 students experienced virtual learning due to the pandemic for their high school and college courses. Post-pandemic schools that implemented a change idea matched their pre-pandemic, Year 1, proportion of eligible students participating in dual enrollment.

Table 16

Four Year Comparison of the Proportion (%) of Eligible Students Who Register for College Courses

	Schools Implementing Change Ideas			Schools Not Implementing Change Ideas		
	# of Students Eligible for Dual Enrollment	# enrolled	Proportion (%) of Eligible Students Who Registered for a College Course	# of Students Eligible for Dual Enrollment	# enrolled	Proportion (%) of Eligible Students Who Registered for a College Course
Year 1	2452	879	36%	1177	362	31%
Year 2	2722	1164	43%	1263	449	36%
Year 3	4118	1157	28%	2182	420	19%

Year 4	3623	1296	36%	1693	450	27%
Total	12915	4496	35%	6315	1681	27%

Summary of Phase 2 Results: Focus Group

The data review was used to determine which schools were invited to participate in the focus group. The intent was to ensure participants from each quadrant were invited. Each year many schools changed quadrants and the number of schools in each quadrant changed. Therefore, the researcher invited the dual enrollment point person from each school reviewed in Phase 1 to a focus group to further discuss the change ideas and their perceptions of dual enrollment. Once participants began to confirm, the researcher followed up with specific invitees to ensure confirmation from schools representing each quadrant for each year of the review period as well as a balance of schools with change ideas implemented and schools without. The researcher also maintained a ratio of confirmed participants where half served in a supervisory role as a principal or assistant principal and half were either counselors or program coordinators. Fourteen participants confirmed, ten participated. Table 17 identifies the confirmed participants, their schools and position. Of the ten, the ratio of supervisors to other staff remained the same. Seven participants worked in schools where change ideas were implemented. There also remained a confirmed participant in each quadrant.

Table 17

Focus Group participants

School	Participant	Position	Quadrants			
			Year 1 2018-2019	Year 2 2019-2020	Year 3 2020-2021	Year 4 2021-2022
A	Administrator 5	Assistant	4	4	4	4

		Principal				
B	Counselor 1	Counselor	4	4	4	4
C*	Counselor 4	Counselor	1	2	2	1
D*	Administrator 1	Principal	3	4	4	1
E	Administrator 4	Assistant Principal	4	4	4	4
F	**Absent**	Counselor	2	2	1	1
I*	Counselor 2	Counselor	4	3	2	2
L	**Absent**	Principal	4	3	4	4
O	**Absent**	Counselor	1	3	3	1
P*	Administrator 2	Principal	3	4	4	3
R*	Administrator 3	Principal	1	1	1	1
S*	Coordinator 1	Program Coordinator	2	1	1	1
T*	Counselor 3	Counselor	4	3	4	4
U*	**Absent**	Principal	1	1	1	1

Note: Schools identified with an * implemented a change idea at least one year of the four-year review period.

The constant comparative method was utilized to recognize patterns and organize the data into themes. The themes were selected based on the criteria referenced by Krueger and Casey (2015, p. 147). These criteria are:

- frequency-how often a concept is mentioned
- extensiveness-how many people mention the concept
- intensity-how much passion or force was behind the comments
- specificity-how much detailed was provided by the participants
- internal consistency-if individual participants remain consistent in their views

- perception of importance-how important the participant cites the concept

The researcher reviewed the focus group recording multiple times to obtain overall themes. Each theme was listed as a column in an Excel spreadsheet containing the focus group transcript. Each line of the transcript was reviewed and a "1" was placed by the theme(s) referenced per line. Some lines received a "1" in multiple columns denoting multiple themes for a particular comment. For example, Administrator 4 discussed the importance of empowering students with knowledge of dual enrollment while providing access to dual enrollment through transportation. The columns were then tabulated to determine which themes were mentioned most frequently, frequency, and the number of participants who mention a theme, extensiveness. The researcher then reviewed the focus group video again and highlighted the comments with intensity, specificity, internal consistency, and perception of importance each in a different color. The themes and the criteria for their selection are categorized in Table 18 and discussed in detail with substantiating comments in subsequent paragraphs.

Table 18

Focus Group Themes and Rationale

Prevailing Themes of Focus Group Discussion	Krueger and Casey Theme Rationale
The positive impact of understanding dual enrollment benefits and how counselors and parents can support student's enrollment in college courses when they are able to see the value dual enrollment can provide	frequency, extensiveness, specificity
Students' ability to access dual enrollment courses	frequency, extensiveness,

	specificity, perception of importance
Pivotal role of the professional school counselor to support and guide students towards dual enrollment.	intensity, specificity, internal consistency, perception of importance
STAR Coordinator support for the students and the professional school counselors	extensiveness and specificity
Students' lack of student motivation to pursue rigorous coursework	intensity, perception of importance and internal consistency

Theme 1: Knowledge and Support of Dual Enrollment From Students, Staff and Families

The most frequently mentioned theme was the positive impact of understanding dual enrollment benefits and how counselors and parents can support student's enrollment in college courses when they are able to see the value dual enrollment can provide. Each participant mentioned the impact information and understanding of dual enrollment has had on their students' likelihood of registering for a dual enrollment course. In addition to directly describing the impact, they also alluded to the impact that the lack of knowledge of dual enrollment can have on student enrollment. This theme was expressed at least 64 times in comments from the participants. Many professional school counselors may have varied knowledge of the dual enrollment program and therefore it can impact how they advise or support students with taking dual enrollment courses. An Administrator at school A discussed the challenges with working with a counseling team who is unaware of the benefits of dual enrollment. " We have to

empower and educate our staff members first. So that's what i'm saying. We need to start with our guidance (counselors), because I literally had to fight with one of my guidance counselors. They did not know that English 1010 took the place of English 12. So when I say that we have counselors at various stages." Support and knowledge of dual enrollment are integral inside the school and at home with the families. Students must have support from their parents for transportation to the college or to pay the fees and textbook costs. Many parents also may have a limited understanding of the long-lasting benefits of dual enrollment for students and their post-secondary plans. An Administrator in school E highlighted the challenges of families who are new to the country and are not aware of the educational system. "Even unrelated to dual enrollment. A lot of our challenges are around …not just parent engagement, but trying to kind of educate parents on the American education system in general… the college going culture, the post-secondary plans that is a whole other level of conversation." Factors such as counselor's and parental knowledge and support are key to a student participating in the program, especially if the student does not fully understand the benefits of participating in dual enrollment. Counselor 3 from School T also discussed obtaining buy in from families by describing the program as a scholarship. "I think that that would be really helpful for students and parents to understand. You hunt us down to get scholarships their senior year. How about you have them (enroll) …credits through dual enrollment…you've accessed the scholarship before they even graduated." Administrator 1 at school D discussed the importance of the principal in promoting and educating families on the benefits of dual enrollment. " I think you have to build the program. So when I initially started at D High School we didn't have a lot of students who actually enrolled in dual enrollment. But I think our team built the program by having virtual nights with our parents to share the benefits of dual enrollment. And then I know some schools

make kids actually sign up for the Accuplacer. I said, No. Every kid that's qualified. Will take the Accuplacer so once they have that score. Then, as a school, you can kind of do some one-on-one contact with them to encourage them, nudge them to actually take courses over the summer or take courses during the school year. But we had to build the program. So it was around educating not only our students, but our parents." Knowledge of dual enrollment and fully understanding its long-lasting benefits support students in their enrollment in the program. This knowledge is key for the student, their parents and the educators supporting them. If a counselor does not fully understand that by taking a dual enrollment course, a student can complete a graduation requirement, they may be less likely to expose and support a student's registration in a dual enrollment course.

Theme 2: Student Access to Dual Enrollment Courses

Each participant also listed access to dual enrollment as a barrier to participation. Counselor 1 at school B stated, "transportation, transportation and transportation students being able to get over to the Community College…being able to access and get to the classes." School B has not engaged in implementing change ideas for the students to access college courses. Counselor 2 at school I went into detail about access by not just expressing the physical location of the courses offered but also expressing the other reasons why their students are not able to access dual enrollment. "So the courses are here, and I'll speak on our English department. We have a phenomenal English department, so the students are more inclined to take the AP (Advanced Placement) classes over the dual enrollment. We also have certain CTE (Career and Technical Education) programs that interfere with scheduling. So students for our seniors especially, won't get dual enrollment early release, because there's a scheduling component that it conflicts …." Administrator 5 at school A details access as it relates to accessing dual

enrollment due to limited resources "..... lack of resources, money transportation….. even though some of our students are not on free and reduced lunch, they still can't afford the fees that are associated with taking dual enrollment courses.". Although CHPS pays tuition for students to take courses, it did not pay for tuition and fees for students who do not receive free and reduced meals during the data review period. This can be a barrier for participation for students because many students who are in need do not complete the form to receive free or reduced priced meals. Also, many families can be on the brink of poverty and cannot forgo the hundreds of dollars for their child to participate in dual enrollment. Administrator 4 at school E discussed the benefit of accessing a college course in the high school "...I would say that if there was an opportunity for us to have it in the school given our population….based on ... .what we know and the data we have about our population. I think that would be more effective for our students." Counselor 3 at school T also discussed the importance of accessing the courses in their school. In addition to the physical access, the familiarity with the teacher can also be a benefit to students accessing these courses. "Our transportation seems to always be an issue for our students, whether it's to the Hub or to campus ... .and so, being able to just walk down the hallway. Also, students are familiar with one. On one instance they were familiar with the teacher, but there's just a sense of familiarity, since they're in there. They're base school building, and they're going to either the media center or a classroom." Accessing dual enrollment courses is multifaceted. Providing transportation to a college campus may not be feasible for all students. The time it takes to get to a college campus may not work with the family's lifestyle. Also, students face scheduling challenges and financial constraints.

Theme 3: Pivotal Role of the Professional School Counselor to Support and Guide Students Towards Dual Enrollment

The professional school counselor is a key gatekeeper to accessing dual enrollment and other opportunities for students. Their role is pivotal and due to their vast knowledge of guiding and supporting students, they are tasked with multiple simultaneous priorities. They are also held accountable for the implementation and compliance with the priorities. Administrator 3 at school R discussed the gravity and importance of the counselor role "because my one mantra with every guidance counselor is, you're the one person in this building who doesn't have the liberty to make a mistake because everybody counts on you." Coordinator 1 at school S mentioned the multiple priorities of counselors as they visit with students in classrooms "....counselors have specific things that when they go and do classroom visits that they talk to the students about but they have so many things that they cover. It's not just dual enrollment, so it's like information overload… " Counselor 3 at school T was able to go in depth with the specific responsibilities of the counselors and how dual enrollment advising and information is an additional request to the required compliance priorities. "...Dual enrollment ... .it's a heavy lift. It's a lot of information, and when you have that, in addition to mental health, GNAs graduation certification…..504, it is an extremely heavy lift twice a year to walk students hand in hand through that process." Counselor 4 from school C detailed the multi layered counseling conversations and guidance that must occur with each student. ".. we also have the unique role at times to have to have the come to Jesus moments with students to have the conversations about… what this is…. what happens if you don't get a C or above because I think that some of our students just automatically hear free…they don't recognize that it goes with you whether you pass or fail, it's (grades) going to go with you. So I think sometimes we have to have those

conversations with them, so that they fully understand what they're getting into and then sometimes processing with them about whether this is in your best interests or not. So, looking at the whole student, not just, this is a quick way to get a credit." Ideally, the school counselor would be able to sit with each student and their family and discuss all educational options with students and align the guidance with the student's educational goals. With the increasing caseload of counselors into several hundred students, they are not able to have these types of individual conversations with each student.

Theme 4: STAR Coordinator Support for the Students and the Professional School Counselors

The STAR coordinator was mentioned by each participant as an invaluable support to not only the students in educating and enrolling them in dual enrollment, but also as a support to the counselor in advising the students and training the counselor of dual enrollment. The STAR coordinator is also mentioned as a key influencer in creating a college going culture in the school. Administrator 2 at school P discussed the impact the STAR coordinator had on her school "....support that ... .has been very effective for us, is definitely having the STAR coordinator available, having that person to be somewhat of a liaison between the school and community college. It has been really efficient for us, and when we did not have one we definitely felt the effects of not having a STAR person. So I would say that that is a huge support for us." Counselor 3 at school T also discussed the impact of the STAR coordinator, "our STAR coordinator has just changed the way that we do dual enrollment in the building and made what used to be a heavy lift for us as counselors is no longer the heavy lift." Administrator 4 at school E mentioned the multiple roles of the STAR coordinator in addition to dual enrollment assistance. The STAR coordinator also assists with college access and college matriculation.

"We do have a STAR coordinator at our school and, I will say, given our volume in terms of our student enrollment. It has been amazing to have someone to talk to, to have available for our students. But even in addition to dual enrollment, even if our students don't qualify for dual enrollment, having that STAR coordinator there to kind of give them access and understanding about CHCC in general and their options…." Administrator 3 at school R was able to detail the college access activities the STAR advisor is able to lead at the school, "even for those students who are not eligible for dual enrollment the STAR coordinator…..has done an excellent job of just informing students about post-secondary options, and has been a phenomenal job at getting students to complete the FAFSA so he really spearheads our school FAFSA and information night with parents." Counselor 1 also detailed the informational sessions hosted by the STAR advisor and the training the advisor provides the counselor when needed. The STAR coordinator was noted as an invaluable resource for students, families and staff in providing information and support for dual enrollment and college matriculation and access.

Theme 5: The Lack of Student Motivation to Pursue Rigorous Coursework

Two focus group participants noted the lack of a student's motivation to pursue rigorous coursework as a barrier to dual enrollment. Coordinator 1 at school S described the difference in student morale and motivation in rigorous coursework inclusive of dual enrollment "...but ever since the pandemic I've just seen a different mindset motivation around taking the dual enrollment courses or any challenging content for that matter." Administrator 4 was able to further this lack of motivation further with a disconnect to society as a whole, not just rigorous coursework, "...it is really astounding…. how that virtual learning year…that COVID year changed the motivation….we use the term apathy…the kind of lack of connection to society and what they want to do…" Both were emphatic about their rationale and were able to detail

specific examples. Upon review of the focus group transcript, Administrator 4 and Coordinator 1 detailed other examples of ways students were pursuing the least rigorous pathway. Many other participants alluded to the students' lack of motivation to pursue other educational options. Counselor 3 described "chasing a student down" who qualified for dual enrollment but did not complete the necessary steps to enroll. Since the COVID-19 pandemic, many people have experienced a disconnect with society that is expressed with teenagers in various ways such as poor attendance and grades, higher rates of drug usage, overdose, and suicide. Pursuing education may not be a priority with such pervasive post-pandemic academic and mental health challenges.

Conclusions

The researcher engaged in this study to review and assess the dual enrollment program in Cedar Hill Public Schools as an important driver of college and career readiness for the district. The district has struggled with graduating students ready for post-secondary success, as measured by attainment of the college and career readiness benchmark in many assessments including the SAT, ACT, AP, Accuplacer and Technical Skills Assessment. The Accuplacer exam is only utilized to determine a student's readiness and placement into dual enrollment courses and was assumed as intent to enroll in dual enrollment. There is, however, a large difference in the percentage of students who are eligible for dual enrollment compared to the percent of eligible students who register for courses. The researcher reviewed various change ideas to assess any trends between implementing a change idea and college enrollment. Three research questions guided the study.

1. What does data suggest about the implementation of change ideas designed to reduce barriers to enrollment in schools and the enrollment of eligible students in college

courses?

2. What additional support of the dual enrollment program do school personnel suggest that may increase eligible student enrollment?

3. How do the school personnel's perceptions of dual enrollment impact the way they interact with and support eligible dual enrollment students?

Summary of Research Question #1

The data suggested that when a change idea was implemented in a school, the school's proportion of eligible students who register for college courses increased. The greatest increases came with change ideas that supported students participating with college faculty. Research indicates that interacting with college faculty on the college campus provides experience with the non-academic factors associated with college success and persistence (Lukes and Karp, 2014, 2012; Conley, 2014; Allen, Robbins and Sawyer, 2010). Providing transportation for students to the college campus allows the students to not just interact with the rigorous content of the college course and the interaction with the professor, it also allows students the ability to interact with other college students and navigate the college systems independently. This change idea is the only one that exposes students to both the academic and non-academic factors of a college education which are both important for college matriculation and persistence. Schools C and U provided transportation to a college and back and both schools were categorized in Quadrant 1 (high eligibility and high enrollment) during all but one year transportation was provided. Providing remote sections designated for only high school students was the least favorable change idea. Administrator 3 stated "the feedback and experience (CHCC) was more positive from that of the course they took online at All State University. It could have been the format because online it's not for every child." Students may benefit from enrolling in remote sections

where they participate with other college students and are not limited to their high school peers. The focus group participants also highlighted transportation to a college campus as favorable to increasing the enrollment in college courses. Although one counselor expressed the benefit of the familiarity with the dual in the school courses, with the high school teacher as an adjunct professor, it was not the major focus of the feedback.

One administrator mentioned a deficiency of change idea 2 where high school teachers assume the role of college professors and teach the courses during the school day. "The weakness of the program is the criteria CHCC has for teachers to teach the course….for example, we have phenomenal history teachers, but if you don't have a master's degree in history, you can't teach…" Administrator 1. This is a limitation of the change idea. Overall, the implementation of a change idea during any year during the four-year period, increased the likelihood that eligible students would enroll in a dual enrollment course.

Summary of Research Question #2

School personnel suggest multiple factors that could potentially increase dual enrollment that can be categorized in two ways: knowledge about dual enrollment benefits and access to dual enrollment courses. Each focus group participant detailed the importance of knowledge of the benefits of dual enrollment and how it can help promote enrollment. The students, parents, counselors, and administrators all have a part in supporting the students' enrollment in the program; therefore, each needs to receive training and information regarding dual enrollment and its benefits. The focus group participants also detailed explicitly the detriment that can be caused when a stakeholder does not know about the program to include mis advisement from the counselor, the inability to properly schedule students due to graduation requirements occurring simultaneously to college courses. Multiple participants also detailed the need to discuss dual

enrollment earlier than the semester before enrollment. Participants detailed the parents and students should have knowledge of dual enrollment and the qualifications to participate as early as 9th grade. Since GPA is a qualifier for dual enrollment, students should be exposed to graduation requirements and GPA calculations as soon as they enter high school. This also can be beneficial for international families to provide additional context of the educational system.

Each participant emphatically listed transportation as a barrier to enrollment; although some participants were working in schools that had dual in the school or dedicated remote sections, transportation to and from the college campus was the most emphatically identified support. The data also positively aligns with this recommendation as when schools provided transportation to and from the college campus, the enrollment in college courses increased more than any other change idea.

The support of the STAR advisor was identified and reiterated by each participant. The STAR advisor was integral in assisting the counselor with dual enrollment and in setting a college-going culture in the school. The STAR advisor is also a limiting factor as many schools must share the same advisor. Ideally, each school would have at least one dedicated STAR coordinator to support dual enrollment. A few schools with signature programs also have the support of a program coordinator which can also lessen the load of the counselor with information and support for dual enrollment.

Summary of Research Question #3

Each focus group participant was able to express their current or past experience with dual enrollment and their view on their role in its implementation. One school administrator detailed the way they were able to increase the number of students participating in dual enrollment in their school by taking ownership of the program, expressing its benefits to parents

and students whenever possible. The administrator further detailed that all students with a 2.5 or above were required to take the Accuplacer exam, as it can be a barrier to enrollment. Another administrator detailed their support of dual enrollment by making it a priority for their professional school counselor and providing the space and support their counselor needs to properly advise and enroll the students. One of the counselors detailed the messaging they used to parents to show the alignment of dual enrollment as a scholarship as it will lessen the time a student takes to obtain a degree. Each participant noted the quality of the relationship with CHCC as most beneficial. Two participants, administrators, noted the ease of creating memoranda of understanding with CHCC to express the ongoing support between CHCC and CHPS. Another administrator noted that when there was an issue with a course, both CHCC and CHPS collaborated to address and resolve the concern. When the positive support and collaboration between CHCC and CHPS is evident, school personnel may be more likely to outwardly express dual enrollment as a viable option. Administrators, counselors, coordinators, and parents all want the best outcome for the student. Open collaboration between institutions can be viewed as a similar positive intent. One administrator of a school with predominantly international students spoke of the difficulties for international families to understand the United States educational system such as the meaning of courses and grades and compulsory attendance. With such basic levels of understanding of the US system, these families may be less likely to support dual enrollment. Some of the students also may be unaccompanied, in the country without parents, which means education and post-secondary education may not be viewed as a reality as they may be dealing with their short-term needs such as food and shelter. They may not see long term college planning as an option. The schools where the focus group participants took ownership of dual enrollment implemented change ideas and ultimately saw an increase in

enrollment.

Key Findings

Four years of dual enrollment eligibility and registration or enrollment data were reviewed from 2018-2022. The number of eligible students who met both the Accuplacer and GPA requirement were viewed as intending to enroll in college courses since the Accuplacer is only used for dual enrollment. While conducting the focus group, Administrator 1 in School D stated that all students who met the GPA requirement in the school were required to take the Accuplacer exam. Each school had a different policy on how students were permitted to test. In some schools the students had to sign up on certain days. Other schools, like school D, required students to take the exam and would follow up with them if they did not. Due to the varied methods that schools utilized to test students, the assumption that all eligible students intended to enroll is not accurate. Schools such as School D were using the Accuplacer exam as their own form of a change idea. By requiring all students with the appropriate GPA to take the Accuplacer, they were removing the barrier of the exam to ensure that if a student was interested in dual enrollment, they had everything possible to be able to move toward the next step in course registration.

When implementing a change idea, it must be practical for the school. School R successfully implemented change idea 2, which grew from one course section to three course sections. Although the school did not see a great increase in college course enrollment overall, the school remained in quadrant 1 which is high eligibility and high enrollment. The data does not indicate which modality the students are enrolled in, whether the course is offered at the school, on the college campus, or remotely. School R may have seen a shift in registration from on campus offerings to in school offerings. The data alone provides a limited scope of the dual

enrollment program at a given school, only when paired with the information gathered from the focus group can positive insights be made into the program and potential adjustments can be made.

Overall, schools that implemented a change idea, even for one year, experienced an 8% increase in registration of students in dual enrollment over the four year period. The year the change was implemented, schools experienced an average of a 13% increase in registration into college courses. Implementing a change idea increases the proportion of eligible students who enroll in or register for a college course. The focus group discussion further supported the data regarding the course enrollment increase when implementing a change idea.

With the implementation of different change ideas, it is unclear if one change idea was more successful than another. Multiple factors play a role in its implementation and ultimate success. The success of the dual enrollment change ideas is largely due to the principal's leadership and support. The principals who are supportive of dual enrollment were able to select a change idea to fit the needs of their student and faculty population and they ensured support was readily accessible. This enabled the change idea to be implemented with fidelity and positively impacted the number of eligible students who enrolled in dual enrollment. The principals supportive of dual enrollment were also the same principals who requested or wanted various changed ideas to be implemented in their schools.

I was surprised to find that although many assistant principals were the direct supervisors of counselors, they had not participated in training to support programming such as dual enrollment. The assistant principals who received training did so in previous roles.

Limitations of the Study

The limitations of the study include the small sample size used to review the data. Only

four years of data were reviewed. The only data used for analyzing the change ideas was general registration data. The data was not disaggregated to determine the number of students participating in a modality facilitated by the change idea.

Recommendations for CHPS

As more students are enrolling in dual enrollment opportunities and with the support of the Blueprint for Maryland's Future legislation, CHPS should continue to support the dual enrollment program. The students see marked success in the program in comparison to other post-CCR programs of study. The district should work with each school to determine which support is needed at a school level. Specific training for principals and counselors should continue, but it should also include dual enrollment training for Assistant Principals involved in supporting dual enrollment. Multiple focus group participants also noted the need to begin discussing the post-CCR pathways, specifically dual enrollment with students earlier in their educational career. Elementary and middle school students should have knowledge of the program, and the implications their grades have on their ability to access opportunities such as dual enrollment. CHPS has a growing international population which also necessitates the early education of dual enrollment opportunities to give parents and students enough time to understand the US educational system and the benefits it can bring. Lastly, the district must invest in the technological infrastructure to allow the program to grow. Currently, the college grades and course enrollment information is not readily accessible to schools. A central data repository will assist with transparency for the schools and community regarding college enrollment trends and success. CHPS must also review its policies and procedures to ensure they facilitate participation in dual enrollment and not provide an additional barrier to participation.

The role of the professional school counselor is so vast and impactful. The district should

invest in a dual enrollment coordinator at each school to support the school counselor in the implementation of dual enrollment to include advising students, raising awareness of the opportunities, providing check ins with students to gauge progress and success in their coursework, and guiding students to courses that are a best fit for them. The counselors and administrators emphatically supported and lauded the work of the STAR advisor hired by CHCC; however, the role of the STAR advisor is limited to only CHCC. A separate dual enrollment coordinator at each school could help facilitate students' awareness and success in all dual enrollment programs. They would also have access to additional data to provide a deeper level of support to students.

Future Research

Future investigations should include a continuous review of dual enrollment data to continue to modify modalities of dual enrollment based on student and school needs. The analysis was based on the data review and focus group interviews of the school-based staff who work with students. The school-based staff gave their feedback and perceptions. In the future, student and parent focus groups can be used to gain further insight into the program implementation from their respective perspectives. Additional research should also include the capacity of the current dual enrollment program. If more eligible students decide to take dual enrollment courses, there is a potential that the capacity of course offerings will not be able to meet the potential need.

In conclusion, the dual enrollment program is a viable option for students who would like to attend college as a pathway to their career. If CHPS would like to address the growing demand of dual enrollment, the district should make significant advancements in policies and the infrastructure to support it.

Appendix A: University IRB Approval

UNIVERSITY OF MARYLAND
INSTITUTIONAL REVIEW BOARD

1204 Marie Mount Hall
College Park, MD 20742-5125
TEL 301.405.4212
FAX 301.314.1475
irb@umd.edu
www.umresearch.umd.edu/IRB

DATE:	August 11, 2022
TO:	Olivia Pearson
FROM:	University of Maryland College Park (UMCP) IRB
PROJECT TITLE:	[1942415-1] DUAL ENROLLMENT AND COLLEGE AND CAREER READINESS: AN INVESTIGATION OF ONE SCHOOL SYSTEM
SUBMISSION TYPE:	New Project
ACTION:	APPROVED
APPROVAL DATE:	August 11, 2022
REVIEW TYPE:	Expedited Review
REVIEW CATEGORY:	Expedited review category # 7

Thank you for your submission of New Project materials for this project. The University of Maryland College Park (UMCP) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

Prior to final approval of this project scientific review was completed by the IRB Member reviewer.

This submission has received Expedited Review based on the applicable federal regulations.

This project has been determined to be a MINIMAL RISK project.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Unless a consent waiver or alteration has been approved, Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate Amendment forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed. All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

Please note that all research records must be retained for a minimum of seven years after the completion of the project.

If you have any questions, please contact the IRB Office at 301-405-4212 or irb@umd.edu. Please include your project title and reference number in all correspondence with this committee.

Generated on IRBNet

Appendix B: CITI Certification

Completion Date 13-Apr-2018
Expiration Date 12-Apr-2021
Record ID 26813203

This is to certify that:

Olivia Weaver

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Social & Behavioral Research - Basic/Refresher
(Curriculum Group)
Social & Behavioral Research - Basic/Refresher
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

University of Maryland College Park

Collaborative Institutional Training Initiative

101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Appendix C: School District IRB Approval

September 30, 2022

Olivia Pearson


Dear Mrs. Pearson:

The review of your request to conduct the research entitled, "DUAL ENROLLMENT AND COLLEGE AND CAREER READINESS: AN INVESTIGATION OF ONE SCHOOL SYSTEM" has been completed. Based on the examination, I am pleased to inform you that the Department of Testing, Research and Evaluation (DTRE) has granted authorization for you to proceed with your study.

This approval applies to the 2022-2023 school year. We reserve the right to withdraw approval at any time or decline to extend the approval if the implementation of your study adversely impacts any of the school district's activities. If you are not able to complete your data collection during this period, you must submit a request for an extension through the online tool located on our website. You will be required to submit a status report of your study, any changes to your procedures and methods, and all appropriate consent forms and instruments.

Prior to your data collection activities, you are required to secure written approval of the principals where you plan to recruit your research subjects. The Principal Permission to Conduct Research Study forms must be signed and forwarded to the Office of Research & Evaluation and a copy given to the respective principal. Regarding the recruitment materials please be aware that only approved copies (stamped 'APPROVED') can be distributed to your target subjects or distributed in schools from which you plan to recruit research subjects. The wording of the consent forms must be exactly as the version submitted to our office. Should you change the procedure or materials, any revisions must be approved by this office before being used in this study. Please be aware that participation in your project is on a strictly voluntary basis.

An abstract and one copy of your study's final report should be forwarded to the Department of Testing, Research and Evaluation within one month of successful completion of your study. Do not hesitate to contact the Research and Evaluation office if you have any questions. I wish you success with your study.

Best regards,

Appendix D: Focus Group Invitation Email

Re: Requesting your participation in a dual enrollment research study
From: Olivia Pearson
To: Select Dual Enrollment counselors, coordinators and administrators

Good day,

I am writing to ask if you would be willing to participate in a study to review the dual enrollment trends and the efficacy of specific access programs. I am conducting this study as part of my Doctorate in Education in order to complete my dissertation, "Dual Enrollment and College and Career Readiness: An Investigation of One School System" through University of Maryland, College Park. This study will be conducted through an analysis of dual enrollment registration data, and a focus group composed of select school counselors, coordinators and administrators who interact with dual enrollment eligible students. This information could help the school district and school based leaders like yourself in learning more about access to dual enrollment programs.

I am going to facilitate a focus group which will last 60-90 minutes. It will be held virtually via the Zoom platform. Only a limited number of personnel have been selected to participate so please consider this exclusive opportunity. The focus group is voluntary, anonymous, and individual respondents will not be reported.

Please let me know by responding to this email if you are willing to participate in the focus group, as participation is voluntary. I will host a Zoom familiarity session date/time. Upon agreement to participate, I will send a consent form for you to sign and will then reach out to coordinate the sessions. In order to complete the study, I need 12 participants. As a small token of appreciation for your participation in the interview you will be provided a $20 gift card to Amazon.

I have been approved by the University of Maryland, district policy procedure, and the Institutional Review Board (IRB) to conduct this study. Please find a description of the study (cover letter) and IRB approval from UMD and the county attached to this email.

Thank you in advance for considering this request to participate in an interview. If you have questions or would like additional information on the study, please reply to this email or call me at (301) 892-0027.

Thank you,

Olivia

Appendix E: Reminder Email to Focus Group Participants

Hello,

Thank you for agreeing to participate in the dual enrollment focus group on April 14, 2023 at 4:30 p.m.. I want to remind you that it is confidential and anonymous.

Please click this link to join: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

I have attached the questions for tomorrow's focus group protocol so that you can see in advance what I will be referring to. Please let me know if you have any questions. I look forward to talking with you!

Appendix F: Focus Group Protocol

***This focus group protocol including questions may be modified based on the analysis completed in Phase 1 of the study.**

I. Introductory Remarks

"Hello, my name is Olivia Pearson and I am a doctoral candidate at the University of Maryland College Park. Each of you was invited to participate in this focus group because your point of view is very important. I know that you are busy, so thank you for contributing to this project. I will ask a series of questions with no right or wrong answers. I want to know your opinions on the dual enrollment program. This session will be recorded for research purposes only, your names and schools will not be mentioned to maintain your anonymity. Please do not repeat or record the session nor share any information learned during this session."

II. Purpose

"The purpose of this focus group is to review the district level implementation and support of the program and to ascertain the comfortability of key staff in communicating about the dual enrollment program."

III. Ground Rules

A. Please speak freely, if you have something to say please do so
B. Please leave your video on throughout the interview time.
C. Do not speak when others are speaking, please let every opinion and voice be heard
D. There are several people in the virtual room, please allow for each person to speak. This may include extended pauses between responses to ensure each participant is heard.
E. Since we have limited time, I may need to stop and redirect the conversation
F. Do you have any questions before we begin?

IV. Interview Questions

A. Engagement Questions
    1. Please state your first name and role in the school
    2. How many years have you supported students participating in the dual enrollment program?

B. Research Question 1: *Of the change ideas implemented in CHPS to reduce barriers, which shows the most promise for increasing participation in dual enrollment?*

    Focus Group Questions

    1. The district has implemented several programs to increase student participation in dual enrollment. Which of these does your school utilize?
    2. From your perspective, which programs and/or supports are most effective and why?

C. Research Question 2: *What additional support of the dual enrollment*

program do principals and counselors suggest that may increase eligible student enrollment?

Focus Group Questions

1. To what extent are high school students aware of opportunities to take dual enrollment coursework? What gaps exist?
2. From your perspective, what are the most common factors limiting students enrolled at your school from enrolling in dual enrollment coursework?

D. Research Question 3: *How do the counselor and administrator perceptions of dual enrollment impact the way they interact with and support eligible dual enrollment students?*

Focus Group Questions

1. What is your background and training, if any, on the dual enrollment program?
2. How do you perceive the quality of the dual enrollment partnership between CHPS and the colleges and universities?
3. What areas represent the greatest strengths and weaknesses of the dual enrollment program?
4. What do you view as your role in engaging and supporting students in dual enrollment?

E. Exit Question

1. Is there anything additional that you would like to share regarding the dual enrollment program and district support?

V. Closing

Thank you again for participating

(Krueger & Casey, 2015; NACEP, 2020; Stufflebeam & Coryn, 2014; Vaugh et al, 1997)

Appendix G: Focus Group Follow Up Email

Focus Group Follow Up Email

Thank you for participating in the dual enrollment focus group on date/time. You should have received an email for your Amazon gift card. Your participation will enable the district to improve access and success of students in the dual enrollment program. Please reach out to me if you have any questions. My email address and phone number are listed below.

Olivia

(███) ███-████

███████@████.███

Appendix H: Dual Enrollment Data

Dual Enrollment Data Years: 2018-2019

School	Total Enrollment	Students Eligible for Dual Enrollment	Proportion (%) of Total Enrollment Eligible for Dual Enrollment	# of Students Registered for Dual Enrollment	Proportion (%) of Eligible Students Who Registered
A	878	169	19%	26	15%
B	433	51	12%	12	24%
C	416	126	30%	57	45%
D	470	77	16%	27	35%
E	1118	140	13%	36	26%
F	1252	540	43%	135	25%
G	359	66	18%	11	17%
H	839	123	15%	46	37%
I	1168	177	15%	59	33%
J	831	125	15%	66	53%
K	997	248	25%	65	26%

L	976	163	17%	39	24%
M	438	90	21%	30	33%
N	1118	248	22%	91	37%
O	368	96	26%	40	42%
P	379	78	21%	29	37%
Q	581	69	12%	30	43%
R	862	216	25%	91	42%
S	820	346	42%	108	31%
T	349	61	17%	18	30%
U	1018	420	41%	225	54%

Dual Enrollment Data Years: 2019-2020

School	Total Enrollment	Students Eligible for Dual Enrollment	Proportion (%) of Total Enrollment Eligible for Dual Enrollment	# of Students Registered for Dual Enrollment	Proportion (%) of Eligible Students Who Registered
A	815	152	19%	37	24%
B	427	65	15%	20	31%
C	454	139	31%	41	30%
D	459	116	25%	34	29%
E	1128	203	18%	72	35%
F	1208	492	41%	149	30%
G	360	78	22%	19	24%
H	796	152	19%	61	40%
I	1236	305	25%	138	45%
J	781	118	15%	48	41%
K	962	252	26%	88	35%

L	969	167	17%	75	45%
M	320	75	23%	24	32%
N	1040	238	23%	103	43%
O	417	103	25%	47	46%
P	351	81	23%	27	33%
Q	507	65	13%	33	51%
R	892	293	33%	129	44%
S	677	355	52%	140	39%
T	351	65	19%	45	69%
U	1046	471	45%	283	60%

Dual Enrollment Data Years: 2020-2021

School	Total Enrollment	Students Eligible for Dual Enrollment	Proportion (%) of Total Enrollment Eligible for Dual Enrollment	# of Students Registered for Dual Enrollment	Proportion (%) of Eligible Students Who Registered
A	933	313	34%	57	18%
B	432	130	30%	12	9%
C	546	274	50%	42	15%
D	478	183	38%	29	16%
E	1084	374	35%	61	16%
F	1217	763	63%	207	27%
G	377	96	25%	22	23%
H	857	309	36%	51	17%
I	1224	625	51%	142	23%
J	770	210	27%	38	18%
K	1055	376	36%	97	26%

L	1015	308	30%	53	17%
M	283	95	34%	16	17%
N	1112	366	33%	69	19%
O	450	167	37%	45	27%
P	363	89	25%	18	20%
Q	491	112	23%	21	19%
R	902	368	41%	163	44%
S	644	372	58%	172	46%
T	315	109	35%	22	20%
U	1109	661	60%	240	36%

Dual Enrollment Data Years: 2021-2022

School	Total Enrollment	Students Eligible for Dual Enrollment	Proportion (%) of Total Enrollment Eligible for Dual Enrollment	# of Students Registered for Dual Enrollment	Proportion (%) of Eligible Students Who Registered
A	794	238	30%	49	21%
B	409	81	20%	25	31%
C	513	248	48%	200	81%
D	459	163	36%	54	33%
E	1009	242	24%	32	13%
F	1181	732	62%	261	36%
G	402	100	25%	29	29%
H	842	261	31%	84	32%
I	1142	520	46%	145	28%
J	771	194	25%	42	22%
K	932	284	30%	83	29%

L	951	275	29%	48	17%
M	282	75	27%	12	16%
N	1008	315	31%	73	23%
O	378	132	35%	78	59%
P	304	69	23%	27	39%
Q	478	86	18%	16	19%
R	913	319	35%	133	42%
S	668	317	47%	112	35%
T	297	92	31%	25	27%
U	1113	573	51%	218	38%

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