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## Transforming College and Career Readiness: A Case Study of an Innovative High School Model in Tennessee

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TRANSFORMING COLLEGE AND CAREER READINESS:  
A CASE STUDY OF AN INNOVATIVE HIGH SCHOOL MODEL IN TENNESSEE

Chelsea Rose

A Dissertation

Submitted in Partial Fulfillment of the  
Requirements for the Degree of  
Doctor of Education

Major: Higher and Adult Education

The University of Memphis

May 2024

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### **Dedication**

For my son, Dustin, and daughter, Bridget – You both are the lights of my life, and I hope that by completing this journey, you will each be inspired to strive for high goals– knowing you have what it takes to achieve anything you set your mind to in life. I love you more than anything and hope you're proud of your momma!

## Acknowledgments

Thank you to God for providing me with educational opportunities and giving me the confidence to begin, the motivation to continue, and the strength to finish this degree.

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Thank you to my mom, Karen, for being my constant cheerleader and support system. I credit this achievement to your unwavering love and guidance through the years. Thanks to you and my dad, Richie, a deep love for education was instilled in me from a young age, leading me to where I am today. Thanks to my husband, Dave, for being a dependable partner through the long days. Thanks to my babies, Dustin and Bridget, for giving me the motivation and joy to press through on those long days.

Thank you to all my extended family members, friends, professional colleagues, and educators who have inspired and encouraged me along the way.

## Abstract

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The purpose of this qualitative case study on implementing the Innovative High School Models Grant was to examine administrators' and teachers' experiences integrating college and career readiness programming into Career and Technical Education (CTE) pathways. Forward-thinking leadership and strategic partnerships were key to the initiative's success, enhancing teacher quality, industry involvement, student impact, and campus culture. Using Vroom's Theory of Expectancy Value as the framework, the study explores motivational factors and expected impacts driving the work. Recommendations include prioritizing teachers and leadership development, diversifying early postsecondary opportunities, and ensuring staff capacity for student support. The study's insights may inform best practices for integrating college and career readiness into CTE pathways, facilitating students' preparation for postsecondary education and professional success.

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## **List of Abbreviations**

Career and Technical Education (CTE)

Innovative High School Models (IHSM)

Tennessee Department of Education (TDOE)

Elementary and Secondary School Emergency Relief Fund (ESSER)

Early Postsecondary Opportunities (EPSOs)

Grade Point Average (GPA)

Jobs for the Future (JFF)

Tennessee Higher Education Commission (THEC)

Every Student Succeeds Act (ESSA)

Advanced Placement (AP)

College Level Examination Program (CLEP)

Dual Enrollment (DE)

International Baccalaureate (IB)

Local Dual Credit (LDC)

Statewide Dual Credit (SDC)

Governor's Investment in Vocational Education (GIVE)

Tennessee Colleges of Applied Technology (TCATs)

Dual Enrollment Grant (DEG)

Tennessee Investment in Student Achievement (TISA)

Work-Based Learning (WBL)

Local Educational Agencies (LEAs)

## **Chapter One**

### **Introduction**

Partnerships between secondary and postsecondary education have always existed; however, in recent years, those partnerships have increasingly become fundamental to the mission of educational institutions. Collaboration between high schools, colleges, and universities is the new norm to prepare students for success in a competitive, globalized economy. In recent years, high school and college administrators have been transforming career and technical education (CTE) programs in high schools by developing new models that blend the expectations of secondary education with postsecondary education and the workforce. These innovative approaches to technical education are key components in efforts to help all students become college and career ready.

This study focuses on how one school district used the Innovative High School Models (IHSM) Grant to transform the high school experience. In May 2021, the Tennessee Department of Education (TDOE) awarded 21 school districts and district consortia grants up to \$2 million each from federal Elementary and Secondary School Emergency Relief Fund (ESSER) funding. The grant aimed for high schools to develop strategic partnerships with postsecondary institutions and industry to reimagine the traditional high school environment in a way that encouraged students to enroll in postsecondary and engage early in career pathways. The charge assigned to applicants was to develop new uses of time, space, instructional practices, modes of learning, and supportive services to achieve this purpose (Tennessee Department of Education, 2021-b).

This study evaluates how educational leaders in secondary and postsecondary education have collaborated to leverage the IHSM Grant to promote student college and career readiness

opportunities. The examination focuses on their perspective regarding the value of the initiative within the scope of their school district and region. Data was collected to determine how the experience implementing the IHSM Grant informed how to expand on the work in the future. Information garnered from this research will inform further development of innovative school models that promote secondary and postsecondary partnerships that deliver expanded college and career readiness programming in CTE pathways.

### **Background of the Problem**

According to a report by Georgetown University's Center on Education and the Workforce, seventy-two percent of jobs in the United States will require postsecondary education by the year 2031 (Carnevale et al, 2023). There is a critical skills gap among these jobs, particularly occupations considered "middle-skilled" and requiring a postsecondary certificate or associate degree (U.S. Department of Education, 2019). The National Education Association conducted a research study in 2012 that examined students' academic and career paths and the job distribution of the U.S. Labor Force. The study concluded that high schools need more high-quality career and technical education since most U.S. jobs do not require a bachelor's degree (NEA Research, 2012). More recent research predicts that the trend toward requiring postsecondary education or training is expected to continue, with thirty-one percent of jobs expected to require some college or an associate's degree and forty-one percent of jobs expected to require a bachelor's degree or higher by 2031, making postsecondary education a critical component in achieving workforce advancement (Carnevale et al, 2023).

In a recent study by Jobs for the Future (2021), researchers concluded that the most significant barrier for students enrolling and completing college degrees is the disconnect between high school, higher education, and workforce systems. The study found that most

students report that they want to go to college, but the reality is that most students do not enroll in college. To improve that outcome, educational leaders must develop new educational models to address and overcome the structural barriers preventing many students from successfully transitioning from high school to postsecondary education and the workforce (Jobs for the Future, 2021).

Additionally, there is a need for increased CTE training within high school programs to engage students in a viable career path early (NEA Research, 2012). For students who continue their education beyond high school, research has shown that students who are CTE concentrators in high school are more likely to earn an associate degree as their highest level of education, filling critical “middle-skilled” job needs (U.S. Department of Education, 2019). Data has shown that CTE training also impacts students' likelihood of quickly attaining a job after high school, mitigating many social, economic, and political problems (NEA Research, 2012). CTE concentrators are consistently employed full-time at higher rates with higher median earnings eight years after high school graduation than non-concentrators (U.S. Department of Education, 2019). The long-term positive outcomes are in addition to the short-term benefits experienced by students participating in successful CTE programs, which include increased motivation among at-risk populations, improved school attendance, and reduced drop-out rates (NEA Research, 2012).

Today's educational leaders recognize the transformational potential of combining academic and CTE training on students' secondary to postsecondary transition, and they are actively integrating these programs more than ever in the educational system (DiWitt, 2008). Partnerships between community colleges and industry are becoming common ways to improve the quality and quantity of courses preparing students for high-demand occupations, as well as to

meet university entrance requirements. DiWitt (2008) writes that CTE programs “often lead the way to establishing secondary-postsecondary links through career programs and dual and concurrent enrollment” (p. 20).

More and more, these CTE programs are integrating pathways for students to earn college credit while in high school through early postsecondary opportunities (EPSOs). The EPSO, referred to as dual enrollment, will be the most referenced in this study. Dual enrollment is the term used to describe the practice of high school students enrolling in college-level courses. Different states and institutions may use other terms to describe this practice, such as “concurrent enrollment” or “dual credit,” but for this study, the term “dual enrollment” is used (Taylor & Pretlow, 2015). As of 2019, all 50 states have dual/concurrent policies (Education Commission of the States, 2021). Dual enrollment courses may be singular or included as part of a pathway in which students complete multiple courses within a college program. These types of programs are commonly referred to as career academies and early colleges, which have proven to be successful models for students from all academic backgrounds and socioeconomic statuses.

EPSOs, specifically dual enrollment, have evolved into a high school improvement and college completion strategy in recent years. Dual enrollment has been a tool to restructure the relationship between secondary and postsecondary education by encouraging collaboration and coordination between the two institutions to promote a more seamless student transition (Karp, 2015). Supporting students in high school as they become accustomed to college-level expectations has improved college persistence rates and grade point averages (GPAs) among participating students (Jones, 2017). Furthermore, research has shown that students typically underrepresented in college reap the most benefits from participating in dual enrollment



opportunities, making it an equity strategy. The number of states with policies specific to CTE varies and is less widespread than general education dual enrollment opportunities (Education Commission of the States, 2021). Many states' dual enrollment policies focus on providing opportunities for high-achieving students, requiring eligibility based on high school GPA and college readiness test scores (Jones, 2017). Research has shown that middle-achieving high school students, whose grades or assessments fall just below college readiness measures, can experience great success and benefit from participating in dual enrollment coursework (Zinth & Barnett, 2018).

Tennessee state legislators are incentivizing high schools and postsecondary institutions to engage students earlier in postsecondary opportunities to encourage students interested in technical trades to enroll in postsecondary education. Policymakers have set accountability measures to promote the expansion and accessibility of EPSOs. In Tennessee secondary education, EPSOs are vital in measuring high school performance through the Ready Graduate Accountability Indicator (Tennessee Department of Education Ready Graduate Overview, nd). Within postsecondary education, dual enrollment is a significant component in the postsecondary performance funding equation for community colleges in Tennessee (Tennessee Higher Education Commission, 2022).

States have also impacted higher education participation and completion goals by encouraging secondary and postsecondary education partnerships. Most recently and applicable to this study, the State of Tennessee budgeted over \$500 million to expand the IHSM Grant and provide up to \$1 million to reimagine education to incorporate robust partnerships with postsecondary and workforce programs to improve students' college and career readiness (Lee,

nd). This significant investment in Innovative School Models signifies the need for quality career and workforce readiness efforts within education and the urgency with which leaders take steps to empower educators to reinvent learning and overcome structural barriers that hinder student success.

### **Purpose Statement**

This study describes how educational administrators and teachers have integrated college and career readiness programming into CTE pathways by implementing the IHSM Grant. It also examines their perceptions of the value of enhanced programming in their role as administrators. Finally, the study explores how the perceived impact of the IHSM Grant has informed school district decisions for expanding college and career readiness programming within CTE pathways.

### **Conceptual Definitions**

Below are the following definitions to clarify terms used throughout the study that may not be commonly known.

- **Associate Degree** – A postsecondary award requiring at least two years of college coursework (Broyles, 1995).
- **Career and Technical Education** – Academic, technical, and employability skills or content that is taught through career-focused standards and courses in grades K-12 and postsecondary, which prepare learners for advanced education, training, and employment in aligned occupations and careers (Tennessee Department of Education, 2020)
- **Certificate** – A formal award certifying the satisfactory completion of a postsecondary education program (Broyles, 1995).

- **CTE Concentrator** – A student who concentrates in CTE and completes three or more courses within a single program of study (Tennessee Department of Education, 2020)
- **Dual Enrollment** – A program allowing high school students to enroll in college classes, concurrently earning credit at their high school and the college upon successfully completing coursework (Taylor & Pretlow, 2015).
- **General Education** – A program of education intended to develop students as personalities rather than trained specialists and to transmit a shared cultural heritage (Merriam-Webster, nd).
- **Program of Study** – A coordinated, non-duplicative sequence of academic and technical content at the secondary and postsecondary levels (Advance CTE, 2023).

### **Research Questions**

This qualitative case study explores how the IHSM Grant enabled one school district to reimagine high school college and career readiness programming. Administrators' experiences implementing these changes and the perceived value of these changes are examined. Data from the following research questions were analyzed to understand the impact comprehensively.

1. How do high school and postsecondary administrators and teachers integrate college and career readiness aspects into CTE pathways?
2. What is the perceived value of these changes?
3. Based on the perceived impact, what do participants see as the next steps to expand college and career readiness programming in CTE pathways?

### **Significance of the Study**

This research can potentially impact the development of new educational models that blend secondary and postsecondary education expectations. By examining how one high school transformed the traditional high school environment through enhanced college and career readiness efforts, the positives and negatives experienced through implementation may be used to inform best practices and improve programming in the future. Most importantly, this study will provide administrators with information to use as they replicate and scale similar innovative models at other institutions.

This study examines how coordinated secondary and postsecondary partnerships enhance career and technical education and impact student success, graduation, and college enrollment. The study's results could influence how postsecondary institutions partner with secondary education in administering dual enrollment programs by encouraging college administrators to reexamine entrance requirements, course sequences, and program supports to ensure the program is inclusive for all students. The findings of this study could result in policy changes that would make it more feasible for all high school students to have increased access to EPSOs by highlighting the barriers that one institution addressed when given the resources and support to reimagine time, space, and modes of learning in the high school environment.

### **Theoretical Framework**

This study used Victor Vroom's expectancy value theory as the theoretical framework for analysis. This theory informed the research's methodology, methods, data analysis, and interpretation. As a process theory that explains how motivation occurs, what factors influence motivation, and what relationship exists between those factors, expectancy value theory is highly applicable to this study (Vroom, 1964). Specifically, this theory helped determine how the IHSM

Grant impacted college and career readiness programming and how this funding motivates more widespread changes to improve secondary to postsecondary student transitions.

Expectancy value theory is typically applied to workplace scenarios to explain the motivating factors that result in behavior changes. Past research has applied it to goal setting, organizational culture development, and performance evaluation, which are all relevant areas for this research (Isaac et al., 2001). Within this study, the IHSM Grant was initiated to improve students' college and career readiness. This study evaluated how this grant impacted programming that directly affected school culture and student performance.

Vroom's (1964) theory posits that motivation is the culmination of three interconnected factors: expectancy, instrumentality, and valence. This study examines how these factors impacted motivation and behavior by analyzing the changes made possible through the IHSM Grant. By gaining a deeper understanding of motivation through the lens of expectancy value theory, the research provides insight into the short-term impact of this funding and how this investment might affect long-term systemic change in college and career readiness programming within CTE pathways.

### **Assumptions**

The researcher approached this study with several assumptions, primarily about the participants for the case study. First, it was assumed that the participants were involved in implementing the IHSM Grant, whether at the secondary level or as a partner at a postsecondary institution. Secondly, the researcher assumed that participants were willing and able to answer questions and express their experiences implementing the IHSM Grant. Additionally, it was assumed that participants' expressions provided accurate and relevant information to the study.

Lastly, the researcher assumed that the participants were engaging in the interview process of their own free will and that all information shared was thorough and honest.

### **Limitations**

The researcher recognized that this study examines administrators' experiences utilizing grant money to transform high schools in one school district. While the information gathered may apply to other school districts, regions, and student demographics, the findings will only reflect the experiences of some administrators. The research findings will not result in statistical generalization or a particular analysis. However, the findings will enable the researcher to develop generalizable findings that apply to theoretical propositions (Yin, 2009).

### **Delimitations**

Because of the methodology and intent of this research, the researcher limited the study's scope to participants actively implementing the IHSM Grant at one school district. By focusing the study on how one district implemented the grant, a more thorough understanding of this program was gained, which aligns with the purpose of a case study methodology. The individuals participating in this research were purposely selected based on their role in supporting and administering the IHSM Grant at the chosen district.

### **Research Design**

This study utilizes a single case study design. A case study methodology was selected because it allows the research to retain the holistic and meaningful characteristics of lived experiences. Since the study sought to discover how personnel utilized grant funds to integrate college and career readiness programming into career and technical education and how those changes impacted the school environment and future planning, the case study was designed to be explanatory (Yin, 2009).

One benefit of a case study methodology is its ability to use various evidence, including documents, artifacts, interviews, and observations (Yin, 2009). The researcher relied on interviews and documents to gather data. Eight semi-structured interviews were conducted with secondary and postsecondary administrators and teachers involved in implementing the IHSM Grant. Interview questions were chosen to inform each research question guiding the study. The researcher also examined documents relevant to the grant goals and outcomes, as well as documentation detailing existing and future college and career readiness programming and student participation. These documents informed the study and interview data collection further. A thematic analysis used coding and pattern matching to determine the data findings. Chapter three describes the research design and methodology in more detail.

### **Study Overview**

This chapter provided an overview of the study, beginning with an introduction and background. The study's purpose, the problem, and critical conceptual definitions were shared to aid the reader's understanding. The researcher presented the study's three research questions and provided an overview of the potential significance of the study, along with an overview of the theoretical perspective that served as the framework for analysis. Assumptions, limitations, and delimitations for the study were then explained, and finally, the researcher provided an overview of the research design.

Chapter two consists of a thorough review of the literature relevant to the study. Victor Vroom's (1964) expectancy value theory is explained, and details are provided for how this theory informed and guided the research. After examining the theoretical framework, a literature review of the historical background of career and technical education on a national and state level is provided. The researcher also provides current federal and state initiatives and legislation

to support college and career readiness efforts, as well as the background and purpose of the IHSM Grant. Various models of EPSOs and relevant research relating to transforming high school and postsecondary education are also explored.

Chapter three outlines the methodology of the single case study design. The research design is addressed, including details for the research site, participants, and the questions guiding the study. Data collection methods for the case study are shared, as well as data analysis efforts to ensure data reliability, positionality, and trustworthiness.

Chapter four presents the study's findings, and chapter five presents the theoretical implications, opportunities for future research, and conclusions.

### **Summary**

To meet current and future labor market demands, educational leaders must rethink how education is structured to develop new systems to increase positive student educational outcomes. Community and technical colleges prepare the mid-skilled workforce, which accounts for most jobs in today's economy. Unfortunately, the demand for technical expertise exceeds the number of individuals trained to fulfill the need. High school students will play a critical role in the economy's success, and many of these students are not successfully transitioning to postsecondary education after graduation. With mid-skilled jobs becoming increasingly complex, technical training is necessary to obtain the skills needed to enter the workforce. Both secondary and postsecondary educational institutions are thinking creatively and developing new approaches to enable students to complete the needed credentials to fill the existing labor market gaps. The IHSM Grant is one example of an initiative to engage high school students and place them on a postsecondary track leading to a career. Studying the insights and ideas gained from



educational administrators responsible for administering this grant is vital in determining how to implement, refine, and expand college and career readiness programming in the future.

## Chapter Two

### Review of Literature

Community and technical colleges are the nation's leading providers of education and training to meet current and future workforce needs (Bragg, 2001). Today, these institutions prepare the nation's mid-skilled workforce, which accounts for three-fourths of all employees in the United States (Roueche et al., 2008, p. 20) (Bragg, 2001). America's globalized and technologically advanced economy demands that these mid-skilled workers have more educational credentials, technical skills, creative capabilities, and problem-solving abilities than in the past (Roueche et al., 2008).

There is an increasing demand for a pipeline of skilled workers, with estimates that 65% of jobs in the United States require some postsecondary education (Sublett & Tovar, 2021). Over half of the jobs that are considered high-demand and high-wage require some postsecondary education, but not to the extent of a 4-year bachelor's degree, which further supports the need for students to be steered into career and technical education (CTE) programs that prepare them for these jobs (Sublett & Tovar, 2021). The American workforce is facing a shortage of as many as 2 million vocationally trained workers, so it is critical that educational institutions be innovative in their development and delivery of technical education (Stockard, 2019).

To meet these emerging needs, community and technical colleges are in the challenging position of reinventing educational norms (Roueche et al., 2008). According to Sublett and Tovar (2021), there is a national movement toward college and career readiness, and this has perpetuated an increased emphasis on skill-based forms of learning and tighter secondary pipelines. While community and technical colleges are particularly suited to provide training to assist with local labor shortages, this comes with challenges regarding funding limitations,

program restrictions, and CTE misperceptions (Sublett & Tovar, 2021). As community and technical colleges have expanded their mission to include leading efforts to address workforce, economic, and community needs, these institutions have adopted dynamic educational models based on comprehensive curriculum and programming, continuing education, learner-centered instruction, and work-based learning (Bragg, 2001).

With that, a fundamental piece of that mission has become forging partnerships between secondary and postsecondary education. Collaboration between high schools and colleges is the new expectation to prepare students early for success in a competitive, globalized economy. In recent years, high school and college administrators have transformed CTE programs in high schools by incorporating a diverse array of early postsecondary opportunities (EPSOs) into the curricula to help all students become college and workforce-ready. These innovative additions to CTE education have become models of success for students from all academic backgrounds and socioeconomic statuses. By tapping into students' potential through career-focused EPSOs, colleges are transforming students' educational and career pathways and overcoming systemic barriers. This study will focus specifically on how one school district has used grant funding to leverage postsecondary partnerships that promote college readiness and transform career and technical education at the high school level.

### **Jobs for the Future's "The Big Blur"**

In June 2021, Jobs for the Future (JFF), a national nonprofit organization focused on driving transformation in the American workforce and education systems, released a report titled "The Big Blur." The report advocates reinventing high school and erasing the boundaries between secondary education, postsecondary education, and career. According to their research, the most significant structural barrier to increasing college completion rates and career success is

the disconnect between high school, higher education, and workforce systems. A radical restructuring of the last two years of high school and the first two years of college is deemed necessary by the researchers to overcome that barrier.

The study shares a survey in which 84% of high school students report wanting to go to college, but only 68% expect they will be able to enroll (Jobs for the Future, 2021). While programs are designed to address numerous barriers for students transitioning from high school to college, JFF calls for a new model: an institution specifically designed to serve high school juniors through college sophomores or grades 11 through 14. The key difference of this institution is that it would provide students with a guided pathway from the beginning of 11th grade through college graduation.

According to JFF (2021), the initial focus of academics in this new model should be on imparting knowledge of skills, credentials, and educational opportunities to meet regional industry needs and utilizing foundational coursework in grades 11 and 12, entwined with more specific education and training offered by a community college. Sequences of work-based learning that evolve from career exploration to on-the-job experiences should be embedded throughout students' education at the institution. By the end of grade 14, students would earn either a postsecondary occupational certificate or associate degree at no charge, [preparing them to enter the workforce or continue their postsecondary education directly. If the first two years of college, or grades 13 and 14, are free, JFF explains that there would no longer be a need for the first two years of college to be separated from the last two years of high school. Combining these critical educational periods under the same institution would give students the crucial support necessary for success. More integrated and efficient dual enrollment processes would benefit high schools and colleges. This new model would also better position students to pursue a

bachelor's degree, as they would achieve their first postsecondary milestone and be more prepared to make informed decisions as 20-year-olds.

JFF explains that while many states are innovating and making progress in easing the transition from high school to college, no states are currently implementing and scaling an approach that combines the four key features that JFF believes are critical for widespread success.

1. **Incentives:** New ways of learning and support systems across grades 11-14 are held accountable for outcomes and funding is used intentionally for systems serving students in these grades.
2. **Alignment:** Systems are aligned so that students in grade 11 enter new institutional structures that combine high school and college requirements and enable students to progress on guided career pathways informed by labor market data.
3. **Governance:** A state cabinet-level team with decision-making authority oversees and ensures funding and policy development for unified grades 11 through 14 institutional structures.
4. **Staffing:** Staffing structures are designed to enable specially trained educators and administrators to implement learning and work experiences, as well as supportive services, for students grades 11 through 14 (Jobs for the Future, 2021).

### **Historical Background of Career and Technical Education (CTE)**

Vocational education was the term used in the first federal legislation authorizing secondary vocational education programs in the early twentieth century under the Smith-Hughes Act of 1917 (Bragg, 2001, p. 7). Vocational education has evolved over the years and has been classified under many terms. However, for this study, it will be used to refer to career and technical education. Overall, career and technical education's primary purpose is to provide education and training that prepares individuals for skills-based work (Bragg, 2001). Workforce preparation, workforce development, and economic development are standard terms associated with career and technical education (Bragg, 2001).

During the early years of community colleges' formation, university parallel programs were central to their purpose, accounting for 60-70% of total enrollment (McGrath & Spear, 1991). Transfer to universities was a priority in these programs, and the percentage of students who transferred was a major success indicator for community colleges during that time (McGrath & Spear, 1991). During the 1960s, community colleges transitioned into a "junior college" phase, expanding their educational scope to include vocational pathways, which were then perceived as terminal degrees (McGrath & Spear, 1991). The community college clearly distinguished these vocational programs from the traditionally offered university parallel programs (McGrath & Spear, 1991).

As time passed and the role of the community college evolved, there was less emphasis on university parallel education and a shift towards prioritizing vocational education to meet the needs of local employers (Bragg, 2001). The passage of the Carl D. Perkins Vocational and Technology Education Act of 1998 marked the beginning of the tech prep program, highlighting the integration of academic and vocational coursework into applied curricula (Dare, 2001). For decades, educators' understanding of intelligence and ability has promoted inequities in educational opportunities (Dare, 2001). Unfortunately, these misconceptions plagued career and technical education, leading to the view that it was an educational pathway less important than the university parallel pathway (Dare, 2001). As the economy has changed, that misconception has subsided, given that over half of jobs considered high-demand and high-wage, today do not require a full 4-year bachelor's degree (Sublett & Tovar, 2021).

With this substantial shift in focus, community colleges have adopted new techniques and strategies to prepare these students for today's economy. New vocationalism is one evolution in CTE and includes a few core components that have remained consistent in technical education in

recent decades. These components include merging transfer and terminal curricula, developing articulation agreements at multiple levels, and infusing a lifelong perspective in workforce development (Summers, 2001). New vocationalism also emphasizes career pathways that extend from the entry-level to the professional level in career fields integral to the new economy (Bragg, 2001).

The changing nature of the workplace has spurred this evolution. Bragg (2001) explains that modern work requires students to integrate academic and technical concepts to solve real-world problems, necessitating a similar framework for curriculum and instruction to prepare successful employees. In response, many institutions offer general education programs with a specific connection to vocationally oriented courses (Townsend, 2001). Community colleges are striving to keep their academic programs relevant by implementing strategies such as combining academic and occupational content, offering interdisciplinary or multidisciplinary courses, establishing learning cohorts or communities, implementing work-based learning opportunities, and allowing competency-based assessment (Dare, 2001). These trends seek to meet the needs of the diverse group of learners who make up the community college student population by developing a curriculum that addresses multiple intelligences and abilities (Dare, 2001).

One central tenet of new vocationalism is a pathways approach to education. CTE preparation includes a continuum from the general to the specific, starting with career exploration at the secondary level and moving on to include occupationally specific education at the postsecondary level (Bragg, 2001). Industry should be entwined with learning concepts so students learn how occupations are organized and related (Bragg, 2001). Integrated academic and vocational curricula, beginning at the high school level and continuing throughout a student's education, are important facets of new vocationalism. Career academies, youth apprenticeships,

and middle colleges are a few ways that secondary and postsecondary education have partnered to create linked educational and career pathways (Bragg, 2001).

In previous years, there was an expectation that CTE would only offer terminal degree programs, preparing students for immediate entry into the workforce (Townsend, 2001). More recently, however, researchers have found that students with a degree in a vocational area transfer to universities in equal or even greater numbers than students with traditional transfer degrees (Townsend, 2001). This discovery has led community colleges to revisit what makes a successful transfer function (McGrath & Spear, 1991). Today, the success of a transfer student, whether they are on a career path or a university parallel path, is dependent less on the specific courses a student takes and more on a student's performance in the classroom and the fit between the academic culture of the community college and the university (McGrath & Spear, 1991).

Additionally, the benefits of a community college education that leads to an associate degree or postsecondary certification are becoming increasingly apparent (Sublett & Tovar, 2021). The previously common belief that bachelor's degrees and graduate degrees are the primary route to securing a well-paying job is misleading, as well-paying jobs requiring Associate-degree level education become more commonplace (Sublett & Tovar, 2021).

In the classroom, new vocationalism encourages the use of learner-centered instruction that is project-based and interactive to make course content relevant to the workplace (Bragg, 2001). These practices seek to have learners understand knowledge rather than just retain it. The theory of multiple intelligences has influenced these instructional strategies. The theory of multiple intelligences emphasizes demonstrating an understanding of concepts through applied performance rather than ritualistic and memorized performance. This theory also advocates for a more holistic view of individuals' abilities based on various skills and aptitudes rather than



viewing individuals' abilities based on singular, intellectual measures. Putting this theory into practice in the classroom means that teachers must allow students to apply concepts and develop an understanding of the interactive relationships between abstract ideas and practical applications within a real-world context (Dare, 2001).

### **CTE in Tennessee**

In Tennessee specifically, the term career and technical education (CTE) is defined as

“The rigorous academic, technical, and employability skills or content that is taught through career-focused standards and courses in grades K-12 and postsecondary which prepare learners for advanced education, training, and employment in aligned occupations and careers (Tennessee Department of Education, 2020, p 6).

The state organizes CTE programming into 16 major industry sectors or “career clusters,” further refined into specific programs of study or career pathways at the school level. Students’ exposure to CTE pathways begins in early and middle grades. In high school, the focus becomes more concentrated as secondary CTE programs of study are designed to provide a strong foundation that prepares students to enter an aligned career field or continue postsecondary education. Higher education institutions provide CTE programming that offers the credentials and skills needed to meet the workforce needs of Tennessee industry (Tennessee Department of Education, 2020).

In 2020, 42% of Tennessee PK-12 students concentrated in a career and technical program of study (Tennessee Department of Education, 2020). CTE programs have been a catalyst in mitigating barriers for students from low socioeconomic backgrounds by exposing them early in their education to programs in skilled and mechanical sciences, health science, business, and information technology (Michaels & Barone, 2020). Specifically, 64% of high school CTE concentrator graduates enrolled in postsecondary education, a 9% increase over eight years (Tennessee Department of Education, 2020). Of all the secondary and postsecondary

Tennessee students enrolled in a CTE program of study, 72% successfully entered the workforce after graduation or enrolled in more advanced training (Tennessee Department of Education, 2020).

### **College and Career Readiness**

Secondary and postsecondary educational institutions have made college and career readiness efforts a major priority in recent years under the guidance of strategic plans and policies at the state and federal levels of government. Federal initiatives and legislation are in place to promote college and career readiness among the nation's youth. Most recently, the federal government announced the Raise the Bar: Unlocking Career Success initiative, which directly aligns with the mission of the IHSM Grant program by promoting the expansion of career counseling, work-based learning, and early postsecondary opportunities to provide high school students with a seamless transition to college and career (U.S. Department of Education, 2022). At a state level, the Tennessee Higher Education Commission (THEC) and the Tennessee Department of Education (TDOE) have made college and career readiness efforts key pieces in funding formulas and strategic planning, signaling the state's long-term commitment to making progress in this area for students.

#### **Initiatives**

##### ***Federal***

**Raise the Bar: Unlocking Career Success.** In November 2022, the Biden-Harris administration announced a new interagency initiative that reimagines how high schools in the United States prepare students for future careers. The initiative is a cooperative effort between the U.S. Departments of Education, Labor, and Commerce to provide students with accelerated and innovative opportunities to earn college credits and gain real-world career experiences

during high school. The initiative was formed to address the critical need to increase the percentage of the population with a postsecondary credential. To meet this demand, redesigning the education and workforce systems is necessary to provide seamless career pathways that equip high school students with four key elements: career navigation, work-based learning, industry credentials, and dual enrollment (U.S. Department of Education, 2022). Specifically, the initiative envisions that by 2030, all students graduating from high school will have:

- Received individualized career guidance informed by labor market data and geared toward future planning.
- Engaged in paid work-based learning experiences.
- Earned at least one relevant industry credential.
- Earned at least 12 college credits through early postsecondary opportunities (U.S. Department of Education, 2022).

### *State*

**Tennessee Higher Education Performance Funding.** At a departmental level, the Tennessee Higher Education Commission (THEC) and the Tennessee Department of Education (TDOE) have made college and career readiness efforts key in funding formulas and strategic planning. THEC is the state's higher education coordinating board, responsible for developing the state's master plan for higher education, approving academic programs, and administering the outcomes-based funding formula (Tennessee Higher Education Commission, 2022).

Outcomes-based funding ties state funding for higher education to the institutions' performance of specific metrics (Ness et al., nd). When the Complete College Tennessee Act was signed into law, making outcomes-based funding a requirement for Tennessee institutions in 2010, THEC was the board tasked with determining the metrics on which to base the funding (Ness et al., n.d.). For community colleges specifically, dual enrollment, job placements, and workforce training are key metrics used when enacting program prioritization and state funding appropriations (The Education Trust, 2022). Likewise, student readiness is central to TDOE's

Best for All Strategic plan, which defines success as increasing the number of students who, two years after high school graduation, are meeting key attainment milestones of persisting in postsecondary education and earning a postsecondary degree or certificate (Tennessee Department of Education, n.d.-a). In addition to the intrinsic value and potential economic impact of college and career readiness initiatives, secondary and postsecondary educational institutions also have monetary and programmatic incentives to advance these efforts.

### ***Ready Graduate Indicator***

As required by the federal Every Student Succeeds Act (ESSA), Tennessee developed the Ready Graduate indicator as one of its methods to measure school quality and student success (Tennessee Department of Education, n.d.-b). The indicator is designed to measure the percentage of students who earn a diploma from a Tennessee high school and meet criteria that demonstrate college and career readiness. Districts are recognized and rewarded based on the number of graduates considered Ready Graduates.

A district's Ready Graduate Indicator is calculated by dividing the number of on-time graduates meeting the Ready Graduate criteria by the total number of students in the district's graduating class. Students are considered Ready Graduates if they meet at least one of the following four criteria:

1. Score of 21 or higher on ACT (or 1060 or higher on the SAT); or
2. Complete 4 EPSOs, or
3. Complete 2 EPSOS and earn an industry credential; or
4. Complete 2 EPSOS and earn a score of military readiness on ASVAB AFQT.

The Tennessee Department of Education recognizes eight types of EPSOs for the Ready Graduate indicator: Advanced Placement (AP), Cambridge International Examinations (Cambridge), College Level Examination Program (CLEP), Dual Enrollment (DE), International Baccalaureate (IB), Local Dual Credit (LDC), Statewide Dual Credit (SDC), and department-

promoted industry credentials (ICs). A student must complete the EPSO to be counted toward the indicator, meaning they must finish the dual enrollment course or sit for the appropriate examination to award college credit. For industry credential credit, the department has developed a list of credentials that are eligible to be counted. Students must complete all testing and licensing requirements (Tennessee Department of Education Data and Strategy Department, 2021). The Ready Graduate Indicator sets accountability measures for districts to encourage all students to participate in activities that enhance college and career readiness.

## **Legislation**

### ***Federal***

**Carl D. Perkins Act.** In 2018, the Strengthening Career and Technical Education for the 21st Century Act, also known as Perkins V, was signed into law, providing nearly \$1.3 billion in annual federal funding to support CTE education for both youth and adults in the United States (Tennessee Department of Education, 2020). The overarching goal of the legislation is to ensure that education and training programs are meeting the needs of the modern economy by supporting programs that improve students' employability (Sublett & Tovar, 2021). Major components of this legislation include expanding CTE education through enhanced K-12, postsecondary, and business and industry partnerships, promoting innovative practices in career exploration and academic counseling, and increasing special populations classifications for targeted recruitment and support in CTE programs. New specifications in the legislation include a requirement that CTE be an accessible pathway for all learners and integrate both academic knowledge as well as the application of technical and employability skills (Tennessee Department of Education, 2020).

### ***State***

**Drive to 55: Tennessee Promise.** Aligning with federal legislation is state policy that further supports the mission to prepare students for college and career success. In Tennessee specifically, former Governor Bill Haslam launched the “Drive to 55” effort in 2013 to increase the percentage of Tennessee residents with a postsecondary credential from 32 percent to 55 percent by 2025. The initiative was in response to research that showed the state was not on track to meet the projected workforce demands of having at least 55 percent of Tennessee residents with a college credential or certificate by 2025 (Governor Bill Haslam Launches Drive to 55 Initiative, 2013). The most notable accomplishment to come out of this initiative is the Tennessee Promise Scholarship, which was established in 2015 and enables all high school seniors who fulfill mentorship and community service requirements to receive a scholarship that covers tuition and fees to complete up to an associate degree from a public higher education institution in the state (*Email FAQs & Responses*, nd).

**Governor’s Initiative for Vocational Education (GIVE).** More recently, Governor Bill Lee announced the Governor’s Investment in Vocational Education (GIVE) Initiative to support further efforts to increase postsecondary certificate and degree attainment in 2019. The GIVE Initiative was a two-pronged approach explicitly designed to expand Tennessee students’ vocational and technical training access. In addition to awarding community colleges and Tennessee Colleges of Applied Technology (TCATs) competitive grants to develop regional partnerships that promote work-based learning opportunities, it also provided funding for high school juniors and seniors to enroll in four fully funded dual enrollment courses in trade and technical programs (State of Tennessee, 2019). The Tennessee Dual Enrollment Grant (DEG) later supported these fully funded dual enrollment courses (Tennessee Student Assistance Corporation, 2023).

**Tennessee Dual Enrollment Grant.** The Tennessee Dual Enrollment Grant is a program funded by the net proceeds of the Tennessee Lottery and administered by the Tennessee Student Assistance Corporation. It provides financial assistance to Tennessee high school students enrolled in college courses for credit at eligible postsecondary institutions. Students may receive grants that cover their tuition and fees for up to five dual enrollment classes worth up to six college credit hours each. Students taking more than five dual enrollment classes may be eligible to receive grants of up to \$100 per credit hour for up to five additional courses. To be eligible to receive the dual enrollment grant for future semesters, students must maintain at least a 2.0 college grade point average (GPA) (Tennessee Student Assistance Corporation, 2023). The Tennessee Dual Enrollment Grant enables high school students from all socioeconomic backgrounds to earn college credit at low or no cost in high school long before they are eligible for federal financial aid opportunities.

**Tennessee Investment in Student Achievement (TISA).** In April 2022, the Tennessee General Assembly passed the Tennessee Investment in Student Achievement (TISA) Act. This Act is a shift to a student-based funding approach and the first update in 30 years to how the state of Tennessee funds public K-12 education (Friedman et al., 2022). The new funding formula will provide a base funding amount for every public school student and additional weighted funding, direct funding, and outcome incentives based on student needs, priority areas, and student achievement milestones. Most importantly, TISA will invest an additional \$1 billion in recurring state funding for education (Funding for Success, 2022). The state has budgeted over \$500 million of that funding to expand Innovative School Models into every high school and middle school (Lee, nd). This significant investment to expand the IHSM program statewide makes

further research into the best practices identified and implemented within the pilot timely and essential.

### **Innovative High School Models Grant Overview**

In March 2021, the state announced the IHSM Grant to promote college and career readiness among Tennessee high school students. The program was made possible through federal Elementary and Secondary School Emergency Relief Fund (ESSER) funding that originated to address and mitigate educational hardships resulting from the COVID-19 pandemic. Thirty million dollars was invested into the IHSM Grant to allow selected school districts to transform the traditional high school model by reimagining and incorporating new uses of time, space, and learning modes (Tennessee Department of Education, 2021-b).

Strong and strategic partnerships between Tennessee public school districts, postsecondary education institutions, and local employers are a cornerstone of the initiative. These partnerships emphasized increasing early postsecondary opportunities (EPSOs), work-based learning (WBL), industry credential attainment, high-quality CTE, and advising, with the understanding that these components would better prepare students for future college and career success. With new resources and support, the goal was to empower local communities to boost student readiness and accelerate and increase student attainment of high-quality, in-demand postsecondary credentials. Seamless vertical alignment between K-12, postsecondary programs, and career opportunities is a desired outcome of the initiative (Tennessee Department of Education, 2021-b).

### **Higher Education Partnerships**

#### ***Dual Enrollment***



In 2020, 72% of PK-12 Local Educational Agencies (LEAs) in Tennessee offered students at least four types of early postsecondary opportunities (Tennessee Department of Education, 2020). This study will focus primarily on the early postsecondary opportunity most referred to as dual enrollment. Tennessee is one of many states with dual/concurrent policies (Education Commission of the States, 2021). Most policies focus on providing opportunities for high-achieving students and base student eligibility on high school GPA and college readiness test scores (Jones, 2017). These policies can limit dual enrollment to students performing at the highest academic levels (Bailey et al., 2004). However, recent research has shown that middle-achieving high school students, whose grades or assessments fall just below college readiness measures, also experience great success and benefits from participating in dual enrollment coursework (Zinth & Barnett, 2018). This understanding has been a catalyst, leading many states to seek ways to expand dual enrollment to a broader range of learners, as expanded dual enrollment has displayed a positive correlation between participation and future postsecondary enrollment and workforce readiness (Zinth & Barnett, 2018). Educators and policymakers now suggest that a broader range of students could benefit from dual enrollment under the premise that students will achieve at higher levels if only challenged to do so (Bailey et al., 2004).

Dual enrollment differs from other EPSOs in that it offers an “authentic learning experience through courses or programs in the high school student’s chosen field (Adcock & Surface, 2019, p. 40).” Although a student is still in high school when taking part in dual enrollment, they are still treated as a college student and receive academic credit and student support and services from their high school and the postsecondary institution they attend. In addition to providing students with a head start on earning college credit, dual enrollment courses and programs help socialize students in the college environment, easing the transition of

high school students to a postsecondary environment. At the same time, they still have secondary education support in place. This makes dual enrollment incredibly effective in aiding college and career readiness, as students know the differing expectations between secondary and postsecondary education. Dual enrollment courses often bridge the gap by keeping students engaged in a field of study of their interest as their high school career winds down. In addition to the sociological benefits, dual enrollment accelerates degree completion (Adcock & Surface, 2019).

These quantifiable economic benefits to dual enrollment are often at the root of state policy relating to dual enrollment (Duncheon & Hornbeck, 2023). While these benefits are positive markers to scale these programs, a growing body of research suggests that participation in dual enrollment is often inequitable across race and class. There are also concerns related to the quality and content of dual enrollment courses, comparing the rigor is for dual enrollment courses to the level of rigor expected in traditional college courses. Duncheon & Hornbeck (2023) argue that more attention should be placed on teaching, learning, and equity in dual enrollment to maximize its benefits for students. Better understanding which students are benefitting from dual enrollment, and what those students are learning inside the classroom, would make efforts to improve dual enrollment more effective (Duncheon & Hornbeck, 2023).

Data shows that 84 percent of high school students intend to go to college (Jobs for the Future, 2021). However, only 38 percent of students actually enrolled in college following high school graduation in 2021 (National Center for Educational Statistics, 2023). Of those students, only 62.2 percent earn a degree within six years (National Student Clearinghouse Research Center, 2023). Researchers have previously determined that these stark statistics are due, in part, to high school students' inability to successfully transition from academic expectations in high

school to college. Introducing students to rigorous college-level coursework while in high school through dual enrollment is one possible solution, enabling students to understand college-level rigor better while still being in a supportive high school environment (Bailey et al., 2004).

Early colleges and career academies are proven models that engage students in learning and help students transition from secondary to postsecondary education. Incorporating these models into the high school environment is one key strategy for increasing the number of students who ultimately earn an in-demand workforce certificate or credential. Educators and policymakers must know the best practices in education and are working to implement similar programs in as many districts as possible. The demand for an increasingly educated and skilled workforce is growing, and secondary and postsecondary educational institutions must work toward implementing programming that promotes a college-going environment and academic success for all students.

**Models: Early College.** Early colleges are high schools designed to blend high school and college, allowing students to earn up to 60 college credits or an associate degree by the time they graduate (Imperatore, 2015). Vargas and Miller (2011) explain that early college models are a college-readiness strategy for school districts to reach more traditionally underserved students. Early colleges are also a way for schools to achieve equity and college access for students (Zalaznick, 2015) by helping students become accustomed to college-level expectations while still being in a more supportive high school environment (DiMaria, 2013).

Early colleges are structured in several ways, but each has the same mission: “Increase college course completion and enhance career pathways to prepare students for postsecondary success” (Vargas & Miller, 2011). These unique high schools’ overarching goal is to have all students graduate prepared for the next step, whether to continue their college degree or proceed

to the workforce with college-level technical skills (Vargas & Miller, 2011). Focusing on career pathways makes school relevant and aligns secondary education with postsecondary expectations (Vargas & Miller, 2011). Supporters of early college high school believe that engaging students early in college-level curriculum will incentivize them to continue their postsecondary education beyond high school (American Institutes for Research, 2013).

**Origins.** The Bill and Melinda Gates Foundation launched the Early College High School Initiative (ECHSI) in 2002 to increase opportunities for underserved students to earn a postsecondary credential. ECHSI provided institutions with funding for developing early college high schools (American Institutes for Research, 2013). The first three early college high schools opened in 2002 in New York and California (Vargas & Miller, 2011). Today, there are over 1,000 early colleges across the country (American Institutes for Research, 2024).

**Principles and Framework.** Early college high schools are different in that they offer students the opportunity to complete multiple dual enrollment courses through established course sequences, resulting in a more comprehensive experience (American Institutes for Research, 2013). The Early College High School Initiative outlined five core principles that early colleges follow:

1. Early college schools are committed to serving students underrepresented in higher education.”
2. Early college schools are created and sustained by a local education agency, a higher education institution, and the community, all of whom are jointly accountable for student success.”
3. Early college schools and their higher education partners and community jointly develop an integrated academic program so all students earn one to two years of transferable college credit leading to college completion.
4. Early college schools engage all students in a comprehensive support system that develops academic and social skills as well as the behaviors and conditions necessary for college completion.
5. “Early college schools and their higher education and community partners work with intermediaries to create conditions and advocate for supportive policies that advance the early college movement (American Institutes for Research, 2013, p. 2).

In addition to the core principles, the ECHSI emphasizes “rigor, relevance, and relationships” (American Institutes for Research, 2013, p. 3). Rigorous instruction is designed to build students’ content knowledge and teach them learning habits that will enable them to succeed in college-level coursework. Early college high schools also focus on maintaining relevance by helping students understand why they are learning about a topic and how it connects to their world. Lastly, building and maintaining strong relationships between instructors and students is critical to the ECHSI to improve student engagement and achievement. All the tenets of the ECHSI are proven methods that improve students’ access to and success in college (American Institutes for Research, 2013).

School districts implementing early college high schools often develop a common instructional framework. Jobs for the Future and the University Park Campus School in Worcester, Massachusetts, developed an instructional framework that many early college high schools around the country adopted (Vargas & Miller, 2011). The framework consists of the following elements:

1. Collaborative group work creates an engaging classroom culture in which students with diverse skill levels are supported and challenged by their peers.
2. Writing to learn helps students, including English language learners, develop their ideas, critical thinking and fluency of expression in all subjects.
3. Literacy groups help build comprehension, fluency and higher-level discourse across a variety of texts in different disciplines.
4. Questioning challenges students and teachers to use deep, probing questions to foster purposeful conversations and stimulate intellectual inquiry.
5. Classroom talk encourages all students to develop their thinking, listening and speaking skills, and promotes active learning.
6. Scaffolding encompasses a broad range of techniques that help students connect prior knowledge to challenging new concepts (Vargas & Miller, 2011).

**Outcomes.** Postsecondary success is the overarching goal of the Early College High School Initiative (American Institutes for Research, 2013). In 2010-2011, early college high

schools nationwide boasted a median four-year graduation rate of 93%, compared with 76% for their comparison school districts (DiMaria, 2013). Of all students graduating from early college high schools, 93% earned at least some college credits, and over half, 56%, earned two or more years of college credit (DiMaria, 2013).

In addition to excellent graduation and credit attainment outcomes, early college high schools have improved equity and access among all students. A study of the North Carolina early college high schools conducted by the SERVE Center at the University of North Carolina-Greensboro found that gaps in college-prep course enrollment and success between minority and nonminority students were closing (Vargas & Miller, 2011). SRI International concluded that early college students in Texas are two times more likely to pass state exams in all four core subject areas than peers at comparison schools (Vargas & Miller, 2011). Another study with a sample from ten early college high schools found that students enrolled in an early college high school were much more likely to enroll in college and earn a degree than students who did not attend an early college high school. These results did not differ by “gender, race/ethnicity, family income, first-generation college-going status, or pre-high-school achievement,” and research even showed that the positive impact was more significant for minority students and low-income students in comparison to their non-minority and higher income peers (Early College Credit, 2014).

A primary barrier to developing more early college high schools is funding for credit-bearing college courses (Botstein, 2014). Most states that have been able to implement successful early college high school models have identified local funding sources since there is currently no federal funding stream to support early colleges (Botstein, 2014). Early college supporters are encouraging policymakers to allow Pell Grants to go to early colleges on behalf of

eligible students to sustain and encourage more school districts, colleges, and universities to implement these programs (Botstein, 2014). Additional barriers to scaling early college include the significant human resources needed to align curriculum across K-12 schools and higher education and ensure students complete applications for aid and admission (Jobs for the Future, 2021).

Given the results, however, it is no surprise that early college high schools continue to grow nationwide despite the funding obstacles that must be overcome (Zalaznick, 2015, p. 46). As cited in Zalaznick (2015), Chery Wagonlander, director of the Michigan Early/Middle College Association, expressed that this educational model is a proven “way to have all students receive true college readiness” (p. 46).

**Models: Career Academies.** Career academies have the same overarching mission as early college high schools, with both educational models seeking to prepare high school students for academic and workforce success by integrating postsecondary opportunities and career exploration into a focused program of study. Career academies often differ from early college high schools in how courses and programs are structured to meet these goals. Coffee and Pestridge (2001) define career academies as “schools within schools that link students with peers, teachers, and community partners in a disciplined environment, fostering academic success and mental and emotional health.” Students participating in career academies may have difficulty acclimating to the larger school environment. Instead, they need a smaller educational community to connect them to what they learn and their career aspirations (Coffee & Pestridge, 2001). Career academies typically integrate CTE courses, project-based learning, internships, and other activities organized around a particular career pathway to improve student engagement by linking schoolwork to local employment contexts (Hemelt et al., 2019).

Career academies help students prepare for college and career by empowering students to take greater leadership in future planning and offering a more experiential learning environment within the high school structure. Educational leaders and business partners determine a theme around which most career academies are centered. For example, the Metropolitan Nashville district has 42 unique career academies within 12 comprehensive high schools, ranging from the Energy and Power Distribution Academy at Maplewood High School to the Health Business Management Academy at Cane Ridge High School. Each academy has a team of dedicated teachers and administrators who take an interdisciplinary approach to academics to make coursework relevant to the student. Career academies promote a college-going environment by providing ample dual enrollment and work-based learning opportunities, as well as supportive relationships with peers and high school staff (Mosley & Flatt, 2014).

*Origins.* Career academies were first developed in 1969 in Philadelphia as a dropout prevention program (Phelps, 2006). The Office of Juvenile Justice and Delinquency Prevention (OJJDP) encouraged the development of academies to meet the educational needs of at-risk students and provide these students with alternatives to delinquency. These educational models were originally created to reduce drop-out rates and enable urban students to obtain meaningful occupational experiences (Coffee & Pestrige, 2001). Career academies have since evolved into a broader and more integrated approach for preparing high school students for society's educational and economic demands. The National Academy Foundation provided support to grow career academy programs in the 1980s (Stern, 2015). Due to the initiative's success, the Foundation now supports more than 600 academies throughout the United States (National Academy Foundation, 2024).



***Principles and Framework.*** Career academies have three main features that remain consistent throughout all models: small learning communities, college and career curricula, employer partnerships, and work-based learning (Phelps, 2006). Small learning communities are integral to the career academy model because they enable students to establish relationships with their peers and teachers for increased support and accountability. Typically, career academies are developed within existing high schools and consist of several dozen students enrolled in a themed program within a particular grade (Mosley & Flatt, 2014) (Phelps, 2006). Students enrolled in a career academy will typically take courses as part of a cohort, which allows designated teachers to develop cross-disciplinary projects that offer lessons and assignments integrating academic and technical content (Phelps, 2006).

Career academies are also geared toward preparing students for college and careers (Phelps, 2006). As mentioned, each career academy is organized around a career-related theme, such as health professions, engineering, or business (Phelps, 2006). Academic and vocational curricula are integrated into the model, providing students with both postsecondary and career options. Courses are designed to meet high school graduation and college entrance requirements, with many career academy students earning college credit in high school (Coffee & Pestrige, 2001). The academy model also encourages general education teachers to incorporate CTE themes in their instruction (Mosley & Flatt, 2014). Counseling units within career academies also emphasize that each student develops a postsecondary plan (Coffee & Pestrige, 2001).

Partnerships with industry and work-based learning opportunities are also critical to a successful career academy. This feature of the career academy model helps students better understand career opportunities and build critical and relevant connections between school and work (Coffee & Pestrige, 2001). Employers fill many roles within career academies, including

curriculum advisors, co-teachers, mentors, and sponsors for work-based learning” (Stern, 2015).

Work-based learning is an essential component of this model as a relevant reinforcement for the value of what students are studying in school (Stern, 2015).

The following standards of practice have been adopted for career academies:

1. Defined mission and goals (simultaneously focus on college and career paths, raise student aspirations and commitment, and increase student achievement)
2. Academy structure (cross-grade articulation, cohort scheduling, etc.)
3. Host district and high school (administrative support, adequate funding and facilities, etc.)
4. Faculty and staff (teacher leader, credentialed teachers, supportive counselors, etc.)
5. Professional development (common planning time, teacher professional development, employee and parent orientation)
6. Governance and leadership (advisory board, healthy partnership, student voice, etc.)
7. Curriculum and instruction (meets external standards, rigorous learning that meets college entrance requirements, post-graduate planning, dual credit options, etc.)
8. Employer, Higher Education and Community Involvement (career theme fits local economy, work and community-based service learning, etc.)
9. Student assessment (student data collected, multiple academic measures are included, evidence of impact, etc.)
10. Cycle of improvement (academic implementation is examined, refinements are planned, etc.) (Phelps, 2006).

**Outcomes.** Early research showed that career academies reduce dropout rates by nearly one-third for at-risk students (Coffee & Pestrige, 2001). Additionally, students who participated in a career academy in high school also reported higher student satisfaction, better attendance, grade point averages, and more course credits earned (Phelps, 2006). Research also supported that students who enrolled in a career academy were also more likely to apply to college versus their peers not enrolled in a career academy (Coffee & Pestrige, 2001).

More recent research explores the social capital benefits students experience from attending a career academy (Lanford & Maruco, 2018). More concretely, career academies save students money because “early access to career exploration prevents students from wasting time in college in areas of study in which they are not truly interested” (Mosley & Flatt, 2014). Overall,

the student's earning potential increases, and these programs enhance the community's health because there is a more educated workforce (Mosley & Flatt, 2014).

### **Vroom's Expectancy Value Theory**

This study will use Victor Vroom's expectancy value theory to examine the college and career readiness programming one public school district implemented through the IHSM Grant, which ultimately contributed to the State's decision to provide additional investment to expand these efforts statewide. Vroom's theory applies to the study as it seeks to explain motivation, which Vroom (1964) defines as "a process governing choices made by persons or lower organisms among alternative forms of voluntary activities" (p. 6). Additionally, the theory applies to goal setting, organizational culture development, and performance evaluation (Isaac et al., 2001). Victor Vroom's expectancy value theory is classified as a process theory, meaning it explains how motivation occurs, what factors influence motivation, and what relationships exist between those factors (Lazar et al., 2013). It focuses on individual perceptions of the environment and the subsequent interactions with the environment that occur based on personal expectations (Isaac et al., 2001). Expectancy value theory has often been applied to workplace scenarios, mainly relying on extrinsic motivators to explain behavior causes (Isaac et al., 2001). It has also been used in psychology and within the achievement motivation field (Wigfield et al., 2016).

Expectancy value theory hinges on the idea that people prefer certain goals and outcomes over others. Because of this, they anticipate experiencing satisfaction when the preferred outcome is achieved (Miner, 2005). The theory states that the "strength of a tendency to act in a certain way depends on the strength of an expectation that the act will be followed by a given outcome and on the attractiveness of that outcome to the individual" (Lazar et al., 2013, p. 183).

In other words, motivation will occur when people believe that effort will lead to performance, ultimately leading to important results (Lazar et al., 2013).

### **Vroom's Foundation and Assumptions**

Examining motivation at a more granular level, the theory posits that motivation multiplies three factors: expectancy, instrumentality, and valence. Lazar et al., 2013 illustrate the theory using the following formula:

$$\text{Motivation (M)} = \text{Expectancy (E)} \times \text{Instrumentality (I)} \times \text{Valence (V)}.$$

The theory does not provide specific suggestions on what motivates individuals in general, but rather, it provides a formula to understand the reasons behind individuals' motivations that result in actions (Lazar et al., 2013, p. 184). Vroom (1964) explains that each of these factors influences an individual's motivation to some degree, but when combined, there is a powerful impact on motivation. Likewise, each of the three factors outlined in the theory is necessary, and a lack of motivation will occur if any of the three factors are missing (Lazar et al., 2013).

The first factor in Vroom's formula is expectancy, defined as "the strength of a person's belief about whether a particular outcome is possible" (Lazar et al., 2013, p. 184). Expectancy may include individuals' varying conceptions of the probability that a particular action will lead to a desired result (Miner, 2005). Vroom (1964) explains that expectancy is the belief concerning the likelihood that a particular act will result in a particular outcome.

The second factor of Vroom's formula is instrumentality. Instrumentality links an outcome to other outcomes (Lazar et al., 2013). Defined as "the personal belief that first-level outcomes lead to second-level outcomes," it can be more simply viewed as the level of effort an individual is willing to output (Estes & Polnick, 2012, p. 3). For example, if an individual believes that a high level of performance is necessary to achieve an outcome, then the individual

will place a high valence on performing well (Estes & Polnick, 2012). If an individual does not think that level of performance matters in achieving an outcome, then instrumentality will be low (Estes & Polnick, 2012).

The third factor, valence, is defined by Vroom (1964) as “affective orientations toward particular outcomes” (p. 15). In other words, it is the “feeling about specific outcomes” (Miner, 2005, p. 97). It has also been characterized as a “function of an individual’s needs, goals, values, and sources of motivation” (Estes & Polnick, 2012, p. 3). Furthermore, valence is the assumption that an individual has preferences among outcomes and that preference results in a relationship between the strength of the individual’s desire toward two outcomes (Vroom, 1964). For example, an outcome is positively valent when an individual prefers attaining it to not attaining it. If an individual has no preference or is indifferent to the outcome, they are said to have a negative valence. Valence is not wholly positive or negative but can account for many positive and negative values (Vroom, 1964).

According to Vroom (1964), these factors work together to create a motivational force influencing behavior. He asserts that choices depend on the strength of various forces, which are expected to equal the sum of each factor (Vroom, 1964).

### **Applying Expectancy Value Theory to the Study**

By understanding motivation through the framework of expectancy value theory, this study will examine how grant funding specifically targeted toward improving college readiness in students impacted outcomes among the participating schools. District administrators and their grant partners’ motivations will be examined to determine what was done to integrate college readiness into career and technical education pathways, the perceived value of the changes implemented, and how they plan to enhance college readiness programming as additional grant

funding becomes available. This study will also seek to understand how this investment spurred innovation and motivated behavior, characterized as “variable, constructive, and goal-directed,” to effect systemic change in college readiness programming within career and technical education pathways (Vroom, 1964, p. 9).

Vroom’s (1964) first factor of expectancy will be utilized to examine administrators’ perceptions of their ability to impact student outcomes by offering expanded college and career readiness supportive services and programming. Expectancy is typically subjective; for example, expectancy will be low if an individual does not feel they can do a good job (Lazar et al., 2013). Training, professional development, and additional fiscal resources can modify expectancy levels. Concerning this study, administrators successfully developed a plan for impacting college and career readiness that they expected would have positive student outcomes. Subsequently, their plan was evaluated, and they were ultimately selected to receive the grant based on the belief that their plan was likely to successfully meet the goal of improved college and career readiness among students. The intervention of additional fiscal resources likely impacted their expectancy level.

Vroom’s (1964) second factor, instrumentality, will be used to examine the state’s significant financial investment in expanding college and career readiness programming, grounded in the idea that efforts will improve students’ ability to matriculate to postsecondary and successfully enter the workforce. Administrators will use these fiscal resources to implement programming that directly impacts student outcomes.

Valence, Vroom’s (1964) third factor will be used to examine school districts and their grant partners’ willingness to participate in the grant program and their belief that instituting this

programming will result in better student outcomes and future monetary investment from the state.

Together, these factors will be used to analyze motivation within the context of the study, specifically, what motivates school administrators and their partners to institute college and career readiness programming through the IHSM Grant. By understanding how they value the outcomes of their efforts, such as the desire to have improved student outcomes or additional state investment, policymakers and leaders can better predict performance and impactful practices for the future.

### **Chapter Summary**

Learning is a complex process, and educational institutions have had to become increasingly creative to address the needs of an ever-increasing and diversified student body and economy. Traditional methods of training the workforce are not enough. High schools and community and technical colleges must think outside the box to continue developing students into successful graduates that drive industry. As Dare (2001) explains, integrating academic and occupational education is worthwhile. This career and technical education transformation has enabled educators, administrators, and industry partners to realize better that all learning is learning for work on some level. That engagement is vital to preparing students for the next step in college and career (Dare, 2001).

Reinventing the high school experience and incorporating early postsecondary credit opportunities in technical disciplines is a necessary change to prepare students for success. The outstanding student outcomes generated by the early college high school and career academy models warrant the growth these programs have experienced in recent years. Though challenges

are inevitable in education, research has shown that early postsecondary credit opportunities that promote success for all students have a significant positive impact on society.



## **Chapter Three**

### **Methodology**

Crotty (1998) explains that the starting point of any research project is determining the answer to two questions: 1) what methodologies and methods will be used to conduct the research project? and 2) how are those choices justified? This chapter will answer those two questions and thoroughly explain the research design that will describe how one school district used the IHSM Grant to transform the high school experience for students. After a thorough review of the literature, the researcher determined that there is a need for additional research to examine how educational institutions address the preparation of students for the transition from high school to college and career. In particular, students need to successfully move into CTE pathways, preparing them to fill the critical skills gap in the labor force. Secondary and postsecondary educational institutions are partnering to develop innovative ways to help students meet that need and transition from high school to a high-demand program of study in college. This study examines how one district utilized grant funding to institute programming to address these challenges.

Methodology is defined as “the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes” (Crotty, 1998, p. 3). This chapter will discuss the research methodology used to answer the research questions. It will also provide an overview of epistemology and the study's theoretical framework. Finally, the research methods for data collection and analysis will be explained, and participant selection, reliability, and subjectivities will be discussed.

### **Statement of Purpose and Research Questions**

This study examines the impact of programming made possible through implementing the IHSM Grant. The perceived value of the IHSM Grant is determined using Vroom's (1964) theory of expectancy value as the framework for the study. The study also focuses on how this grant informed school district decisions for expanding college and career readiness programming within CTE pathways. Data from the following research questions was analyzed to gain a thorough understanding of the grant and its impact:

1. How have high school administrators and teachers integrated college and career readiness into CTE pathways?
2. What is the perceived value of these changes?
3. Based on the perceived impact, what do participants see as next steps to expand college and career readiness programming in CTE pathways?

### **Research Design**

The primary purpose of research is to apply systemic procedures to discover answers to questions (Misawa, 2015b). This study utilized a qualitative approach to comprehensively understand how one district implemented the IHSM Grant. Qualitative studies seek to understand the socially constructed nature of reality and the situational constraints that shape that reality, making it the best methodology choice for this research (Denzin & Lincoln, 2005). A single bounded case study methodology is used to understand how individuals involved in implementing the grant at a particular school district view the value of the programming funded through the grant and how they expect this work to inform future educational planning.

### **Epistemology**

Epistemology is the philosophical foundation of a researcher's beliefs on knowledge and how it is derived or created (Yin, 2016). Succinctly put, it is how the researcher knows what they

know (Misawa, 2015a). The researcher's epistemology influences which perspective will be used as the groundwork of assumptions for their research (Crotty, 1998). For this study, a constructivist epistemology guided the research. Researchers using a constructionist epistemology assume that there is no objective knowledge independent of thinking. Reality is viewed as ever-changing, and knowledge is viewed as subjective and constructed through shared signs that individuals recognize. Most constructivist researchers focus their studies on exploring how people experience their world, and often, the researcher will impart their interpretations into the research findings (Grbich, 2007).

Within this study, the researcher sought to understand how administrators perceived the impact of the IHSM Grant in changing the high school environment to better prepare students for college and career. Meaning was constructed using participants' words, and data gained through interviews and document analysis enabled conclusions to be drawn regarding the impact of the IHSM Grant and implications for future planning of college and career readiness programming.

### **Case Study Method**

The researcher used a single case study design to discover how the IHSM Grant affected college and career readiness programming. A case study is an empirical method that examines a real-world phenomenon in detail with the understanding that contextual conditions are relevant to the phenomenon (Yin, 2018). Additionally, this method recognizes that the boundaries between the phenomenon being studied and the context are not always delineated, so additional features apply to a case study methodology (Yin, 2018).

One feature that will be used in this methodology is using multiple sources of evidence, such as interviews and document reviews, to arrive at the research findings (Yin, 2018). In particular, the case study method was the best fit for this study since it allows for the broad use

of evidence to develop a holistic description of a network of different organizations striving toward a common goal (Halinen & Tornroos, 2005). Since this research describes a grant designed to bridge the resources between different levels of education through collaborative partnerships, this aspect of the case study method was particularly suitable for achieving the study's aims.

The rationale for the single-case design was that the phenomenon was a critical case, meaning it was critical to the theory, which posits that the introduction of grant funding geared toward enhancing college and career readiness programming resulted in changes within the school environment that influenced future decision making. This case study contributes to knowledge and theory building by “confirming, challenging, or extending the theory” (Yin, 2018, p. 49). Furthermore, a single bounded case study was a fitting method because the phenomenon to be explored occurred in a specific location during a specific period (Yin, 2018).

### **Context**

In March 2021, the TDOE (2021-b) announced an opportunity to establish a new IHSM Grant funded through the federal Elementary and Secondary School Emergency Relief Fund (ESSER). The grant intended to encourage strong and strategic partnerships between Tennessee public school districts, postsecondary education institutions, and local employers to reimagine how to prepare students for success after high school (Tennessee Department of Education, 2021-b). The goal of adding new tools and resources was to empower local communities to boost student readiness and accelerate and increase student attainment of high-quality, in-demand postsecondary credentials (Tennessee Department of Education, 2021-b).

At the project's core was the focus on reimaging traditional high school educational models and incorporating new uses of time, space, instructional practices, modes of learning, and

supportive services to ensure students are prepared for postsecondary success (Tennessee Department of Education, 2021-b). As a part of this, early postsecondary opportunities were a significant component of the project, with seamless vertical alignment between K-12, postsecondary programs, and career opportunities being a major outcome of the initiative (Tennessee Department of Education, 2021-b).

A total of 21 school districts were awarded IHSM Grants for a total investment of \$30 million to reimagine high schools and increase postsecondary success in May 2021 (Tennessee Department of Education, 2021-a). Individual awards ranged from \$750,000 to \$2 million, and districts were awarded for a grant period of two years (Tennessee Department of Education, 2021-a). Each grantee had to submit a competitive grant application that consisted of a budget, letters of support, and memorandums of understanding from identified partners (Tennessee Department of Education, 2021-c).

As part of the application, applicants had to provide a narrative in section 1 addressing the vision and purpose for the project, its significance in a national, state, and regional context, as well as details on how identified partners would collaborate to meet the grant's objectives of reimagining time, space, partnerships, and modes of learning (Tennessee Department of Education, 2021-c). Additionally, applicants described the labor market needs, student performance data, and postsecondary enrollment trends that informed the proposal, providing specific information for how the project would address skill gaps and improve postsecondary attainment. Applicants also were required to explain how the project would transform the high school experience for students, including components such as academic advising, career exploration, early postsecondary opportunities, and work-based learning.

In section 2 of the application, applicants crafted a theory of change template detailing the resources that would be used to implement activities that would result in short-term and long-term outcomes for the students, school/district, and project partners.

Section 3 of the application focused on equity and access, requiring applicants to describe their target student population and how their project would promote equitable student outcomes. The number of students to be served was estimated, and barriers to equitable access had to be expanded on this portion of the proposal.

Community, postsecondary, and employer partnerships were the key components of section 5. Applicants described each partnership and how the partnership would support the proposed work. Specific commitments from each partner, including detailed roles and tasks, were outlined.

In the last section of the application, applicants elaborated on the innovations that would be achieved through the project, including but not limited to learning goals, experiences, assessments, and credentials. Applicants identified specific requirements, policies, and practices that pose barriers to student success and how these barriers should be amended or addressed to improve outcomes.

The grant's Request for Applications (RFA), which includes the application and rubric for scoring, is in Appendix A. After passing a required eligibility check, applicants were scored in each section with 50 points possible. Applicants with the highest total scores were selected to be awarded (Tennessee Department of Education, 2021-c).

### ***Setting***

The selected district is in a small city within a rural region with just under 30,000 people in Tennessee. Of that population, approximately 90 percent of residents have graduated from

high school or higher education. Almost 60 percent of the population is employed within the civilian labor force. Almost 20 percent of the population lives at the poverty level, with a median annual household income of almost \$44,000 (United States Census Bureau, 2023).

The district serves just under 4,000 students yearly at nine schools, with enrollment remaining steady in previous years (Our Schools, 2023). Of those nine schools, there is one high school and one middle school, with the remaining schools being elementary schools (Our Schools, 2023). The majority of the district's students are White, with only 12 percent of the student population identifying as Black, Hispanic, or Native American (Tennessee Department of Education Report Card, 2022). Approximately 20 percent of the student population is classified as economically disadvantaged, and 15 percent of students enrolled have documented disabilities.

Over 250 teachers are employed by the district, with an average class ratio of 14:1. The district employs over 30 individuals dedicated to providing school support services, including school counselors, instructional coaches, interventionists, and library media specialists. On average, school support services personnel serve just over 100 students per employee. There are 22 instructional leaders employed through the district with an administrator-to-student ratio of 174:1 (Tennessee Department of Education Report Card, 2022).

In the past three school years, the district's expenditures have increased from under \$41,000,000 in 2019 to almost \$44,000,000 in 2021. Much of this increase is due to federal relief funding that all Tennessee public schools received because of the impact of the COVID-19 pandemic. Per-pupil expenditures were over \$21,000 per student in the 2021 school year, with the most funding coming from the local level. Almost half of the funds supporting this district

are from local sources, with the remaining 38% coming from state funds and 13% from federal funds (Tennessee Department of Education Report Card, 2022).

For achievement indicators, this district graduates seniors slightly higher than the state average. The district's Ready Graduate rate, defined as the percent of students ready for postsecondary education and career before high school graduation, is 55 percent, significantly higher than the state's average of 39.7 percent. The average composite ACT score of students within the district is also slightly higher than the state average (20.9: 19.1), with district students performing better than the state average on each ACT subsection (English/Language Arts, Math, Science, Reading). Almost 62 percent of the district's high school graduates are classified as CTE concentrators, which also exceeds the state's average of 55.4 percent. The number of CTE concentrators within the district has steadily increased over the past four years (Tennessee Department of Education Report Card, 2022).

### ***Participants***

Participants of this study included individuals involved in implementing the IHSM grant within the selected district. Participants were selected based on their employment and key supporting roles within the project. At the secondary level, interviewees included a principal, a CTE Director, a Career Coach, and two teachers. At the postsecondary level, interviewees included a Middle College Coordinator, an Academic Dean, and a Tennessee College of Applied Technology Vice President. Participation in the study was voluntary and participants were recruited from a secure email to maintain confidentiality (see Appendix B). The email outlined the purpose of the study and reiterated that participants would remain anonymous. There were no direct potential benefits for participants of this study.

### **Data Collection**



Data for this study was obtained through semi-structured interviews and document analysis. A formal protocol was followed through the data collection process, but as with any case study research, inquiry during the data collection was necessary to create a rich dialogue with the evidence (Yin, 2018). Keeping this in mind, the researcher remained adaptive throughout the process and maintained the time parameters and ethical considerations confirmed at the onset of the study. All interviews were recorded and transcribed, and member checking was used to validate the content of the interviews. Through the document analysis process, the researcher interacted with the data to thoroughly understand the topic and effectively make analytical judgments (Yin, 2018).

## **Interviewing**

### ***Semi-Structured Personal Interviews***

Semi-structured personal interviews were selected as a data collection method for this research since the study focused on determining how the grant impacted and changed college and career readiness programming, why administrators value the programming made possible through the grant, and how this programming will inform future educational planning. Yin (2018) writes that interviews are one of the most important sources of case study evidence since they suggest explanations of key events and provide insights that reflect the participants' relativist perspectives.

Case study interviews are typically semi-structured rather than structured, following a consistent guide of questioning but allowing for the interview to be fluid and conversational (Yin, 2018). Most questions are open-ended and may accompany supporting how or why questions to gain a more in-depth understanding of the topic or clarity around specific details (Adams, 2015). Each question was developed to inform the purpose of the study and guided by

the overarching research questions that the researcher was seeking to answer through the study. Throughout each interview, the researcher ensured that the questions aligned with the case study protocol and that all questions were verbalized in an unbiased manner (Yin, 2018).

Appendix C provides a protocol for the semi-structured interview process for data collection. Appendix D provides the semi-structured interview guide that was used to interview each participant. The following table exhibits the grouping of interview questions and the aligning research question for each.

**Table 1**

*Research Questions and Coordinating Interview Questions*

Question Category	Research Questions	Coordinating Interview Questions
Background and Context Mapping	Questions to identify participant's background, define baseline terminology, and role in implementing the IHSM Grant	<p>What is your role at your present organization?</p> <p>How do you define college and career readiness?</p> <p>Why do you think college and career readiness is important for students?</p> <p>How do you activate college and career readiness programming in your current position?</p> <p>What involvement have you had in implementing the Innovative High School Models Grant?</p>

Identifying Changes	Research Question 1: In what ways have high school administrators and teachers integrated college and career readiness aspects into the career and technical education pathways?	<p><i>Lead Question 1: What are some effective ways college and career readiness programming has been integrated into career and technical education pathways?</i></p> <ul style="list-style-type: none"> <li>● How did your organization become involved with the Innovative High School Models Grant?</li> <li>● In what ways have you experienced college and career readiness programming change over the past two years?</li> <li>● How have early postsecondary opportunities evolved within career and technical education pathways?</li> </ul>
Value Assessment	Research Question 2: What is the perceived value of these changes?	<p><i>Lead Question 2: How have the changes implemented as part of the IHSM Grant impacted student outcomes (i.e., academic achievement, persistence toward graduation, EPSO attainment, and postsecondary planning and matriculation)?</i></p> <ul style="list-style-type: none"> <li>● How do you perceive that these changes have affected students' ability to transition successfully to postsecondary education?</li> <li>● How do you think the quality of career and technical education has been impacted?</li> <li>● Overall, do you think that positive progress is being made in better preparing students for college and career readiness? Why or why not?</li> </ul>

Vision Setting	Research Question 3: Based on the perceived impact, what do participants see as next steps to expand college readiness programming in career and technical education pathways?	<p><i>Lead Question 3A: What are the next steps to expand college and career readiness programming in career and technical education pathways?</i></p> <ul style="list-style-type: none"> <li>● Did the implementation of the IHSM Grant inform future planning with the addition of new resources from the state? Lessons learned? Major wins?</li> <li>● What will you do differently with college and career readiness programming with the new funding?</li> <li>● How do you see college and career readiness programming changing in the immediate future?</li> </ul>
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**Piloting the Interview Questions.** The interview questions were developed with feedback provided by expert qualitative researchers in the University of Memphis Department of Leadership to ensure that the questions were open-ended and contained no leading or guiding language. The interview questions were also piloted with Tennessee Department of Education personnel familiar with the IHSM Grant. Based on their feedback, slight revisions were made to the verbiage. Through this process, the interview guide was improved to ensure that optimal data collection was possible.

**Interview Procedures.** Participants were recruited through an emailed participant solicitation letter that may be viewed in Appendix B. Upon receiving a response from potential participants, the researcher shared a participant consent form, which may be viewed in Appendix E. Once the participant consent form was reviewed and signed by the participant, the researcher scheduled an interview with them at a time and date that they were available.

Interviews were conducted through video teleconference on a Zoom account outside the work network. Each teleconference was password-protected to ensure only the researcher and participant were present. Interviews were recorded and transcribed via Zoom with the participants' permission. The initial transcription of the interview was reviewed by the researcher and checked against the recording for accuracy. Once complete, the researcher shared the interview transcript with the participant to review for accuracy and any clarifications that the participant requested.

Pseudonyms were used throughout the interview transcript to protect the participants' identities. The researcher also removed any information that could reveal the participant's identity (i.e., location, workplace, etc.) from the file. The interview recording was deleted once the interview transcript was finalized. Any additional documents used in the research process, such as participant lists and interview notes, were password-protected on the researcher's computer and deleted once the research had concluded. Data storage processes carefully adhered to all Institutional Review Board (IRB) guidelines.

### ***Document Review***

The researcher also gathered data by reviewing relevant documents such as the district's IHSM Grant Application, archival enrollment and participation reports, quarterly grant reports, district-developed informational documents, and marketing materials for the grant. These documents were used to validate and triangulate the data obtained through the interview process. Document review is a beneficial tool in case study research as this process can complement field interviews by allowing the researcher to confirm details and gain a better understanding of the subject to avoid interrupting the interview flow to verify information (Yin, 2016). Additionally, the researcher verified the data collected by reviewing pertinent documents (Yin, 2016). For

instance, documents were cross-checked against data collected in the interviews to determine whether any conflicting information had been gathered or if any aspects of the research needed to be further clarified (Yin, 2016). Using multiple sources of data collection further informed the study by enabling the researcher to develop a more comprehensive understanding of the subject, informing the answers to the overarching research questions posed (Yin, 2016). Any documents that are not public-facing were stored securely on a password-protected device. The following table exhibits documents that were reviewed as part of this study.

**Table 2**

*Documents Selected and Data Analyzed*

Documents Selected	Data Analyzed
School District Grant Application	Baseline data Grant goals Action steps Expected outcomes
Quarterly Grant Reports	Narrative progress updates Student outcome data
IHSM Marketing Materials	Program background and information
IHSM Technical Assistance Meeting Notes	Grant implementation progress

**Data Analysis**

Coding was the primary data analysis approach for this case study. Coding is used to interpret data methodically, resulting in a higher conceptual level of the researched topic (Yin, 2016). Coding enables the researcher to perform a thematic analysis from a wide breadth of

qualitative data. Coding also allows the researcher to move from raw text to research concerns in small steps (Auerbach & Silverstein, 2003). It enables the researcher to find the repeating ideas, themes, and relevant text that will enable them to move raw text into a theoretical construct and narrative that ultimately addresses the research concerns (Auerbach & Silverstein, 2003).

The researcher followed Yin's (2016) five analysis phases to analyze the data. The first phase in the process is Compiling, which consists of conducting interviews with participants and collecting relevant documents to review. Additionally, the researcher spent time becoming familiar with the data by reading the final interview transcripts and selected documents to gain preliminary insights into common themes. The second phase of the analysis process is known as Disassembling. During this phase, the compiled data is sorted into smaller fragments or pieces (Yin, 2016). While reviewing the selected documents, the researcher recorded codes that recurred and then checked against the codes that were identified later from the interview data. To code the interviews, the researcher utilized MAXQDA software during the disassembling phase to input all collected interview transcripts. The software then was used to organize the data and track codes. After identifying the codes, the researcher entered the third analysis phase, Reassembling. Using the identified codes, the researcher reviewed the data and determined groupings or sequences that might not have been evident in the original data review. Attention was placed on identifying the deeper concepts that inform the codes. Using the MAXQDA software, the researcher generated visual maps of the codes, enabling the researcher to better understand common thematic elements and patterns that recur throughout the study. These visual maps enabled the researcher to move into the fourth phase, Interpreting, where the data was analyzed and assessed thoroughly and repeatedly as different relevant data points arose. The Concluding phase is the last phase of the cycle, and during this phase, the researcher developed a

narrative of the study's findings based on the information garnered in the previous phases (Yin, 2016). The narrative of the findings is shared in detail in Chapter 4.

### **Subjectivities**

The researcher recognizes that bias may be possible in the research. To mitigate bias, the researcher consulted expert research designers to ensure that the interview instrument was unbiased and contained no leading questions. The researcher also recognized the limitation of the study based on employment as a state administrator and the potential perceptions participants may have as a researcher in the study. However, it has been accepted that the presence of someone in a research environment will have an effect, so it is better to own one's positionality and attempt to account for it (Merriam & Tisdell, 2016). This subjectivity and interaction is assumed, but the research identifies those effects and accounts for them in interpreting the data (Merriam & Tisdell, 2016). Additionally, there was the possibility that participants might have felt obligated to participate in the study due to the researcher's pre-existing relationship and connection as colleagues. The researcher took the following steps within the research design to address and mitigate these limitations:

1. The invitation to participate in the research explained that participation was voluntary and that the timing and location of the interview are excluded from the work setting as much as possible. See Appendix B for the invitation email.
2. The researcher provided participants with a disclaimer at the beginning of the interview that responses to questions should be as if the researcher had no prior interaction with the participant related to the research topic.
3. Informed consent was obtained before the interview, explaining to the participants that they have the right not to answer any questions or withdraw from the research



at any time. The researcher reviewed the previously obtained informed consent form with each participant again prior to beginning the interview. See Appendix E for the Informed Consent Form.

Lastly, multiple methods of data collection were used to substantiate findings. In addition to interviewing, data from documents was used to triangulate emerging findings to ensure they were free from bias or positionality issues (Merriam & Tisdell, 2016).

### **Reliability**

The validity and reliability of the research were considered in how the data was collected, analyzed, and interpreted (Merriam & Tisdell, 2016). The researcher sought prior permission from the Institutional Review Board (IRB) to ensure the soundness of the study and the protection of rights for all human participants. By gaining approval through the IRB process, the researcher committed to “do no harm” and ensure that all participants provided informed consent.

Human beings were the primary data collection and analysis instrument in this study, and their interpretations of reality were constructed from semi-structured interviews. The study's credibility relied on understanding the participants' perspectives, uncovering the complexity of human behavior in a contextual framework, and then presenting a holistic interpretation of what was happening (Merriam & Tisdell, 2016). By recording and transcribing each interview, the researcher was able to review the data for accuracy. The researcher cross-checked each interview transcript with field notes to ensure all details were captured. Member checking will be used as well; each participant received an emailed copy of their respective interview transcript to review for accuracy (Rashid et al., 2019). This step also enabled participants to provide feedback and suggestions to inform the study's findings further. This process ensured

data reliability since participants had the chance to confirm that the interview transcript reflected their perspectives and interview responses. Triangulation was then used to ensure the study's credibility by using multiple methods of data collection and data sources to confirm findings.

The transferability of the study was established using rich, thick descriptions, enabling external readers to have enough context to apply the study to their situations (Merriam & Tisdell, 2016).

### **Summary**

This study describes how one school district uses the IHSM Grant to reimagine college and career readiness programming to better prepare students for life after high school. How the district developed partnerships to promote those efforts and how the value of the grant informed future educational planning was examined. Existing research shows that there is a need for educational leaders to think creatively to bridge the gap between high school to college and career, and this study examines how one district is leading these efforts within their region.

The findings of the research were determined through personal interviews and document review. Data was analyzed using the processes detailed in the preceding paragraphs to identify common themes. The next chapter describes the findings derived after a complete data analysis, and the last chapter discusses the research implications and recommendations for expanding on this research in the future.

## Chapter Four

### Findings

This qualitative single case study describes how educational administrators and teachers have integrated college and career readiness programming into CTE pathways by implementing the IHSM Grant. The study also examines perceptions of how the grant has impacted college and career readiness programming in the present and how it will impact planning in the future. Data were gathered for the study through semi-structured, open-ended interviews and document reviews. This chapter contains the study's findings and an analysis of the data collected through the coding and pattern matching of interview transcripts and relevant grant documents. A description of the study participants and findings will also be provided in this chapter. Original phrases from interviews and documents are shared to substantiate and support the findings. Thematic analysis was used to identify two overarching themes: *Empowering Excellence* and *Cultivating Futures*. This chapter organizes the findings around each of these themes, delineating the relevant results corresponding to the three research questions guiding the study:

1. How do high school and postsecondary administrators and teachers integrate college and career readiness aspects into career and technical education pathways?
2. What is the perceived value of these changes?
3. Based on the perceived impact, what do participants see as the next steps to expand college and career readiness programming in career and technical education pathways?

### Participant Background

This study focused on the experiences and perceptions of administrators and teachers involved in one school district's implementation of the IHSM Grant. The participants represented a cross-section of occupations at both the secondary and postsecondary levels of education to

provide varying perspectives and areas of expertise. Eight interviews were conducted with administrators at the district and school levels in the secondary education system. Additionally, two teachers who held dual roles within the school district and a nearby postsecondary institution were interviewed to explore their involvement in teaching dual enrollment courses as part of the grant. At the postsecondary level, three administrators from two collaborating institutions were also included in the interview process. Participant demographics and occupations are included in Table 3.

**Table 3.**

*Sample Description*

Participant	Gender	Education Level	Occupation Type	Occupation	Location
Beth	Female	Secondary	Administrator	CTE Director	School District
Daniel	Male	Postsecondary	Administrator	Vice President	College of Applied Technology
Frank	Male	Secondary	Teacher	Automotive Dual Enrollment Instructor	Wildcat Institute
Nicole	Female	Secondary	Administrator	Principal	Wildcat Institute
Polly	Female	Postsecondary	Administrator	Academic Dean	Community College
Sandra	Female	Postsecondary	Administrator	Middle College Coordinator	Community College

Taylor	Female	Secondary	Administrator	Career Coach	Wildcat Institute
Thomas	Male	Secondary	Teacher	Machining Dual Enrollment Instructor	Wildcat Institute

Semi-structured open-ended interview questions and document reviews were used to collect the data for this study. Virtual Zoom interviews were conducted between August 11, 2023, and October 24, 2023, and averaged 45 minutes each. The interview guide for this study can be found in Appendix D.

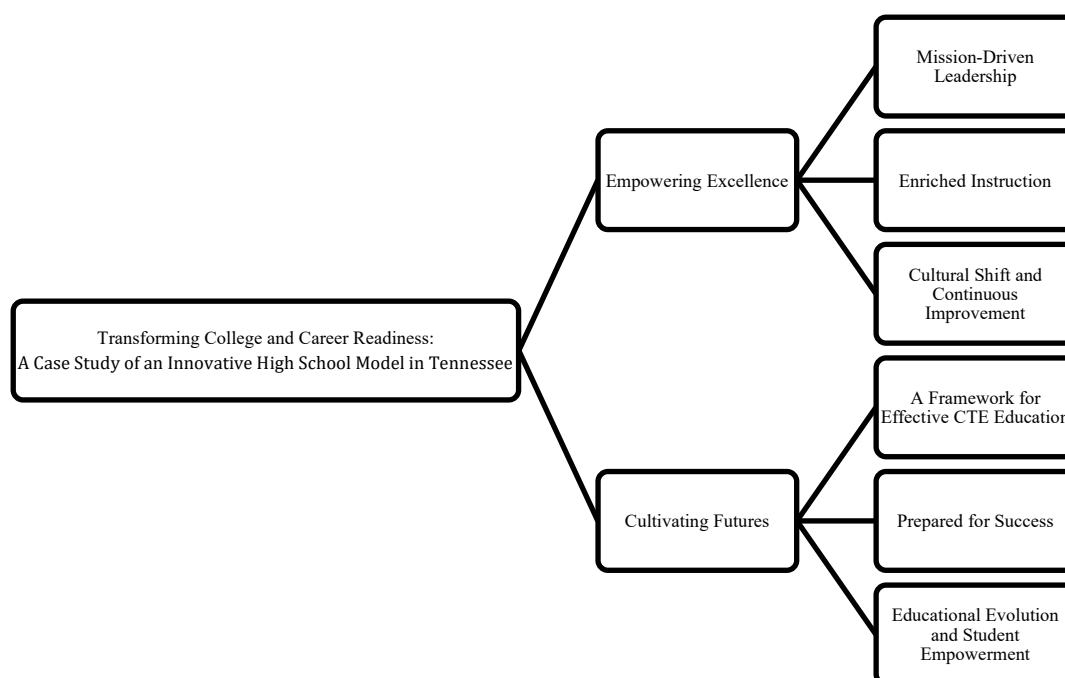
### **Introduction to Themes**

According to Saldana et al. (2019), a theme identifies a unit of data and its meaning. Through pattern coding, relationships were found among the generated codes by grouping the codes by similarities (Onwuegbuzie et al, 2016). These patterns resulted in two themes identified as guiding principles through implementing the IHSM Grant – *Empowering Excellence* and *Cultivating Futures*. Theme 1, *Empowering Excellence*, explores the organizational commitment to cultivating leadership qualities, supporting instructors, fostering growth mindsets and integral partnerships, and instilling a culture of continuous improvement within educational paradigms. This theme encompasses the school district's culture and leadership viewpoints that were critical in setting plans in motion to implement systemic change at the district level to reimagine the high school experience. Theme 2, *Cultivating Futures*, centers on the model established in prioritizing a comprehensive CTE program, aiming to break barriers by tailoring programming to individualized student needs. This theme highlights the challenges faced while innovating in the high school environment, the programming and support administrators put in place to position

students for success, and how these strategies will be expanded and sustained. Together, these themes form a framework for advancing career and technical education and promoting innovative educational practices. In the following sections of this chapter, each theme will be explored using the data collected. Figure 1. illustrates the themes and sub-themes that will be explored in the following sections.

**Figure 1.**

*Themes and Sub-Themes*



## **Empowering Excellence**

The theme of *Empowering Excellence* examines the organizational perspective of the IHSM Grant implementation. This theme was patterned out into three interconnected sub-themes: *Mission-Driven Leadership*, *Enriched Instruction*, and *Cultural Shift and Continuous Improvement*. Each sub-theme explores organizational components critical in initiating and implementing systemic change within the high school environment and the enduring impact these shifts have made on the district's organizational culture. The findings are shared through

the lens of Vroom's (1964) Theory of Expectancy Value, as administrators share their motivation for educational innovation and the anticipated value of these changes on students' educations and life outcomes. These sub-themes provide a comprehensive understanding of the motivation, perceived value, and long-term impact of the IHSM Grant on the organizational culture within the school district.

### ***Mission-Driven Leadership***

The *Mission-Driven Leadership* sub-theme highlights leadership's role in establishing an organizational culture that promotes quality and continuous improvement, ultimately setting the vision for integrating college and career readiness programming into CTE pathways through the IHSM Grant. Leadership's role was critical in understanding how the work of the grant was initiated and implemented. This sub-theme aligns with Vroom's (1964) expectancy factor, illustrating how leadership, as a catalyst, fostered a belief in the positive impact of concerted efforts for students in college and career readiness. This sub-theme serves as a cornerstone for understanding the organizational dynamics that drove the project. The exploration within this theme not only examines leadership's role in implementing the vision for the grant but also delves into the interconnectedness of external factors such as state policies and strategic partnerships, shedding light on how each component contributed to establishing an environment characterized by an openness to change and a collective expectation of positive progress. This exploration encompasses educational leadership's academic and practical dimensions that proved integral in effecting organizational change, using participant quotes to support the findings.

In discussing how administrators and teachers integrate college and career readiness into career and technical education pathways, participants underscored the importance of supportive and forward-thinking leadership throughout their interviews. Mission-driven leadership was

crucial to initiating systemic changes at the school and district levels. Beyond establishing the vision and plan, leadership plays an ongoing role in ensuring that all faculty and staff involved in the grant remain focused on their student-centric goals at the Institute. The mission of Wildcat Institute is evident in that the school will provide a holistic education for all students, aligning with a broader vision of preparing students for challenges beyond the classroom. The school's guiding mission was a recurring point among participants, illustrating how leadership had communicated this core vision and mission widely and frequently to all staff. This practice established common goals among the staff at Wildcat Institute and helped achieve buy-in and a sense of purpose among staff to work together to see the overarching vision for the school come to fruition. The following statements illustrate how leadership instills the mission of the school into the everyday organizational culture, and how staff interpret and internalize that mission:

Our whole staff and faculty have to have a heart for it, and so everybody gets it, and Nicole (Wildcat Institute Principal) gets it. Nicole bleeds with that [the mission of the school] and gives us many reminders about our goals here and what we want for our students. (Taylor, Career Coach, Wildcat Institute)

It means teaching them how to have the grit, the perseverance, and the resilience needed to be successful when things get tough. I always say that it's more than just academics; we're teaching them to be successful in life. (Nicole, Principal, Wildcat Institute)

Taylor (Career Coach, Wildcat Institute) explained that key leaders within the district possess "an early adopter, growth mindset" and a viewpoint of "Let's try it. Let's do something outside the box." Taylor's comments underscored the importance of visionary leaders, who, by being receptive to reimagining the high school experience, paved the way for implementing new strategies to serve students at Wildcat Institute. With this top-down support for unconventional approaches, many of the initiatives within the program were feasible. Having the right decision-makers in place who were willing to examine existing systems and critically identify areas for



improvement was the next step in developing plans to address deficiencies. School leaders' commitment to establishing a solid team that valued student success and was open to innovation was equally important. Leaders emphasized the importance of hiring the right people, which was necessary in allowing the grant work to gain momentum and flourish. Understanding that accomplishing the work alone was impossible, administrators recognized that the project's success depended on having an effective team in place.

In addition to the school leadership commitment, state policy and priorities have played a role in driving innovative CTE work in recent years. The overarching desired outcome for the IHSM Grant was to promote seamless vertical alignment between K-12, postsecondary programs, and career opportunities (Tennessee Department of Education, 2021b). This charge empowered districts to design solutions creatively, fostering an environment where experimentation was encouraged. In recent years, there has been an increased emphasis on CTE at the state-level through funding and policy, further supporting leadership efforts to promote college and career readiness. Thomas (Machine Tool Instructor, Wildcat Institute) shared this viewpoint:

This is my sixteenth or seventeenth year in education, and before, the State didn't really push CTE as much as they have over the years. But now, they've really seen that as important. (Thomas, Machine Tool Instructor, Wildcat Institute)

Among those policies is the Ready Graduate Indicator, an accountability measure for school quality and student success that incentivizes school districts to enroll students in EPSOs (Tennessee Department of Education (b), n.d.). Aligning with the accountability measure to encourage EPSO participation, the State has increased funding through the Dual Enrollment

Grant to make dual enrollment coursework more affordable than ever before in the State's history (Tennessee Student Assistance Corporation, 2023).

Most recently, though, policymakers and state education leaders completed a comprehensive overhaul of the State's funding formula, adopting a student-based funding approach, known as TISA, that provides not only base funding per student but also additional funding to districts based on student needs, priority areas, and student achievement milestones. Most applicable to this study, there is now funding allotted through TISA for students enrolling in CTE pathways leading to high-demand and high-wage careers, further incentivizing districts to enroll more students in CTE pathways, as well as offer CTE pathways that align with labor market needs (Funding for Success, 2022). All these efforts set up a supportive system that incentivizes and provides sustainable funding to promote the advancement of CTE pathways. Beth (CTE Director, School District) also echoed this sentiment, noting state efforts that support CTE:

Promoting is a little bit easier in Tennessee, the way we are set up in that all students have to have a program of study so that just lends itself to career and technical education. I know other states don't require that necessarily. We're blessed in that way. And then also that we have in Tennessee the funding to be able to support and start new programs according to what student interest might be in our school system. (Beth, CTE Director, School District)

Staff also expressed appreciation and thankfulness for their leaders who empowered them to grow and innovate in education. School and district administrators are perceived to value the knowledge and expertise of their teachers by granting educators the autonomy to utilize their hands-on knowledge and industry experience in making curriculum decisions and recognizing teachers for their skills and achievements. Frank (Automotive Instructor, Wildcat Institute) noted being thankful for the administrators he works for, expressing that they have all been supportive

as he adjusted to becoming a teacher after leaving the private sector. This approach fosters a sense of ownership among educators, further contributing to a positive organizational culture that allows the freedom to make systemic change.

External partnerships have been the cornerstone of implementing the IHSM Grant. Relationships across sectors enabled the school district to take advantage of opportunities and braid resources to accomplish a shared vision that benefits all stakeholders. The initial idea of Wildcat Institute emerged from the collaboration between an automotive dealership and the school district. Upon an automotive dealership donating a two-million-dollar facility, the district's subsequent objective was to secure resources for essential improvements aligning with their objectives to establish an innovative school. The school only materialized when the district was awarded the IHSM Grant. As Beth (CTE Director, School District) explained, capital improvements often pose a challenge with external grants, as grants do not typically allow for building renovations, placing the responsibility on local funds, which are often limited:

A lot of the funding with CTE doesn't allow you to do that [building improvements] - nothing with the building, nothing with capital. So that's a big advantage of the Innovative High School Models Grant and Innovative School Models Grant. We need those things because CTE centers, you know, our high school was built in 1972. It's not laid out well for what we're doing today. (Beth, CTE Director, School District).

By collaborating and leveraging expertise and resources, plans were set in motion to transform the facility and address crucial workforce pipeline needs, making the shared vision of the two stakeholders a reality.

Industry partners continue to be involved in the programming at Wildcat Institute. Ensuring that there is a skilled workforce has become partners' priority, and companies are stepping up to provide access, training, and resources to support that effort. In addition to active

participation in advisory councils that guide classroom standards and priorities, Wildcat Institute staff have used these opportunities to make critical connections in growing and enhancing student work-based learning placements. Participants expressed that in the past, training students to fill needed jobs seemed to fall squarely on the education system. However, now industry realizes that they can contribute to helping prepare today's high school students. Participants articulate this shift in industry taking more ownership for students' career preparation and the opportunities that has led to for students:

I think it's growing into more of a partnership rather than a, you know, 'it's your problem here, or why aren't you doing...? Why don't you send us qualified people here?'-- that it's becoming everybody's concern. (Nicole, Principal, Wildcat Institute)

We hadn't had the opportunity for kids to go anywhere. It was kind of like industry didn't want to take the liability with the kids. So now with the kids being able to go out into the industry, it helps when they're taking the classes to show them, "Hey? This is why we train you on all this stuff, so you're ready to go out to the industry." Just things like that, you know. Before, they didn't have opportunities to actually see how the classes applied to the real work and why they were important. Now, we can show them. (Thomas, Machine Tool Instructor, Wildcat Institute)

Aligning with that effort, partnerships with postsecondary education have also been critical in achieving the vision for Wildcat Institute. In planning the lab spaces, the community college was involved with key individuals from both the district and the postsecondary institution, formulating a plan for the spaces, enabling the district and the postsecondary institution to align curricula to offer dual enrollment opportunities to students. Polly (Dean of Technologies, Community College) provides detail on the collaborative role the postsecondary partner played in designing the lab spaces at Wildcat Institute:

We did everything from touring the building several times and reviewing the Wildcat Institute building plans. We did a walkthrough, and I told the CTE Director everything great about the new building and everything that was not so much. And then we talked with our instructors. So, for example, with their paint booth, we had them sit down with the automotive instructors and we came up with some really good lists of things that they

might not have thought of that would go into different lab environments. (Polly, Dean of Technologies, Community College)

This collaborative practice exemplifies the coordinated alignment between secondary education, postsecondary, and the workforce, which was the district's central goal in implementing the IHSM Grant.

### ***Enriched Instruction***

The *Enriched Instruction* sub-theme explores the perceived value of integrating college and career readiness in CTE pathways from the organization's context, focusing on how the changes impacted instructional resources and teacher quality. In alignment with Vroom's (1964) instrumentality factor, which is an individual's belief in the connection between their performance and the attainment of a certain outcome, the *Enriched Instruction* sub-theme explores how supportive leadership and grant funding affected instructional outcomes. This correlation relates to the guiding research question assessing the perceived value of the grant. Furthermore, this sub-theme highlights participants' expectations that the value derived from collaborative efforts with industry and postsecondary partners will improve instructional quality. In the broader context, this sub-theme is essential in the *Empowering Excellence* theme, embodying the ethos of elevating educational standards. The participants' viewpoints highlight that excellence in education is not simply a goal but an ongoing refinement process responsive to the evolving educational landscape. This sub-theme explores how the IHSM Grant enabled the district to support teachers and better connect CTE pathways to real-world experiences, enhancing the relevance and enriching classroom tools and practices to prepare students for college and careers.

Leadership was committed to ensuring that Wildcat Institute instructors had industry experience and the qualifications to teach dual enrollment courses at local postsecondary institutions. Possessing these qualifications is increasingly vital as CTE teachers' role has evolved in recent years to be less viewed as preparing students for direct entry to the workforce and now increasingly more focused on preparing students for postsecondary education, as more industries now require postsecondary training for entry-level positions (Anglum et al., 2023). Leadership's commitment to encouraging Wildcat Institute's CTE instructors to become dual enrollment certified demonstrates the district's commitment to professional development and continuing education. By being employed by the school district as a full-time teacher and the partnering postsecondary institution as an adjunct instructor, teachers are provided double the resources and support for effective teaching. Participants explain the instructional and student-centered supports that are available through this partnership:

The most important thing I've established is a good working relationship with John from the Technical College. He comes in and helps me with all the technical college side, and the grades, he and I work closely on what the curriculum is going to be. (Frank, Automotive Instructor, Wildcat Institute)

The goal is that these students receive the same instruction, education, and opportunities as if they were a native college student on campus or a freshman who's come to the college. (Sandra, Middle College Coordinator, Community College)

By leveraging curricular resources from postsecondary institutions, the teachers explained that there were more hands-on opportunities and that course expectations were higher for students in the classroom. Frank (Automotive Instructor, Wildcat Institute) and Thomas (Machine Tool Instructor, Wildcat Institute) explained the challenges and considerations in students completing college-level courses while still in high school:

The only problem that I've had honestly in my TCAT classes is because I'm having to teach a curriculum that is designed at a higher age-level maturity. I mean, we're talking

postsecondary students and I've got a couple [high school] sophomores in that class (Frank, Automotive Instructor, Wildcat Institute).

You have to consider that they're still at the high school level...each student is a little bit different. So you have to, kind of, baby them a little bit, as they get used to it [college-level expectations]. (Thomas, Machine Tool Instructor, Wildcat Institute)

Research has shown there are benefits in exposing students to college-level work early.

Adcock and Surface (2019) explain that exposing students to the demands of college-level courses while being in a high school environment with peers experiencing the same thing for the first time helps socialize students in the college environment, easing the transition from high school expectations to college expectations while still having secondary education support in place.

Additionally, by fostering collaboration between secondary and postsecondary education, the high school teachers at Wildcat Institute gained access to additional industry certification opportunities through the umbrella of the postsecondary institution. Industry-recognized credentials certify competency by a third party in a skill or set of skills relevant to a particular occupation. In recent years, industry credential attainment has become a key strategy in many states working to improve the quality of career and technical education. Research has shown that earning an industry credential in high school is associated with positive outcomes related to high school completion, community college enrollment and completion, and wages (Noronha et al., 2019). Frank (Automotive Instructor, Wildcat Institute) explains how the partnership with the postsecondary institution has enabled him to offer industry certifications previously not available to his high school students:

I've got the capability to do NC3 Certifications, even in areas that I personally am not certified. So the high school is not certified, but I could go under their umbrella of TCAT, and I can certify these students. I didn't have that ability before. It would take me years to get there—3 or 4 years per subject, possibly, to get that part. You've got to take a week off. You've got to buy the stuff, which means you have to wait until the boss says we

have money. So, it's given us access to materials and knowledge that we didn't have before. (Frank, Automotive Instructor, Wildcat Institute)

The instructional collaboration at Wildcat Institute is not only confined to secondary and postsecondary education partners. Participants also underscored the importance of hiring instructors with longstanding careers in their field, noting that this experience is critical in helping students understand the realities of the workplace. Employing teachers with a wealth of real-world experience has enhanced relationships with industry, positively influencing classroom instruction. Networking with industry professionals is a priority and an ongoing effort for the faculty and staff at Wildcat Institute. This practice not only creates valuable opportunities for students to gain workplace knowledge and experience but also keeps CTE teachers abreast of industry trends. As one participant indicated:

It has been really important for me to stay in contact with my connections in the private sector and listen to them. Those advisory committee meetings that we have and the input I get from them is important. (Frank, Automotive Instructor, Wildcat Institute)

The work-related experiences and perspectives that CTE teachers bring to the classroom make learning more meaningful and beneficial to students (Jacques & Potemski, 2014). Stephens (2015) explains that CTE teachers with relevant professional experience and technical knowledge prepare students for positions in industries where accuracy, proficiency, and competency are necessary. Sandra (Middle College Coordinator, Community College) stated that:

The instructors we've hired to teach these courses have longstanding careers in their particular fields. And that's very important in bringing that to the students so they know more about what could happen in an actual workplace. (Sandra, Middle College Coordinator, Community College)

Having first-hand knowledge of the industry's challenges gives these teachers a unique perspective that a teacher without industry experience would not have. Equally important,



however, is that these teachers also have effective pedagogical skills within the classroom (Jaques & Potemski, 2014). Students will likely be more engaged in the learning process by connecting course standards, competencies, and real-world applications in the classroom. Incorporating project-based and learner-centered instruction enables students to see the relevance of course content to the workplace.

As instructors have industry networks and connections, students have also increased access to workforce opportunities. For example, Thomas's dual enrollment students can now go to a company and gain valuable work experience that aligns to the classes offered at Wildcat Institute, explaining that:

Wildcat Institute already has set up with some local industries like Westwood Corporation and Ring Helicopter, where they have that real work that they do with our Wildcat Institute kids. So with that, now that gives the kids that are stationed here more opportunities to get into the dual enrollment classes and the manufacturing classes that we offer, which will help them. They go to work ready to do the work at Westwood Corporation or Ring Helicopter. If they like that area, then they have the classes here to prepare them (Thomas, Machine Tool Instructor, Wildcat Institute).

The strategic alignment at Wildcat Institute has garnered favor from industry partners, making them more inclined to collaborate with and potentially hire students. Nicole explains the benefits of this alignment:

I think that it's been so good for our instructors to become dual enrollment certified teachers because it's extended learning. They're learning as well. And they're networking with additional people in the industry. And they're also, you know, talking to these people about what's coming around the bend on their end. So I absolutely think that it's been great for our instructors as well, which leads to higher quality instruction for our students. (Nicole, Principal, Wildcat Institute)

The IHSM Grant enabled the school district to establish policies to support recruiting and retaining highly qualified CTE teachers also, which is important as there is a nationwide shortage of CTE teachers. Approximately a third of public schools reported CTE teacher vacancies in the 2020-2021 school year that could not be filled or were very challenging to fill (Association for

Career and Technical Education, 2023). Recruiting these instructors from industry posed a financial challenge for the school district, as providing a salary in education that was competitive with the private sector proved impossible under the district's previous salary structures and policies. With that, district leadership revised salary scales to allow industry experience to count toward years of teaching service when determining pay. Beth (CTE Director, School District) explains:

Teachers are moved up the salary scale because they've taught other places. They have experience there. What we had to recognize as a district is, 'yeah, it might not have been teaching that he did, but he had 25 years of industry experience, and we need to be able to give him those steps on the ladder for that. So we have done that. (Beth, CTE Director, School District)

The recognition of industry experience, in addition to teaching experience, has led to a paradigm shift in acknowledging educators' diverse backgrounds and enabled the district to recruit highly qualified candidates for CTE teaching positions. Leadership's recognition of industry experience in compensation decisions signifies a progressive organizational culture that recognizes the value of industry expertise in CTE pathways.

### ***Cultural Shift and Continuous Improvement***

The *Cultural Shift and Continuous Improvement* sub-theme focuses on enduring organizational and educational advancements anticipated from the grant and the motivational aspect of future planning linked to these expectations. This sub-theme corresponds with the third research question guiding the study, which seeks to understand how implementing the IHSM Grant has informed plans for college and career readiness programming going forward. Vroom's (1964) theory is particularly applicable in this sub-theme as it is often used in goal setting and organizational culture development (Isaac et al., 2001). Based on participants' perceptions of the effectiveness of the programming made possible through the grant, long-term implications for

the organizational culture will be examined in this sub-theme. Participants' goals for advancing the work will also be explored, focusing on best practices and sustainability. Within the scope of the overarching theme, *Empowering Excellence*, this sub-theme will expand on how participants plan to nurture the established forward-thinking culture at the Wildcat Institute, with a continued focus on continuous improvement to maximize student impact.

In discussing the long-term impact of the grant and future planning with the expansion of Innovative School Models, participants emphasized a shared vision for the growth of the work and a commitment to continuous improvement and student-centric practices. Continuing practices that incentivize individuals with industry experience to enter the teaching profession is a priority in future planning to maintain the momentum started with the IHSM Grant. Grant leaders value the development of staff and instructors and see the direct correlation between professional development and improved opportunities for student success. Since the inception of the IHSM Grant, the district has had to acknowledge that traditional pay structures needed to be revised to recognize years of relevant work experience to attract qualified CTE teachers to the profession. Beth highlights the situation that led to this realization at her district:

For us to be able to get the teacher we got from the automotive dealership, we couldn't start him at level one teacher pay, and that was unprecedented in our district. But it just gets to that point that we have had a lot of worldwide transformations in the past few years, and people are realizing that if you want the quality, you're going to have to pay for it. You know, teachers are moved up the salary scale because they've taught in other places. They have experience there. What we had to recognize as a district is, 'Yeah, it might not have been teaching that he did, but he had 25 years of industry experience, and we need to be able to give him those steps on the ladder for that. So we have done that. (Beth, CTE Director, School District)

Leadership was committed to building upon the successful priorities and policy shifts established through IHSM to expand on best practices and foster the culture of innovation established over the past two years. Beth (CTE Director, School District) explains that the

grant's implementation led to a shift within the school district to look at student situations on a more case-by-case basis, rather than making decisions based only on the general student population. Through the interviews, it is evident that leadership played an important role in catalyzing the setting of the culture and viewing education as a dynamic and evolving resource for positive change. Among participants was a firm conviction that the grant had enabled positive progress in college and career readiness with participants noting:

I think that we've definitely made progress in better preparing students, as far as getting them ready for postsecondary studies, and moving them into the workforce. (Sandra, Middle College Coordinator, Community College)

They're [leadership] reinvesting in what we [instructors] do, and that creates excitement as well and with excitement and accountability and focus comes better outcomes. (Daniel, Vice President, Technical College)

For future planning, administrators echoed the importance of strategically sharing success stories and lessons learned to develop a roadmap for other institutions. They felt strongly about proactively promoting their vision to influence educational practices on a broader scale. With that, they talked about advocating for policies that further supported integrating EPSOs into CTE pathways, reimagining work-based learning and industry partnerships, and individualizing student support, all of which they have found to be moving the needle on student outcomes in career and technical education. Nicole (Principal, Wildcat Institute) shared that she feels that Wildcat Institute "should be replicated a thousand times over across the State." She expressed how proud she was of the difference being made at her school. When asked about the vision for college and career readiness in the future, Taylor (Career Coach, Wildcat Institute) expressed a hope that the program would "keep going in this [the same] direction." Beth (CTE Director, School District) echoed these sentiments:

This Innovative High Schools Models Grant and then Innovative School Models has transformed our entire district. And from the viewpoint that I have, my perspective, I can

see that I've been in this district for 25 years, and the transformation has been looking at students individually, and instead of whole group decisions, we're trying to do things that make sense for every student individually. (Beth, CTE Director, School District)

Participants expressed a collective need to continue growing industry and community partnerships. There was a focus on transparency and intentional engagement of all stakeholders—students, parents, industry partners – to increase awareness of opportunities and share pertinent information to inform career pathways planning. That same growth mindset was present in participants echoing the need to expand the portfolio of EPSOs available to students, including dual enrollment, but also other avenues for students to earn college credit, such as challenge assessments and competency-based credit. Postsecondary partners and instructors also reflected on improvements needed in higher education to facilitate students' educational pathways better. One noted improvement was establishing better articulation agreements between the State's technical colleges offering diplomas and certificates and community colleges providing degrees. By establishing multiple on and off-ramps for students in different career pathways, more students will be able to complete stackable credentials to prepare them to enter the workforce. In looking ahead at ways secondary and postsecondary partnerships could be improved, participants noted:

Now, one thing that I would like to see is the technical college and the community college working together more. They are kind of two different entities. I have kids who want to go both routes. I wish there was a way that those two could combine with some of the things, so kids could get the credit, and if they wanted to go to the Technical College or the community college. (Thomas, Machine Tool Instructor, Wildcat Institute)

There are plenty of pathways for plenty of students in our service region, and one school or the other is just the better option at that time in the student's life. Not that they won't ever try the other one if their life circumstances make it possible. We have to think of it that way, too. It should not be a competition. (Daniel, Vice President, Technical College)

Sustainability was also an instrumental topic among participants when discussing the future of the Wildcat Institute. The grant enabled the district to invest in industry-comparable or superior equipment as Frank (Automotive Instructor, Wildcat Institute) shared:

Now I've got the same equipment here that the [automotive] dealers are using. I mean, literally the same pieces of machinery. My tire balancer is a level higher than the local Ford dealership and they're a multi-million-dollar company. (Frank, Automotive Instructor, Wildcat Institute)

The technological modernization made possible through the IHSM Grant is an ongoing process that must be maintained. Participants expressed a commitment to staying abreast of technological changes within industry, being intentional in continually assessing technology needs and making updates that align with industry on an ongoing basis. Frank (Automotive Instructor, Wildcat Institute) shared about the planning already underway to keep his lab at the forefront of technology innovation:

Looking forward, I've already been asked to look at some of the other equipment that would bring us more up-to-date with what the students would encounter walking out the door tomorrow. (Frank, Automotive Instructor, Wildcat Institute)

In planning for the financial sustainability of Wildcat Institute, the State's new education funding formula, Tennessee Investment in Student Achievement (TISA), will bring in new resources in the long term, as funding is directly tied to CTE offerings and individual student needs. Beth (CTE Director, School District) explained the expectation that the new TISA funding formula would contribute to the sustainability of the programming made possible through the grant:

One of the things that we plan on helping us is the new funding formula in Tennessee with TISA, which would provide for students' individual needs. And so we're just at the precipice of finding out exactly where that's going to put us. Hopefully, that will be the sustaining piece for these innovative programs that we've started. (Beth, CTE Director, School District)

Also, the district seeks external grants from government, non-profit agencies, and corporations to support continued expansion. Overall, many participants expressed the value of the work

established through the IHSM Grant and an awareness of the strategic planning that will be necessary to continue the momentum and sustain and expand on the achievements of Wildcat Institute in the future.

### **Cultivating Futures**

The second theme, *Cultivating Futures*, examines the transformation of the high school experience by implementing the IHSM Grant. This theme was patterned out into three interconnected sub-themes: *A Framework for CTE Education*, *Prepared for Success*, and *Educational Evolution and Student Empowerment*. The findings presented within these sub-themes support Vroom's (1964) Theory of Expectancy Value, asserting that individuals' behaviors and actions by their expectation that their efforts will lead to a valued outcome. Administrators at Wildcat Institute were motivated to foster an environment where positive outcomes are both expected and highly valued, contributing to students' holistic preparation and empowerment for meaningful college and career opportunities. These three sub-themes align with the research questions guiding the study. *A Framework for CTE Education* highlights how different strategies were employed at Wildcat Institute to integrate college and career readiness better into CTE pathways. *Prepared for Success* examines participants' perceived value of these strategies, and *Educational Evolution and Student Empowerment* expands upon the long-term implications of the changes and how the lessons learned through the grant are informing future student-centric planning. Together, these sub-themes present a thorough exploration of ways the student experience has been transformed at Wildcat Institute and the short-term and long-term perceived impact of that transformation.

#### ***A Framework for CTE Education***

The first sub-theme, *A Framework for CTE Education*, delves into the different college and career readiness strategies integrated into CTE education at Wildcat Institute. This sub-theme echoes Vroom's (1964) theory that individuals are motivated when they anticipate positive results, demonstrated by the belief that implementing these strategies will positively impact students' learning experiences and career trajectories. The theory also applies to the students enrolled at Wildcat Institute, in that their active participation in college and career readiness programming is believed to increase their motivation to be engaged in their learning experience and future career pathway. Beyond examining the mechanics of strategy integration at Wildcat Institute, this sub-theme provides a thorough framework for seamlessly embedding college and career readiness programming into CTE pathways, aligning with the overarching theme's emphasis on holistic student preparation.

The framework for CTE education outlined in the study's findings contains multiple components that will be explored in more detail in this section. The first component includes informed pathways and early career exploration, delving into school personnel's strategies to ensure students know high school curricular options and career opportunities. The next component is student support, which encompasses various resources and tools available at Wildcat Institute to help students along their educational journey. Finally, learning strategies for mastery of practical skills are examined, which include dual enrollment and work-based learning.

**Informed Pathways and Early Exploration.** Aligned with the understanding that career development services are related to long-term positive outcomes, such as higher levels of success in transitioning into life roles, a more focused sense of direction, and higher levels of life satisfaction (Lapan et al., 1997), participants also emphasized their belief in the value of



allowing students the space to explore various careers and in the importance of pairing students with career advisors:

Students need to be supported early on, and we're doing this now. More awareness in elementary and middle school in those early years so that they know that there are more careers out there than just what they see every day because they see very limited types of jobs in their everyday life. (Beth, CTE Director, School District)

Early awareness of available CTE programs of study and their associated careers is crucial for informed decision-making in high school. By exposing students early and often to a broad cross-section of careers, the goal is to inspire students to consider possibilities for their future that extend beyond their familiar environments.

Additionally, at-risk students may not have support systems at home with social capital resources and background knowledge in navigating career and educational pathways, making effective advising at the school particularly important. Postsecondary partners also echoed the importance of career awareness and helping students understand the realities of different careers, highlighting a few strategies implemented to support this effort in recent years:

Making sure students are educated on what their pathways are is huge to me, so kind of that career exploration early on, even now in middle school, but especially freshman year. So, exposure, then education, then pathways; Those are essential and also being exposed to what truly is in that industry and in that field, so that can be industry certifications, which Tennessee is really good at offering. (Daniel, Vice President, Technical College)

One of the best things that we did last semester is that we had alumni who have been out of school a year or two years to come back and talk to our freshmen in different classes and say, 'Okay, you're in this program. This is what you can expect in this job. When you get out, this is what you're going to be doing,'... and they all give really good examples of what they spend lots of time at their jobs doing now. Some of the students, once they talk to them. They realize that's exactly what they want to do, and then, if not, we can sit down and talk about their options. (Polly, Dean of Technologies, Community College)

We hold events, such as Industry Day, that give students a chance to kind of immerse themselves into different career areas that they might be interested in, to meet the instructors, to ask questions, and to see what kind of equipment we have. (Sandra, Middle College Coordinator, Community College)

Academic advising is another critical component to ensure that students are equipped to make the best decisions related to their CTE program of study. As preparing students for a career is at the forefront, the staff at Wildcat Institute are trained to focus on asking students the hard questions when the opportunity arises to help them identify their purpose and goals, as well as the barriers to achieving those goals. School counselors play an important role within the educational landscape, with specialized counselors focusing on career counseling also being an important role contributing to college and career readiness among students. When asked about the main supports for students to achieve college and career readiness, Nicole (Principal, Wildcat Institute) stated, "I think school counselors can be a big help," and she also noted that, "career counselors can be a big help." Polly also shared the importance of proactive advising:

If you have an advisor that actually has the opportunity to take more time and even reach out to a student when they're not needing them to, that can often help them to be very successful as well. A lot of times students don't realize what resources are available to them. (Polly, Dean of Technologies, Community College)

Although research has shown that career counseling is an essential component of any effective pathways system, the average caseload of a school counselor is nearly 500 students to 1 counselor, making career counseling a narrow focus given the broad scope of their responsibilities (Symonds et al., 2011). The IHSM Grant enabled the school district to hire a dedicated Career Coach to serve about 100 students. This position enables more intentional and ongoing conversations with students about their career opportunities and aspirations, which is proven necessary in preparing students for college and career readiness. Taylor (Career Coach, Wildcat Institute) shares how those conversations are approached:

We start talking to them, that's just sort of baked in, because we're saying, 'we have to give them a why.' We might have people also that are just waiting to drop out. So we just start immediately, saying, 'Hey, what do you want to do? What are your goals for yourself?' And if they don't have goals, how can we get those? How can we start eliminating things? It is infused in everything. It's not like, 'Oh, I'm going to go into

classes, and this is the day we're going to talk about your career or your future.' It's just every conversation. (Taylor, Career Coach, Wildcat Institute)

Participants also discussed how best to leverage informational resources to assist students. In addition to utilizing online tools to help students assess their interests and aptitudes, marketing materials and informational handouts also play a crucial role in spreading awareness and ensuring students are empowered to make good choices. Sandra (Middle College Coordinator, Community College) provides an overview of some of the digital resources utilized by the partnering community college to spread awareness among students:

We include a poster in each dual enrollment classroom that has specific offices of interest listed as well as their website. And then, in addition to that, we have a dual enrollment student handbook that is posted as a digital document in every D2L course, and students always have that at their fingertips to where they can look to see, to find more information about frequently asked questions, like where to go and what to do, and who to contact. (Sandra, Middle College Coordinator, Community College)

Overall, participants shared a commitment to a clear communication strategy to facilitate college and career readiness programming and prepare students to navigate their options and opportunities.

**Student Support.** However, college and career readiness preparation extend beyond the workforce and classroom preparation. Effective college and career success requires vital characteristics such as career planning, work experience, integrity, and creativity. Research also emphasizes the need to prioritize the development of a sense of purpose and a positive identity for comprehensive college and career readiness. A more holistic approach to education that aims to equip students with a broader range of skills is more likely to produce students who will succeed in the 21st Century, aligning with many of the strategies employed at Wildcat Institute (Atienza et al., 2008).

Faculty and staff at Wildcat Institute take a proactive stance on prioritizing whatever support students need to develop their soft skills and set them up for success after high school. Through relationship building, students open up to the Wildcat Institute faculty and staff about the barriers holding them back. Building trust with the students makes them more comfortable asking for their needs. Sometimes, the barriers are abstract, such as self-doubt and negativity, and faculty and staff work to help students overcome those challenges by assisting students to shape a vision for themselves. Other times, the barriers are more concrete, foundational challenges, such as being unable to obtain an ID or secure transportation. Empowering faculty and staff to assist students in addressing these barriers has proven to be a catalyst for change for many students who were overlooked for years in a larger high school environment, as supported by the participants' statements:

We started by listening to their stories. And so these are sometimes just concrete things like an ID. And then the abstract things are our relationships. It is just so important that we build those here. Build a level of trust so that our students will ask for what they need. That comes in the form of all our teachers and staff here being there for our students and having extra support. (Taylor, Career Coach, Wildcat Institute)

There are a lot of things about our program that are innovative, but I think that one of the things that makes us very different is that it is student-driven by student needs. (Nicole, Principal, Wildcat Institute)

Transportation is another common barrier the funds provided through the IHSM Grant have helped address through the purchase of buses and vans to help transport students. Although transportation assistance is a major need, it is often an unallowable expense with grants, as Beth (CTE Director, School District) explained, "A lot of funding doesn't allow for that [transportation assistance]. But this funding does allow for transportation, and that's huge." She also elaborated on how challenging it was to find drivers for buses and how the district responded to that challenge by utilizing vans for transportation:

A huge barrier for us is getting someone with a Commercial Driver's License (CDL) to drive a bus, so we got vans so that anybody could drive. (Beth, CTE Director, Wildcat Institute)

The district has provided buses that travel from the traditional high school to Wildcat Institute every period of the school day for students to take classes part-time at the Institute. Vans transport Wildcat Institute students to needed destinations that include work sites, community centers, and even to their homes when needed. By addressing the transportation barrier, the school experienced improved student outcomes as Nicole illustrates (Principal, Wildcat Institute):

All our kids needed transportation, so we went and got them and brought them here to us to do summer school and had more credits than the [traditional] high school did with twice as many students and four times as many teachers. (Nicole, Principal, Wildcat Institute)

Faculty are also attuned to the academic and personal struggles many students face, expressing that many of the students served at Wildcat Institute need more one-on-one guidance than the typical student population. Postsecondary partners also seem aware of the challenges many students at Wildcat Institute face and express commitment to implementing processes, safeguards, and support to mitigate them. In addition to a myriad of support services that students have access to upon becoming a dual enrollment student, administrators also take a proactive stance on tracking dual enrollment students' academic progress and intervening to provide services or remove them from the course/s before the student suffers long-term negative consequences. A few of the supports and intervention strategies implemented by postsecondary partners include:

We do have several support systems in place. Since these are dual enrollment students, they have the same privilege as any of our other college students, freshmen, or sophomores to partake in any of these different programs that will aid in student success. (Sandra, Middle College Coordinator, Community College)

We ask for flagging for students that are not doing well. We put a lot of trust in those high school instructors. We ask for the school to intervene. And then, essentially, if they're [the student] just not showing up to class as they would at the high school level or they're just not cutting it grade-wise and with their hands-on competencies, they [the teachers] have to let us know before midterms we can go ahead and withdraw them on our end. I think that we have to be more proactive. (Daniel, Vice President, Technical College)

The adults overseeing the education of at-risk students have witnessed the challenges these students face. Dedicated educators proactively address the challenges through relationship building, wraparound services, and strategies for academic success. This holistic approach is important, not only in helping students overcome obstacles, but also in fostering students' overall well-being allowing them to unlock their potential, laying the groundwork for future success.

**Learning Strategies for Practical Skills Mastery.** Throughout the interviews, participants expressed the importance of aligning high school curriculum with college requirements and industry standards to ensure that students gain theoretical knowledge and practical skills directly applicable to their chosen career fields. Dual enrollment emerged as a leading strategy implemented as part of the grant for making postsecondary education more accessible for students. Multiple stakeholder groups value students gaining early postsecondary credits and are equally invested in making these opportunities accessible. By allowing students the chance to earn college credits while in high school, the consensus of the participants was that students are held to a higher level of rigor, and they better understand the expectations of a college-level course. Participating in early postsecondary opportunities often demystifies the path to college, making it a visible and attainable possibility for students who may have initially viewed it as out of reach. Often, dual enrollment is viewed as a strategy for providing early college credit opportunities for the most high-achieving students (Jones, 2017). However, research has shown that middle-achieving high school students, defined as students whose grades

or assessments fall just below college readiness measures, also experience great success and benefits from participating in dual enrollment coursework, making it a relevant strategy in helping the at-risk students served at Wildcat Institute (Zinth & Barnett, 2018).

Instructors also shared that the curriculum for their high school courses typically mirrors that of entry-level college courses, so it makes sense for students to earn credit at both institutions. Thomas (Machine Tool Instructor, Wildcat Institute) expressed that after comparing the syllabi and textbooks, he realized how similarities between the classes, making dual enrollment a good option for his students:

It was the same book that the College uses, so it [my reasoning] was ‘I’m teaching the same thing, why not give the kids the chance to earn dual enrollment instead of just a high school credit?’ (Thomas, Machine Tool Instructor, Wildcat Institute).

Frank (Automotive Instructor, Wildcat Institute) echoed this sentiment:

I’m teaching a curriculum that's already in the state requirements that's also in the technical college’s requirements. They're on a higher level of knowledge- the information they go through, their access to the hands-on, because they just have more to work with. But other than that, it's pretty much the same. (Frank, Automotive Instructor, Wildcat Institute)

Participants explained that the cost associated with dual enrollment has been a barrier for some students. However, state and local investments have made dual enrollment more affordable than ever in recent years (Tennessee Student Assistance Corporation, 2023). Daniel (Vice President, Technical College) provided his postsecondary perspective, explaining that the State's Dual Enrollment Grant fully covers tuition expenses for high school students to complete most technical programs of study offered through the Tennessee Colleges of Applied Technology. Sandra (Middle College Coordinator, Community College) also explained how the Dual Enrollment Grant and a local scholarship are making dual enrollment opportunities more accessible to students:

Some of the challenges in the past-- cost has been prohibitive in some cases, but luckily the expansion of the Tennessee State Dual Enrollment Grant, has definitely opened up opportunities for students, and then, of course, in Stone County and Williams County, there are additional grant opportunities for students through the career readiness scholarship that will pay any additional tuition or any gaps that are not covered by the grant. (Sandra, Middle College Coordinator, Community College)

Even with the expanded availability of the Dual Enrollment Grant and local scholarships, sometimes students do not meet the academic criteria to receive those funds. In those situations, the district reallocated adjunct compensation for dual enrollment instructors to expand grant opportunities for students, as Beth (CTE Director, School District) explained:

Something that we've done as a district is realize that there's sometimes those outliers where they [students] can't get the Dual Enrollment Grant. And so when the postsecondary institution would normally pay the teacher to do an adjunct position, but we already pay the teachers at the district-level, we do get funds for compensation of letting our teacher teach their classes, and that [those funds] we can use to help students that are in these pockets of situations where they can't get the Dual Enrollment Grant (Beth, CTE Director, School District)

The district committed to leveraging resources to ensure that all students positioned to benefit from dual enrollment coursework could participate. By fostering partnerships and thinking creatively, multiple funding streams were identified to make dual enrollment affordable for students.

The mission of the faculty and staff at Wildcat Institute also included providing students with work-based learning opportunities. Initially, the team planned to incentivize working by allowing students to be excused from school on Fridays so they could gain entry-level work experience. Unfortunately, that incentive did not result in many students seeking employment opportunities, and they realized that external barriers, such as transportation and foundational soft skills, needed to be improved to help students make that transition. Administrators realized that traditional work-based learning might exclude students who do not have the necessary course requirements or time in their schedules to commit to a long-term placement – which



applies to many Wildcat Institute students. That realization that many Wildcat Institute students could not participate in traditional work-based learning opportunities was the motivation behind establishing the Ready Workforce Institute, which consists of short-term job placements in entry-level, low-skill jobs to help students learn essential skills such as work ethic, honesty, and reliability. Taylor (Career Coach, Wildcat Institute), who oversees the Ready Workforce Institute, explained how the idea of a reimaged work-based learning experience occurred:

They've got really difficult home lives. And so we're trying to tackle that, too, but at the same time, they're very close to being out in the workforce. How can you manage all of that and still manage to have a workday, go to a workplace, and be professional while you're there? So we just talked through it and said we need a set of training wheels for their first job and more support there. And I think because of that, everyone would be more open to needing a different version of career, prep, or workplace learning for at-risk populations. So, instead of just trying to connect them with existing possibilities or experiences. We just realize that sometimes they need something completely different. (Taylor, Career Coach, Wildcat Institute)

Employer partners were approached with the idea of offering students the opportunity to come to their business each Friday for a one-month job rotation, and employers quickly agreed to participate. As students are in rotations at partnering businesses, they are paid through community grants and provided with transportation to the job sites. The short-term nature of the placements allows students to experience several different types of jobs to better understand their interests and strengths.

Ongoing communication between the employer, career coach, and the students is important to the program's success. Each Friday, employers provide the school with a feedback form that the career coach, in turn, reviews with the student, providing them with timely feedback on their job performance, assisting them with setting goals for their next month's placement, as well as counseling them through their interests and what they have learned

personally through the experience. Taylor (Career Coach, Wildcat Institute) elaborated on the Ready Workforce Institute Coaching process:

The supervisor gives feedback on them, and that's things like honesty, working while you're there, volunteering to do work, or waiting for somebody else to do it. Then I go over that with them. Then we set goals for their next placement, based on the results from that placement. Then they move on to another placement, so it's lots of counseling. And that's just helping them shape a vision for themselves. (Taylor, Career Coach, Wildcat Institute)

Research has shown that career and technical education that integrates work and learning is more effective than programs that do not, proving to be an effective strategy in engaging students who are not thriving under conventional classroom instruction (Symonds et al., 2011). Aligned with the grant's mission, district administrators undertook a visionary overhaul of programming and systems, implementing innovative strategies to address the unique needs of at-risk and underserved students. The changes aimed to expand opportunities, fostering improved college and career readiness outcomes among students.

### ***Prepared for Success***

The second sub-theme, *Prepared for Success*, reflects the value components of Vroom's (1964) theory and shares participants' thoughts on the perceived impact of the changes implemented through the Innovative High School Grant on both students and their educational experiences. Students' preparedness for immediate educational endeavors and future career pathways is the motivating force behind the transformations that participants highlight. Aligning with Vroom's (1964) theory, this sub-theme captures administrators' strategic cultivation of an environment where positive outcomes are deeply regarded. These value components support the overarching theme of *Cultivating Futures*, encompassing academic achievement, essential skills development, resilience, and a forward-thinking mindset. Supporting statements that articulate

both the short-term and long-term impacts of the grant provide a deeper understanding of how these value attributes impact student development and the educational experience.

Participants expressed that the experiences and support provided at Wildcat Institute have resulted in positive student outcomes. The effect of dual enrollment on at-risk students is evident in the support provided during the transition to postsecondary expectations, offering at-risk students the space to prove their capability of success. By instilling self-confidence in students through early exposure and opportunities to gain practical skills and experiences, students will likely have a smoother transition after high school and develop a clearer vision for their future. The understanding that dual enrollment is an effective strategy for improved postsecondary enrollment and workforce readiness has been a catalyst in determining ways to expand these opportunities to a broader range of learners (Zinth & Barnett, 2018). Thomas (Machine Tool Instructor, Wildcat Institute) shared the benefit that this experience for disadvantaged students:

I think it's helped the disadvantaged kids because they can take it here, and I can help them transition. It's kids that probably wouldn't have thought about going to college in the future. But now, if they can get a couple of credits here in high school, it helps them take that next step. They'll be ready to do college. (Thomas, Machine Tool Instructor, Wildcat Institute)

Postsecondary institutions have also been able to refine and improve their admissions processes by expanding dual enrollment. This effort aligns with Jobs for the Future's report (2011) that recommends systemic changes that reduce or erase the boundaries between secondary and postsecondary education. The partnering technical college has recently been able to institute enrollment management strategies to give dual enrollment students priority admissions, serving the dual purpose of incentivizing students to participate in dual enrollment and helping the institution fill classes with students with proven capabilities and commitment.

Daniel (Vice President, Technical College) shared the benefits he has experienced in

implementing these strategies:

We've seen a better quality of students for our programs. If it's a better quality of students for our programs on the front end, that's going to equal a better employee for our industry partners on the back end. So that's one of the biggest things we've seen, which is why we choose to expand and put so much effort into dual enrollment. (Daniel, Vice President, Technical College)

Because the grant made it possible for the district to invest in equipment that mirrored the equipment found in industry, students are likely better able to transition to relevant jobs and employers spend less time on training new employees. The active involvement of industry professionals in educational processes through certifications and work-based learning opportunities further enhances the quality of instruction, ensuring that graduates are job-ready and able to meet employer requirements and expectations. In addition to employers taking a proactive approach in offering work-based learning opportunities, Symonds, Schwartz, and Ferguson (2011) recommended that employers also be engaged in setting course standards, designing programs of study, and advising students, citing that these types of partnerships between education and the workforce are commonplace in other countries with effective CTE systems. It is the understanding that by allowing students to gain hands-on, relevant experience in the classroom on machinery and equipment used by industry, industry will be more favorable to hiring those students upon graduation.

The educational approaches employed through the Wildcat Institute have also shifted the perspective of educational leaders. Integrating different versions of career preparation and workplace learning to meet the needs of at-risk students emphasizes the importance of systemic adaptation. Customizing programming and support to address the unique needs of each student has enhanced the overall experience of those facing challenges.

### ***Educational Evolution and Student Empowerment***

Lastly, the third sub-theme, *Educational Evolution and Student Empowerment*, aligns with Vroom's (1964) valence factor, which asserts that the value an individual places on an outcome in turn influences their motivation and effort toward achieving that outcome. The *Educational Evolution and Student Empowerment* sub-theme explores how the grant's implementation has informed future planning, with a commitment to adapting educational strategies to the evolving needs of students. This sub-theme sheds light on how educational evolution contributes to strategic planning and how participants' motivation for improved student outcomes has guided efforts supporting sustainability and continuous improvement. This sub-theme serves as a bridge connecting the past, present, and future of educational transformation, extending beyond a mere examination of lessons learned to resonate with the broader theme of *Cultivating Futures*, testifying to the commitment to ongoing evolution and empowerment and contributing to the enduring legacy of the IHSM Grant.

The CTE framework established at Wildcat Institute exemplifies a commitment to quality, customization, and practical experience. The goal is to produce confident, skilled, and work-ready graduates that benefit all stakeholders. In discussing the future implications of the CTE model at Wildcat Institute, participants expressed a hope to expand on the progress made in recent years:

I think that the consensus is that this [project] has been so successful that the continuing grants need to continue to support this. There's a huge commitment in the district to continue this and I do feel like the funding will be there to do that based on what we've done so far, and our plans for the near future. (Nicole, Principal, Wildcat Institute)

We really did use the same plan in Innovative High School Models, and then transferring it to the Innovative School Models (Beth, CTE Director, Wildcat Institute)

With the addition of new resources from the Innovative School Models Grant expansion, the intention is to strengthen early career exploration programs at the elementary school level, developing engaging activities for young learners that expose them to diverse careers. The school district also plans to increase efforts to bring CTE coursework to the middle school level, enabling middle school students to gain some introductory-level experience in CTE pathways offered at the high school. With this, there are discussions of implementing personalized plans for students, aligning with research that recommends that students finishing middle school should complete a pathway plan that includes career objectives, a program of study, degree and certificate objectives, and work-based learning experiences. While these plans are flexible, the practice enables young students to set a goal and a plan for their future education, better preparing them to make informed scheduling decisions during their high school career (Symonds et al., 2011).

In looking ahead, participants indicated plans to continue curriculum alignment efforts with postsecondary education and focus on staying current with industry trends and technology. An overarching theme was expanding work-based learning and dual enrollment to include more options to attract more students. Staff at Wildcat Institute also discussed that they are dedicated to being adaptable as students' needs shift, as stated:

I don't think that this program is going to be the same today as it will be next year, as it will be the next. I think each year it will change and evolve, based on what our students' needs are. (Nicole, Principal, Wildcat Institute)

The intentional support services provided to students at Wildcat Institute will continue to be a priority, ensuring that staff have access to ongoing professional development and holistic training to support students. There was also discussion of integrating character development programs into the curriculum, aligning with research highlighting the importance of these aspects

of development in college and career readiness (Atienza et al., 2008). The effort to launch strategic communications around transportation options is another strategy the district plans to employ to serve students better. Participants are committed to optimizing learning experiences through thoughtful scheduling and gathering student feedback to pivot as needed to make the programming effective and relevant for students. The continued focus on tailoring education to students' individualized needs, ensuring that their educational experience is relevant to their goals is explained by Taylor (Career Coach, Wildcat Institute):

I think we're going in the right direction, and if we keep going in that direction and can keep that in mind about not wasting their time, just making their time valuable. The hours they spend in school. Then we'll be doing well. (Taylor, Career Coach, Wildcat Institute)

This sub-theme highlights the IHSM Grant's influence on future planning, reflecting the recurring topic of shifting educational strategies to best serve the evolving needs of students. Continuous improvement is emphasized to achieve the best possible outcomes, with participants articulating plans to expand partnerships, enhance programming, and bolster supportive resources. This proactive approach aims to sustain the grant's innovative model, ensuring its ongoing relevance and efficacy in fostering optimal educational outcomes.

### **Chapter Summary**

This chapter examined the study's findings from interviews and documents collected and analyzed over three months. Interview transcripts were compiled, cross-checked by the interviewer, and then shared with each participant for confirmation of accuracy. Collected data was then coded and triangulated using MAXQDA software and then assessed with Vroom's (1964) Theory of Expectancy Value serving as the theoretical framework of analysis, ultimately resulting in the establishment of two primary themes explored in this chapter: *Empowering Excellence* and *Cultivating Futures*. This chapter organizes the findings around these key themes

using original phrases from interviews and documents to corroborate the findings. Exploring these themes, participants describe an educational model grounded in leadership that fosters an organizational culture that promotes collaboration and growth among all involved stakeholders. The framework for a comprehensive CTE pathway is described, encompassing early awareness of career pathways, intentional and ongoing supportive services, and opportunities for practical learning experiences. The following chapter will discuss the research questions, present theoretical and practical implications, share recommendations and opportunities for future research, and provide a study conclusion.



## Chapter Five

### Discussion, Implications, and Conclusions

This chapter discusses the study's outcomes focused on administrators' and teachers' experiences implementing the IHSM Grant. The discussion revolves around the three research questions guiding the study: understanding how the grant enabled more college and career readiness programming integration into CTE pathways, assessing participants' perceived value of these changes, and discovering insights from participants on how this work will continue. After exploring the answers garnered through the research, this chapter will also provide theoretical implications, recommendations based on the findings, and suggestions for future research to expand on the study. Lastly, the chapter will close with a conclusion of the research.

#### Discussion

This section will elaborate on the information collected through the interviews and document review conducted as part of this study and how this information answers each of the research questions. The study's interview guide was shaped by the research questions, establishing a foundational role in the comprehensive analysis of the findings. The following discussion of the three questions will explore insights gathered through the research and compare these insights to existing literature related to the study.

#### **Research Question 1: How did administrators and teachers integrate college and career readiness into career and technical education pathways?**

Participants revealed a comprehensive framework made possible by forward-thinking leadership, collaborative partnerships, strategic decision-making, and a commitment to promoting effective learning strategies in the classroom when discussing how to integrate college and career readiness into CTE pathways. Integrating college and career readiness into CTE

pathways started at the top levels of the organization by having school district and partner support for the vision. Leadership was a critical driver of systemic change and student-centric goals. A shared vision of growth and the benefits of a comprehensive approach to education permeated Wildcat Institute's culture. It was also evident that state-level funding and policy support gave administrators and teachers the resources and autonomy to reimagine their end game; the goal was not simply to get students to high school graduation but to equip them holistically with the personal and academic tools needed to thrive in life. This goal informed and guided 'the how' of what would be accomplished at Wildcat Institute, fostering a school staff that was responsive to student needs, adaptable to labor market demands, and eager to innovate and 'think outside the box' to achieve better outcomes among the at-risk student population served at the Institute. The commitment of Wildcat Institute's staff to supporting all facets of students' growth corresponds with Vroom's (1964) Theory of Expectancy Value, the theoretical foundation for this study. This alignment is illustrated by the staff's strong belief in their mission and purpose, highlighting key motivational elements of the theory that include both expectancy and valence. In summary, the theory holds that individuals are motivated when they anticipate positive outcomes (expectancy) and place value on those outcomes (valence). Within the context of this study, Wildcat Institute's staff exemplify these motivational factors in explaining their actions.

In further exploring how the district integrated college and career readiness programming into curricula at Wildcat Academy, adaptability and flexibility are vital characteristics among stakeholders, allowing educators and administrators to pivot to meet labor market needs and support students. The responsiveness to societal changes at the Institute reflects a dynamic organizational culture necessary to spur innovation and change within the educational space.

With this in mind, it is important to consider that forty-one percent of jobs are expected to require a Bachelor's degree or higher by 2031, making occupations requiring a Bachelor's degree or higher the largest segment in comparison to jobs requiring an Associate's degree and jobs requiring a high school diploma (Carnevale et al, 2023). While planning for current workforce needs is pivotal, it is equally important that students have access to pathways that will prepare them for occupations of the future. Aligning with this, the flexibilities within CTE education should allow for multiple on and off-ramps to allow for students with diverse interests, backgrounds, and aptitudes to stack credentials and have the opportunity to pursue higher-level degrees. Considerations should also be made to ensure that students are not undermatched with their future postsecondary institution based on their academic or CTE preparation in high school. Research has shown that students who were undermatched were less likely to graduate from college within 4 years, as well as 6 years, than students who matched to a college commensurate with their academic qualifications (Kang, 2021).

Along with adaptability, strategic decision-making was another core component in integrating college and career readiness into CTE pathways. There was a balance in establishing a solid team committed to collaboration and allowing educators autonomy in making curricular decisions based on their expertise. Rewarding and valuing the experience of teachers was a common thread in many conversations, also aligning with central tenets of Vroom's (1964) theory, in which the expectancy of recognizing achievements leads to a sense of ownership and motivation among staff.

On a more programmatic level, Wildcat Institute incorporated several significant elements that served as a framework for effective CTE education. These elements included early career exploration, informed pathways, student support, and learning strategies to master

practical skills. Each of these elements serves as a critical piece in establishing a foundation that prepares students for success, and they align with the core mission of the Institute to support students in making the best educational and career decisions.

Participants emphasized the need to expose students early to diverse career opportunities, ensuring awareness beyond limited everyday exposures that often influence career choices. Postsecondary partners shared about career exploration events they host, and district leaders shared plans to expand career awareness and exploration opportunities into elementary and middle school grades to inspire students and prepare them to take advantage of applicable CTE courses early in their high school careers.

Along with efforts to promote early career exploration, there was an emphasis on ensuring students access information about their chosen pathways. For instance, participants expressed efforts to include parents and industry leaders in discussions about CTE pathways, tying job and wage opportunities into course planning efforts. Wildcat Institute's staff shared a commitment to intentional pathways planning, using ongoing career coaching and assessment resources to ensure students can make informed decisions based on their interests and aptitudes. The school district also enhanced this work by hiring a full-time Career Coach dedicated to providing career development services to students. Research demonstrates that career development supports in high school impact students' transition into college and career, as well as their long-term levels of life satisfaction (Lapan et al., 1997), highlighting the importance of these supports.

These efforts are part of the wraparound student support in Wildcat Institute's culture. Proactive engagement with student needs and a concerted effort to help students develop a well-

rounded vision for their future contribute to the mission of the Institute to garner positive student outcomes. Mentoring and support go beyond academics to include personal development, as helping students establish a sense of purpose and a positive identity is a critical component in achieving college and career readiness (Atienza et al., 2008). Participants expressed that focusing on individualized needs had been a game changer, particularly for students from disadvantaged backgrounds. By addressing barriers beyond academic challenges and looking at students' situations on a case-by-case basis, students with societal and systemic barriers that were often easily overlooked in a larger school environment could have the adult support and advocacy needed to overcome those barriers.

In the classroom, there was an emphasis on aligning high school curriculum with college requirements and industry standards, ensuring that students gain theoretical knowledge and practical skills. Dual enrollment was a leading strategy to give students early access to college credit and a better understanding of the expectations of postsecondary coursework while still being in a supportive high school environment. In accommodating alignment between secondary and postsecondary education and the workforce, the district also emphasized modernizing equipment and ensuring students have access to industry-standard technology, equipping them with relevant hands-on experience. Blending dual enrollment and work-based learning opportunities further exemplifies innovation, seamlessly transitioning from classroom learning to real-world application.

The most significant structural barrier to increasing college completion rates and career success is the disconnect between high school, higher education, and workforce systems (Jobs for the Future, 2021). The vision to reimagine high school and erase the boundaries between secondary education, postsecondary education, and career requires partnerships, which served as

a cornerstone in implementing the IHSM Grant. The progress made through these relationships highlights the power of leveraging resources and expertise to achieve a shared vision. Partner involvement in all aspects of the project, from lab space planning to curriculum development, demonstrates the shared commitment to preparing students for the workforce.

In summary, the administrators at Wildcat Institute have employed a multi-faceted approach where leadership, strategic decision-making, effective learning strategies, and collaborative partnerships converge to integrate college and career readiness into CTE pathways. The commitment to a shared vision, adaptability, and a holistic approach to student support further illustrates the Institute's dedication to preparing students for the next step. This comprehensive framework aligns with Vroom's (1964) Expectancy Value Theory, where positive outcomes are expected, valued, and actively pursued within a motivational, educational ecosystem.

### **Research Question 2: What is the perceived value of these changes?**

The IHSM Grant enabled district leadership to enact changes that resulted in a perceived value that extends across teacher quality, industry collaboration, student impact, admissions processes, equipment enhancement, and a paradigm shift in educational leadership.

One benefit of the grant funding was that the district reimaged its teacher pay structure to better recruit highly qualified CTE teachers, addressing one barrier contributing to the nationwide shortage of CTE teachers (Association for Career and Technical Education, 2023). The school district was also mindful to recruit teachers with the credentials necessary to teach at both the postsecondary and secondary levels. Salary structure policies were adjusted to recognize industry experience in calculating years of experience on the salary pay bands, solidifying that industry experience was an asset in the classroom (Jacques & Potemski, 2014). Both of these

practices benefitted students by giving them more opportunities to be exposed to the rigors of college-level coursework and expanding workplace opportunities and practical instruction through the instructors' existing professional network in their CTE area and their knowledge of current industry norms.

Postsecondary education and industry partnerships enhanced instructional quality by allowing teachers access to additional development opportunities and instructional resources. By collaborating closely with instructors located at postsecondary institutions, the CTE teachers at Wildcat Institute could better embed the postsecondary standards into their classrooms and offer students new industry credentialing opportunities. The industry partnerships made it possible to pilot work-based courses, allowing students to gain supplemental hands-on instruction at a workplace, further supporting the competencies taught in the classroom. Significant investments in equipment have upgraded high school lab spaces to match those at postsecondary institutions, facilitating seamless on-site teaching of dual enrollment courses. These technological improvements and expanded facilities also increased program capacity, allowing more students to enroll in CTE classes.

The close collaboration between postsecondary and industry also benefitted students by making industry more favorable to consider them in work-based learning and hiring placements since they were learning on equipment found in the workplace. The partnering postsecondary institutions also reconsidered admissions policies by prioritizing dual enrollment students and streamlining enrollment management strategies. While in high school, the dual enrollment experiences offered at Wildcat Institute also served as a bridge to ease the transition from high school to college, giving disadvantaged students more confidence to pursue their next step after high school graduation. This practice also signals the shift to view dual enrollment as a strategy

to effect change among middle-achieving students, rather than only an opportunity for the most high-achieving students (Zinth & Barnett, 2018).

In keeping with the focus on helping disadvantaged and at-risk students, the commitment to individualized student support at Wildcat Institute also provided students with a support system that has proven critical in successfully transitioning from high school to postsecondary (Jobs for the Future, 2021). Barriers that may not have been noticed or addressed in a traditional high school setting, such as obtaining an ID, became part of the standard school operations, helping students overcome foundational obstacles to pursue more long-term goals. The shift in the focus from whole-group decisions to establishing individualized strategies tailored to students' unique needs signals a proactive recognition of the diverse needs of students.

In conclusion, the perceived value of the changes the IHSM Grant brings is multi-faceted. It spans teacher quality, industry collaboration, student impact, admissions processes, equipment enhancement, and a shift in educational leadership. The grant's influence is evident in improved educational practices and the alignment of education with the dynamic demands of the workforce, ensuring that students are well-prepared for both postsecondary education and the professional world.

**Research Question 3: Based on the perceived impact, what do participants see as the following steps to expand college readiness programming in CTE pathways?**

The participants in the study of the IHSM Grant discussed their anticipated next steps for expanding college and career readiness programming in CTE pathways. Common threads throughout these conversations included a commitment to sustained growth, continuous improvement, and a student-centric approach to education. Administrators also discussed how they planned to build upon successful policy and procedural changes at the district level to



continue the momentum of the grant and propel more extensive policy conversations that would further foster a culture of innovation within Tennessee schools. District leaders detailed a plan for long-term sustainability to ensure they could support the work established through the IHSM Grant for years, even though many of the approaches instituted through the grant could continue without additional funding.

Financially, expanding Innovative School Models to a statewide initiative will support these efforts over the next three years. The district receives \$1,000,000 per high school and \$500,000 per middle school for this purpose (Guidance for Districts, 2022). Administrators plan to use these funds to continue Wildcat Institute and expand CTE coursework into the middle school level, allowing middle school students to earn introductory-level high school CTE credits. Beyond the Innovative School Models grant period, district leaders expect to rely on the State's new education funding formula, TISA, to offset grant funding losses. The new funding formula will provide support based on CTE programs offered and individual student needs, particularly relevant to Wildcat Institute (Funding for Success, 2022). Administrators also discussed ongoing efforts to secure additional grant opportunities to support the expansion of the work.

Aside from financial sustainability planning, school district leaders expressed a commitment to continuing to identify ways to incentivize individuals with industry experience to become CTE teachers. This paradigm shift was essential in maintaining the momentum initiated by the grant.

The partnerships between postsecondary education and industry also are expected to be a priority in future planning. These intentional relationships will be critical in expanding work-based learning and dual enrollment options. Curriculum alignment will remain a key focus area to ensure that the CTE education students receive is seamlessly aligned and prepares them for

their next step, whether entering college or the workforce. Maintaining the technological modernization facilitated by the grant will also give significance to these relationships, ensuring that high school labs have tools and technology comparable to those in industry. There was also a commitment to fostering engagement among other stakeholder groups, such as parents and community agencies, to create awareness of the CTE opportunities available and the benefits to students choosing to participate.

The long-term intention is to continue the student-centric approach at the Wildcat Institute. Administrators expressed the importance of ongoing holistic training to support students, with plans to implement personalized student support planning, character development programming, and strategic communications around transportation options. Above all, there was a dedicated focus on acknowledging the individualized needs of students in planning rather than focusing on the whole. With that, administrators expressed an ongoing commitment to being adaptable as students' needs shift, ensuring that the program at Wildcat Institute evolves to continue to be an effective model.

Organizationally, this commitment to flexibility recognizes the dynamic nature of education as a resource for positive transformation. There were many lessons learned over the two-year grant period, and administrators discussed the need to share these lessons strategically and success stories to develop an educational model in the years to come that other institutions could replicate.

### **Theoretical Implications**

Vroom's (1964) Theory of Expectancy Value served as the theoretical framework for this study. As Vroom (1964) explained, the process theory explores motivation by examining individuals' choices among other alternate voluntary activities. With this study, these choices

encompass the IHSM Grant implementation, intending to reimagine the high school experience over the traditional practices and actions of the past. Expectancy Value Theory is relevant to this study because it is commonly applied in goal setting, organizational culture development, and performance evaluation, emphasizing individual perceptions of the environment and interactions based on personal expectations (Isaac et al., 2001; Lazar et al., 2013). Using Vroom's (1964) theory, this study examines the impact of grant funding on college and career readiness within CTE pathways to understand the motivational factors and expected outcomes associated with the grant's implementation. Vroom's (1964) theory provides a lens through which to examine the motivations of district administrators, teachers, and grant partners in enhancing college and career readiness programming.

Examining the first factor of expectancy involves participants' perceptions of their capacity to impact student outcomes by offering expanded college and career readiness programming. As Lazar et al., 2013 discussed, the expectancy factor is subjective and affected by interventions, such as adding fiscal resources through the IHSM Grant. Participants expressed an expectation that the strategies of the grant implementation would make a difference in students' abilities to be successful in an educational and career environment. The 'buy-in' demonstrated by partners and the staff's belief in their purpose and mission at the school showed high expectancy. At a more granular level, flexibility, teamwork, and recognizing and rewarding achievements were other elements impacting expectancy within the organization.

The study uses Vroom's (1964) second factor, instrumentality, to explore the effects of this financial investment and the efforts employed to impact student outcomes. All participants demonstrated high instrumentality in firmly committing to making systemic changes. The findings were grounded in participants' beliefs that their efforts would enhance students' ability

to transition successfully to postsecondary or the workforce, aligning with the theory's proposition that individuals are motivated when they believe specific actions will lead to desired outcomes.

Valence, Vroom's (1964) third factor, aligns with the value placed on outcomes by individuals and organizations. Leadership commitment, district-level dedication, and state-level support are threaded throughout the discussions. These elements exemplify instrumentalities, showcasing the belief that financial investments in critical areas will lead to positive student outcomes. These positive student outcomes are undergirded by the idea that preparing students for postsecondary and the workforce has a far-reaching impact on the community. There was a higher-order motivation throughout the findings that the grant implementation allowed participants to offer students access to an effective education. On a student level, support services and many instructional strategies align with Vroom's (1964) theory in the expectation that this environment will enhance students' motivation to succeed. The comprehensive theoretical framework of Vroom's (1964) Expectancy Value Theory provides a foundation for understanding the interplay of motivational factors and the anticipated impact on student outcomes within the context of the IHSM Grant.

### **Future Research**

There are several ways that this research can be expanded upon in the future to deepen understanding and inform best practices. First, the long-term outcomes of students who participated in the programming at Wildcat Institute could shed light on how the programming impacted success in postsecondary and career advancement. A longitudinal study of this nature would provide insights into the sustained impact of college and career readiness programming within CTE programs. At the conclusion of the grant, statewide data was released reporting that

over 32,000 students were impacted by the grant, with grant funds directly supporting 3,900 students enrolling in over 150 courses for early college credit. Additionally, over 6,600 students within the awarded districts participated in work-based learning opportunities and these districts reported over 100 partnerships that supported reimagining the high school experience over the life of the grant (Tennessee Department of Education, 2023). An analysis of the college and career readiness outcomes among these cohorts of students compared to the outcomes of students at districts not participating in the grant would be useful in assessing the impact of the investment.

Other potential research opportunities include an exploration of the effectiveness of some of the college and career readiness components employed through the IHSM Grant. For example, it would be beneficial to compare the different models of early postsecondary opportunities, such as dual enrollment and work-based courses, within CTE pathways to determine the most effective model for student success. Examining student outcomes garnered through personalized support plans for students in CTE pathways would also provide helpful information for this work. For instance, a better understanding of how tailored support services and strategic communication impact student success could inform the development of comprehensive student support frameworks that school districts could replicate. Additionally, research evaluating the effectiveness of early career exploration programs at the elementary and middle school levels could assist in developing a better understanding of how this early exposure influences students' decision-making process as they progress through high school, which could affect future exploration strategies.

From an instructional perspective, future research could consist of a deeper dive into the innovative learning strategies within CTE pathways, such as the integration of emerging technologies and project-based learning, to assess the effectiveness of these strategies on student

educational outcomes. Additionally, it would be interesting to examine the pedagogical practices employed by instructors with industry experience compared to instructors without industry experience to determine the impact of this background on student outcomes in the classroom.

Finally, future research could also examine the impact of partnerships in assessing how this alignment contributes to developing a skilled workforce and how community engagement impacts CTE education. Specific to grant funding, it would be beneficial for ongoing educational innovation to investigate sustainable funding models for CTE programs and how administrators have successfully transitioned from grant-funded initiatives to self-sustaining CTE programs.

### **Recommendations**

Based on this study's findings, there are several recommendations for further supporting innovation within CTE pathways to better prepare students for college and career success. In looking at ways to foster the growth mindset among leadership, which was critical in initiating the innovation at Wildcat Institute, it is essential to invest in leadership development focused on fostering these qualities among staff members. Quality leadership development is necessary to drive systemic change and employ strategies effectively that holistically serve students. Research has shown a positive association between high-quality leadership and effective schools (Naicker & Mestry, 2016). Schools should also prioritize professional development for teachers since inspired and appreciated teachers will enhance opportunities for student success. Embedding an emphasis on establishing learning opportunities that keep educators informed on industry trends, technological advancements, and effective teaching practices should be part of continuing professional learning expectations. With this, curriculum alignment efforts between secondary education, postsecondary education, and the workforce should be intentional and ongoing to ensure the educational programs remain relevant to meet the fast-paced changes of industry. A

best practice is extending this employer collaboration into the classroom, enabling individuals in the workforce to share knowledge and insights to supplement classroom curricula (Symonds et al., 2008). These partnerships are critical and should be prioritized within CTE pathways to enhance learning and assist in bridging gaps for students, enabling them to experience a more seamless transition from high school to postsecondary education or the workforce. To ensure accessibility for all students, schools should also expand opportunities for practical learning through early postsecondary opportunities and work-based learning. Schools should also consider competency-based credit, diversified course options, and new models for participating in work-based learning. It would also be beneficial to examine the challenges and potential negative implications of this work on students' academic and professional trajectory, such as the possibility of limiting students' academic preparation for university-level study or promoting undermatching among CTE students when selecting a postsecondary institution to attend after high school.

Critical to the success of Wildcat Institute was the personalized support for students. By using the grant to hire a career coach and having a smaller student population to serve, students were able to develop a relationship with an invested adult, which resulted in more intentional and frequent conversations about career pathways planning. These discussions uncovered and addressed hidden and overlooked barriers, enabling students to overcome future issues that impede their progress. In looking at ways to replicate this practice, increasing staff capacity to allow student caseloads to be manageable would be a best practice. Prioritizing and expanding personalized support plans built through proactive and ongoing engagement and flexibility to evolve with students' needs has the potential to affect systemic change.

Raising stakeholder awareness of CTE opportunities is another vital facet of enhancing college and career readiness. Stakeholders include students, parents, community, and educational and workforce partners. Increasing students' awareness of careers should begin as early as elementary school to give students a north star to increase motivation, aligning with research outlining the benefits of having younger students develop flexible pathways plans with goals (Symonds et al., 2008). Schools should incorporate activities into elementary and middle school curricula that expose students early to postsecondary and career options. Adult stakeholders should also be involved in these efforts to foster a community culture that is invested in preparing students for college and career success and understands that this mission is everyone's responsibility, not just the educators who interact with students daily. There should be transparency and intentional communication about the opportunities within CTE pathways and the gaps the school district needs assistance filling. Strengthening partnerships and onboarding external individuals for a shared vision and goal could leverage additional resources to enhance CTE initiatives.

In terms of resources, all these practices could support financial sustainability planning and strategic policy development. As always, there should be an emphasis on program evaluation and continued improvement. As participants noted, the programming and support available at Wildcat Institute evolve as the student's needs change, making this program particularly effective. Leaders charged with implementing programming should use data-driven insights to identify areas for improvement and innovation on an ongoing basis. By leveraging the successes and outcomes of the programming and lessons learned, leaders can influence educational practices on a broader scale by advocating for policy change and alignment to promote effective efforts.



In summary, these recommendations aim to sustain the positive momentum created by the IHSM Grant. By assessing the way one district utilizes this grant to develop a new model for CTE education that serves at-risk students, other communities may be able to replicate and scale similar models to improve college and career readiness preparation, ultimately developing a pipeline of individuals to meet labor market demands.

### **Conclusion**

The study of administrators' and teachers' experience implementing the IHSM Grant has provided insights into integrating college and career readiness programming within CTE pathways. This chapter discussed the research questions guiding the study, further exploring the model developed at Wildcat Institute to understand how the grant spurred innovative changes within the educational environment, the perceived value of these changes, and how the work would be sustained and expanded.

Forward-thinking leadership, strategic decision-making, and collaborative partnerships contribute to the success of Wildcat Institute. The value-added aspects of the grant span teacher quality, industry involvement, student impact, postsecondary admissions adjustments, equipment enhancement, and campus culture improvement. In the years to come, there is a vision for continued growth, financial sustainability, and expanded partnerships for Wildcat Institute. On a broader scale, participants expressed a commitment to sharing their experiences to promote the model statewide, emphasizing individualized student support and the embedment of postsecondary education and workforce expectations in CTE pathways. Vroom's (1964) Theory of Expectancy Value is threaded throughout the study, serving as the framework for the motivational factors and expected impacts that propelled the work. Future research may include longitudinal assessments, evaluations of specific components of the project, and deeper

investigations into teaching, professional development, and student support strategies.

Recommendations based on the findings include prioritizing teacher and leadership development, diversifying early postsecondary opportunities and work-based learning opportunities for students, and ensuring staff capacity exists to provide students with the individualized support needed to transition to their next step after high school. In conclusion, this research provides valuable insights to enrich best practices for integrating college and career readiness into CTE pathways, ultimately enhancing students' preparation for postsecondary education and professional success.

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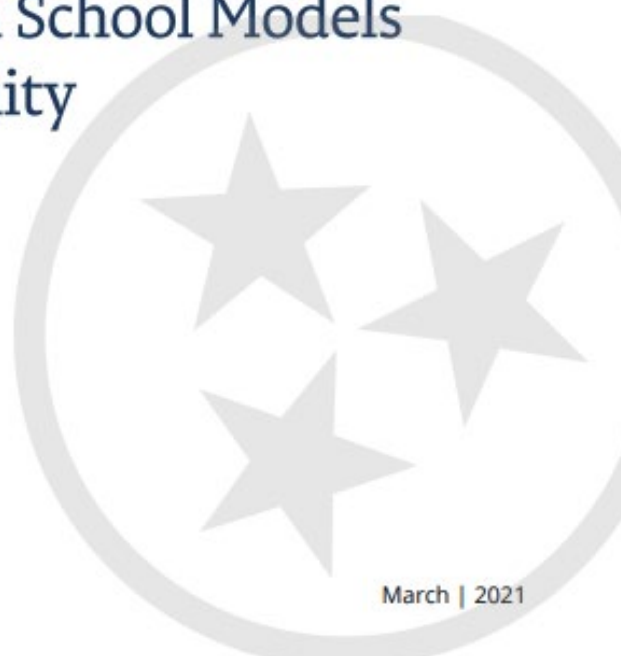
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Appendix A

IHSM Grant Opportunity Application Guide



Innovative High School Models  
Grant Opportunity  
Application Guide



March | 2021

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## Overview

The Tennessee Department of Education is providing funds to increase innovation in our public education system. The COVID-19 pandemic has revealed major challenges and opportunity gaps in preparing young people for successful transitions to college and career. The Innovative High School Model Grants are intended to foster and provide a vision of high schools of the future by reimagining new routines of schooling that meet the demands of the 21<sup>st</sup> century. Successful applications will truly break the mold and will work from a vision of what will work best to engage, educate, and prepare our state's youth for the challenges and opportunities ahead.

The Innovative High School Grants will support new approaches to increase student postsecondary attainment through groundbreaking partnerships that elevate equity for all students in keeping with the spirit of the department's *Best for All* strategic plan. The goal of the grants is to empower districts to reimagine the use of **time, space, partnerships, and modes of learning** to *accelerate* and *increase* student attainment of high-quality, in-demand postsecondary credentials. The Innovative High School Grants Opportunity reinforces the work of the [Tennessee Pathways](#) model, which supports alignment among K-12, postsecondary, and industry partners to provide students with relevant education and training to jumpstart their postsecondary degrees and credentials.

In Tennessee, high-quality career pathways support student success through:

- High-quality college and career advisement throughout K-12;
- Rigorous early postsecondary and work-based learning opportunities throughout high school; and
- Seamless vertical alignment between K-12, postsecondary programs, and career opportunities as a result of effective partnerships among school districts, higher education institutions, employers and community organizations

If we are successful, more Tennessee students will have their unique needs met so that they can earn valuable postsecondary credentials that create opportunities for upward economic mobility.

### ***Terms & Scope of Grants***

- The grant will fund 10-20 proposals with a total of **\$14.3 million** awarded to districts from May 21, 2021-Sept. 30, 2023.
- The funding per proposal available is \$750,000 to \$2 million over the full grant period.
- Grants will be awarded to public school districts/Local Education Agencies (hereafter referred to as "LEAs").
- LEAs must serve as the fiscal agent. LEAs may also partner to apply as a consortium (i.e., two or more LEAs collaborating on a single proposal). If multiple LEAs collaborate on a single proposal, one LEA should be designated as the fiscal agent. Each LEA may only be the fiscal agent for one application.

### ***Application Timeline***

Key dates for the application timeline are listed below. In order to apply for the grant, LEAs must first submit a [Notice of Intent to Apply](#). Then, full grant proposals must be submitted by **Friday, May 7, 2021** at 11:59 p.m. (Central Time). **Submissions received after this deadline will not be considered.**

- [Notice of Intent](#) opens: March 31, 2021
- [Webinar Information Session](#): April 6, 2021, 3-4 p.m. CT
- [Notice of Intent](#) closes: April 15, 2021, 11:59 p.m. CT
- Application period: April 16-May 7, 2021, 11:59 p.m. CT
- Applicants notified of selection for award: no later than May 21, 2021
- Start date for contracts: May 21, 2021

### ***Equitable Innovation Strategies***

LEAs and partners are highly encouraged to consider the opportunity outlined in T.C.A. § 49-15-101-111 to support “Cooperative Innovative High School Programs.” In brief, this legislation encourages postsecondary partners and LEAs to establish innovative practices to accelerate credential attainment and/or engage students at risk of dropping out of high school.

Through the incentive of the Innovative High School Grants and the flexibility encouraged through the “Cooperative Innovative High School Programs” legislation, we seek proposals in which LEAs and their partners:

- ❖ Review and reimagine their current policies and requirements, especially regarding scheduling, admission or employment requirements, academic remediation and support, and/or modes of learning (e.g. revising academic requirements for postsecondary courses or enrollment; revising educator requirements to serve as adjunct faculty; revising graduation requirements to better align with employment standards);
- ❖ Review and reimagine their instructional practices and improve how they share vital human capital such as teachers, counselors, and advisors through effective partnerships among secondary, postsecondary, and community organizations (e.g. sharing advisors to support students across the bridge from high school to college or employment, sharing instructional staff across institutions, collaborating to share professional development resources across partners);
- ❖ Review and reimagine how they use employer and community-based partners to provide students with the mentorship, training, and competencies that are vital to workplace success (e.g. providing work-based learning in virtual or hybrid formats, co-developing non-academic standards and competencies for employment success, helping students build social capital through mentorship and work-based learning).

The examples of innovative practices below show models of practice that have reimaged time, space, partnerships, or modes of learning. Although the example models focus on one element of change, notice that some models incorporate more than one way to reimagine practices to accelerate and increase student attainment of high-quality, in-demand postsecondary credentials.

Innovative practice	Examples
Reimagining time	In this example model, district, postsecondary and industry partners utilize equipment, staff, and other resources to <b>extend learning opportunities outside the traditional school day</b> in order to accelerate completion of valuable industry or postsecondary credentials. Extended opportunities can be in-person, virtual, or hybrid.
Reimagining space	In this example model, <b>learning takes place onsite with an employer or on a postsecondary campus</b> . Students complete their high school requirements alongside opportunities for work-based learning, dual enrollment, or other early postsecondary opportunities (EPSOs). This model reduces the burdens of transportation and costs to students and creates efficiency for schools and partners. Students have the ability to earn an associate's degree or postsecondary credential alongside their high school diploma.
Reimagining partnerships	In this example model, STEM-focused <b>courses are co-designed and co-taught by high school teachers and employers</b> . Course content will be taught both in classroom settings (remote and in-person) and through applied learning that uses the workplace as a laboratory, enabling students to simultaneously earn early postsecondary credit and gain workplace skills that prepare them to enter and succeed in STEM careers.
Reimagining modes of learning	In this example model, programs of study maximize the number and variety of college-credit courses by <b>leveraging remote course delivery models</b> and other innovative practices, especially for rural students. Teachers receive ongoing professional development focused on instructional strategies and student engagement in virtual settings.

## Important Application, Eligibility, and Award Information

Please see below for additional application, eligibility, and award information.

<b>Application Requirements</b>	<ul style="list-style-type: none"> <li>▪ Notice of Intent to Apply</li> <li>▪ Application Submission</li> <li>▪ Budget</li> <li>▪ Letters of Support</li> <li>▪ Memorandum of Understanding from any identified partners</li> </ul>
<b>Application Submission</b>	ePlan
<b>Type of Award</b>	Discretionary
<b>Disbursement of Funds</b>	Reimbursement, Fiscal Agent
<b>Total Funds Available</b>	\$14,325,418.83
<b>Maximum Funds Awarded per eligible recipient</b>	\$2,000,000
<b>Estimated Awards</b>	10-20
<b>Matching Requirement</b>	None
<b>Period of Availability</b>	May 21, 2021 – September 30, 2023
<b>Reporting and Accountability</b>	Quarterly Progress Report, Final Impact and Expenditure Report

**Note:** The department reserves the right to consult with recipients to make amendments to planned uses of funds to ensure allowability and/or refuse any reimbursement request from an awarded applicant for unapproved or unallowable expenditures.

## Selection Process

All applications must meet the eligibility criteria stated above and be submitted in ePlan by 11:59 p.m. CT on May 7, 2021. The selection process is as follows:

1. Each application will be scored using a rubric aligned to the criteria for the five sections of the application.
2. Each application will be scored independently by three reviewers.
3. A selection committee will review all scored applications to determine final selections and total award amounts.
4. The selection committee may request additional information from applicants in order to make final selections and final award decisions.
5. All applicants will be notified of their application status by May 21, 2021.

## Contact Information

For additional information regarding the Innovative High School Models grant, please contact:

Tennessee Department of Education  
Division of College, Career & Technical Education  
Deborah Knoll, Director of K-12 Programs & STEM  
Initiatives  
[Deborah.Knoll@tn.gov](mailto:Deborah.Knoll@tn.gov)

## Appendix A: Innovative High Schools Grant Application

### **Budget**

Provide a final budget for the proposed project for the full grant period of May 21, 2021-September 30, 2023. The funding per proposal available is \$750,000 to \$2 million over the full grant period.

### **Eligibility**

The following information must be included in the application to be eligible for the grant funding:

1. **Fiscal Agent, Secondary School(s), and Partnerships**
  - The LEA that will serve as the fiscal agent
  - If applicable, identify additional LEAs that will participate in the proposal.
  - Identify at least one (1) secondary school and one (1) partnering postsecondary institution, and/or local workforce or economic development entity, employer, community partner, and/or consortium.
  - Identify the anticipated total number of students who will be served by the proposal.
2. **Project Coordinator Contact Information (Full Name, Title, Email, Phone)**
3. **Acknowledgement of Assurances and Conditions**

### **Section 1: Project Narrative**

Provide a thorough description of the proposed project. This should include the following essential components:

1. Provide a vision statement for the proposed project: What is the purpose of the project? What is the significance of the project in the current national, state, or regional context? Define and describe how the secondary school(s) and identified partners will collaborate to reimagine the use of time, space, partnerships, and/or modes of learning (e.g. virtual, hybrid, work-based learning, after-school time, summer, etc.) in order to meet the needs of students, partners, and employers.
2. Describe the needs that informed this project proposal from the perspective of the LEA(s) and partner organizations (e.g., labor market needs, student performance data, postsecondary enrollment trends, etc.).
3. How will the project address skill gaps (if any) between regional industry needs and the skill level of the students? What postsecondary credential(s) will the proposed project lead to?
4. Through the lens of a student, how will the high school experience of the proposed project differ from the current high school experience? Include information about how students will be advised, mentored, and supported in career awareness, exploration, and work-based learning.

## Section 2: Theory of Change & Budget

1. Describe what the results of successful implementation will look like for students and partners using the template below. We encourage you to use "If, then" statements to define what will be true for students if your implementation is successful: e.g., "If we support two teachers in meeting the qualifications to serve as adjunct faculty for TCAT, then we will be able to offer four more EPSOs, increasing access for 100 students" or "If we restructure the school day to provide time for large presentations from visiting business and industry leaders followed by small student-led seminars and job shadows, then students will develop agency in attaining their own work-based learning placements."

Theory of Change template:

Theory of Change	Resources	Activities	Outcomes
"If, then" statement	<i>Resources may be financial (new or existing); intellectual (knowledge, skills, and expertise of partners); or structural (new or existing)</i>	<i>Activities may include project components and implementation strategies</i>	<i>Outcomes should include long-term outcomes for students, school/district, and project partners</i>

2. Provide a budget narrative that outlines key priorities for spending. The narrative should include how the proposed costs are necessary to ensure student success and how they align to the resources identified in the Theory of Change. Please identify both direct and indirect costs, as well as any in-kind or matching funding.
3. Using the provided table in ePlan, outline action steps, timelines, expenditures, the metrics or student outcomes for the evaluation strategy, and priority ranking of the funding needed to complete the overall project.



**Section 3: Equity & Access**

Provide an overview of the primary student groups that will be served, along with how you plan to track progress. This should include the following essential components:

1. How does the proposal define equity? Describe the target student population and how the project will promote equitable outcomes for students.
2. Provide an estimate of how many students by student group (e.g., gender, race, socioeconomic status) in the school or district will be served. Please indicate if this will serve primarily rural/economically disadvantaged or other underrepresented student groups.
3. What barriers to equitable access and outcomes is this project addressing? How will identified barriers to equitable access and postsecondary outcomes be reduced or eliminated? How is the proposed project or approach different from past approaches or built on lessons learned/previous successes?

**Section 4: Community, Postsecondary, and Employer Partnerships**

Provide an overview of key partnerships in this project and any commitments or plans for sustaining the proposal's activities beyond the period of availability. This should include the following essential components:

1. Describe each of the partnerships that will be vital for this proposal. For both existing and new partnerships, what makes the partnership strong? For each of the partners, what is the value of the proposed project?
2. Please include details on how these partners will support the proposed project and include specific commitments for each partner (e.g., dedicated time, staffing, funding, equipment, etc.).
3. Please include letter(s) of support and/or Memorandum(s) of Understanding outlining key partnership(s) and specific roles and tasks of the partnership (including financial or in-kind contributions).

**Section 5: Equitable Innovation Strategies**

Describe the key innovations that the proposal and partners will collaborate to achieve. This should include the following essential components:

1. Define and describe how the secondary school(s) and identified partners will collaborate to define the essential learning goals, experiences, assessments, and credentials that are needed to succeed after high school (e.g., in the workplace or in specific careers or programs).
2. Define and describe how the secondary school(s)—in collaboration with identified partners—will identify specific requirements, traditions, policies, assessments, or practices that create barriers for student success and how the project, by eliminating or reducing them, will create more postsecondary success for students. **Note: T.C.A. § 49-15-106(g)** states: “the state board of education or the postsecondary governing board may waive any law or rule that inhibits or hinders the participating institutions’ and schools’ abilities to meet the goals of this chapter”. *If the proposal will require requesting a waiver for any law(s) “that inhibits or hinders the participating institutions’ and schools’ ability to meet the goals [of cooperative, innovative partnerships]” as stated in T.C.A. § 49-15-101-111 then those requests should be included here and should specify if the waiver pertains to a local or state rule or law. Additionally, applicants should include a contingency plan if the requested waiver is not granted.*
3. Define and describe how identified partners (i.e. employers and/or postsecondary institutions) will investigate and/or amend their own procedures, policies, environments, or on-boarding/admission processes to welcome students and support their success, especially students who are under-represented on their campuses or in their workplaces.

## Appendix B: Innovative High Schools Grant Rubric

### Eligibility Check

Requirement	Criteria
Budget	Proposed budget included in application Y/N
Identification of Partnerships	Identifies at least one (1) LEA that will serve as fiscal agent (and any additional LEAs that will participate in the proposal, if applicable)  Identifies at least one (1) secondary school and one (1) partnering postsecondary institution, local workforce or economic development entity, employer, community partner, and/or consortium  Identify the anticipated total number of students served by proposal
Project coordinator contact information	Y/N
Acknowledgement of Assurances and Conditions	Y/N

**Section 1: Project Narrative**

Application Question	Points Possible	Criteria For Success
1	2	<p>The description of the proposal directly addresses how partners will do two or more of the following: reimagine the use of time, space, partnerships, and modes of learning (2 points)</p> <p>The description of the proposal directly addresses how partners will do one of the following: reimagine the use of time, space, partnerships, and modes of learning (1 point)</p> <p>The description does not clearly state how partners will reimagine the use of time, space, partnerships, and modes of learning (0 points)</p>
2	2	Describes the needs that informed this project from the LEA's perspective (e.g., student achievement gaps, access/participation gaps, student outcomes)
2	2	Describes the needs that informed the project proposal from the perspective of employer/postsecondary partners (e.g., high-demand credentials, unfilled skilled jobs, shortage of licensed teachers)
3	2	Identifies how project will address skill gaps for workplace success and/or identifies postsecondary credentials the proposal will offer students
4	2	Describes how the student experience will differ from current practices if the proposal were implemented.
4	2	Describes how students will be advised, mentored and supported in career awareness, exploration, and work-based learning.
<b>Total Points Possible</b>	12	

**Section 2: Theory of Change & Budget**

Application Question	Points Possible	Criteria For Success
1	2	<p>All of the Theory of Change statements include measurable outcomes for students and partners (2 points)</p> <p>Some of the Theory of Change statements include measurable outcomes for students and partners (1 point)</p> <p>None of the Theory of Change statements include measurable outcomes for students and partners (0 points)</p>
2	2	<p>All key priorities for spending (including direct and/or indirect costs) in the budget narrative align with the Theory of Change (2 points)</p> <p>Some of the key priorities for spending (including direct and/or indirect costs) in the budget narrative align with the Theory of Change (1 point)</p> <p>None of the key priorities for spending (including direct and/or indirect costs) in the budget narrative align with the Theory of Change (0 points)</p>
2	2	<p>All of the proposed costs or resources show alignment to resources identified in the Theory of Change (2 points)</p> <p>Some of the proposed costs or resources show alignment to the resources identified in the Theory of Change (1 point)</p> <p>None of the proposed costs or resources show alignment to the resources identified in the Theory of Change (0 points)</p>
3	4	<p>All of the action steps have a designated timeline, expenditures, metrics and/or student outcomes to support an evaluation strategy that is aligned to the proposal (4 points)</p> <p>Some of the action steps have a designated timeline, expenditures, metrics and/or student outcomes to support an evaluation strategy that is aligned to the proposal (2 points)</p> <p>None of the action steps have a designated timeline, expenditures, metrics and/or student outcomes to support an evaluation strategy that is aligned to the proposal (0 points)</p>
<b>Total Points Possible</b>	10	

**Section 3: Equity & Access**

Application Question	Points Possible	Criteria For Success
1	2	Proposal includes a definition of equity within the context of the proposal (i.e. not a dictionary definition of equity)
1	2	Proposal identifies target population and how project will promote equitable outcomes for students
2	2	Provides estimate of number of students impacted by the proposal
3	4	Identifies three or more barriers to equitable access and how proposal will reduce or eliminate them (4 points)
		Identifies one or two barriers to equitable access and how proposal will reduce or eliminate them (2 points)
		Does not identify a specific barrier and/or does not describe how the proposal will reduce or eliminate them (0 points)
3	2	Describes how the proposal is different from past approaches or built on lessons learned (2 points)
		Does not describe how the proposal is different from past approaches or built on lessons learned (0 points)
<b>Total Points Possible</b>	12	

**Section 4: Community, Postsecondary, and Employer Partnerships**

Application Question	Points Possible	Criteria For Success
1	2	<p>Identifies and describes the partnerships for the proposal including how it brings value to each of the parties involved (2 points)</p> <p>Identifies partners but does not describe how partnerships bring value to each of the parties involved (1 point)</p> <p>Not all partners are described and/or the value of the partners to the project is unclear (0 points)</p>
2	2	<p>Indicates how all partners will support proposal through outlining specific commitments for each partner (i.e. dedicated time, staffing, funding, equipment, etc.) that align to improve student success (2 points)</p> <p>Describes how some partners—but not all—will support the project with specific commitments from each partner (1 point)</p> <p>Application identifies partners but does not indicate how partners will support the proposal or how partners will invest and engage in the project plan (0 points)</p>
3	4	<p>Includes a letter of support from <b>all</b> partners that include specific roles and tasks for the proposal (4 points)</p> <p>Includes letters of support from all partners but lacks specific roles and tasks for partners (2 points)</p> <p>Does not include letters of support from <b>all</b> partners OR the letters of support are not specific to the proposal (0 points)</p>
<b>Total Points Possible</b>	<b>8</b>	

**Section 5: Equitable Innovation Strategies**

Application Question	Points Possible	Criteria For Success
1	4	<p>Proposal defines three or more essential learning goals (e.g. credentials, course credits, academic achievement) and/or experiences (e.g. career exploration, work-based learning, mentorship) that promote postsecondary success (4 points)</p> <p>Proposal defines two essential learning goals (e.g. credentials, course credits, academic achievement) and/or experiences (e.g. career exploration, work-based learning, mentorship) that promote postsecondary success (2 points)</p> <p>Proposal does not clearly define essential learning goals and/or it is not clear that the learning goals promote postsecondary success (0 points)</p>
2	4	<p>Proposal identifies three or more specific requirements, policies, or practices that create barriers for students and how the project will eliminate or mitigate those barriers to support student postsecondary success (4 points)</p> <p>Proposal identifies two specific requirements, policies, or practices that create barriers for students and how the project will eliminate or mitigate those barriers to support student postsecondary success (2 points)</p> <p>Proposal does not identify specific requirements, policies, or practices that create barriers for students and/or does not clearly state how the partners will eliminate or mitigate those barriers (0 points)</p>
3	4	<p>Describes at least two commitments partners will make to ensure a supportive environment for students, particularly those who are underrepresented on their campuses or workplaces (e.g. professional development on inclusive teaching practices, revising policies that create unnecessary barriers to entry) (4 points)</p> <p>Describes one commitment partners will make to ensure a supportive environment for students, particularly those who are underrepresented on their campuses or workplaces (e.g. professional development on inclusive teaching practices, revising policies that create unnecessary barriers to entry) (2 points)</p> <p>Does not include specific commitments from partners and/or the commitments are not specific to supporting students who are under-represented on their campuses or in their workplaces (0 points)</p>
<b>Total Points Possible</b>	12	



**Bonus Points**

Point Value	Criteria for Success
2	LEA is within an "at-risk" county.
4	LEA is within a "distressed" county.
<b>Total Points Possible</b>	4 (These points are not cumulative)

**Scoring Summary**

Sections	Points Possible
Project Narrative	12
Theory of Change & Budget	10
Equity & Access	12
Partnerships	8
Equitable Innovation Strategies	12
Bonus Points	4
<b>Total Points Possible</b>	<b>50</b>

## Appendix B

### Participant Solicitation Email

Subject: Interview Request for Dissertation Research: Transforming College and Career Readiness: A Case Study of an Innovative High School Model in Tennessee

Hello,

I am conducting research examining how educational leaders in both secondary and postsecondary education have collaborated to leverage the Innovative High School Models (IHSM) Grant to promote college and career readiness opportunities for students. Given your role in supporting the work of this grant, I would like to ask you to participate in an interview about your experience. The interview will last approximately 30 to 60 minutes and will occur virtually via Zoom.

The purpose of this research study will be to gain an understanding of administrators' perspectives on the value of this initiative within the scope of their school district and region. Data will be collected to determine how IHSM Grant implementation has guided future expansion of this work. Information garnered from this research will inform further development of programming that promotes secondary and postsecondary partnerships that deliver expanded college and career readiness programming in CTE pathways.

Participation in this research is completely voluntary and participants' identities will remain confidential. All participants will be provided with an informed consent form to review and approve prior to participating in the research.

Please call Chelsea Rose at 276-708-5453 if you have any questions or would like more information.

Very respectfully,

Chelsea Rose  
Doctoral Candidate  
The University of Memphis

## Appendix C

### Interview Protocol

#### Pre-Interview Protocol:

- Send standardized email to all qualified participants.
- Develop a separate calendar for tracking interviews.
- Identify open appointment times and record these on the calendar.
- Create an Excel sheet for Coding to track the name of each interviewee and their respective pseudonym and store this sheet in a secure file.
- Develop an Excel Sheet to track the following data points: date and time of interview, method, pseudonym, transcription numbers, beginning and ending dates of transcription, transcript approval dates, consent submission. Store this sheet in a secure file.
- Develop a secure folder on the researchers' device for each participant, named after their selected pseudonym. This folder will contain secured interview field notes.
- Develop a Word document to maintain procedural notes such as data collection processes, coding and thematic identification processes, decision-making tracking.
- Data Management Plan to be followed:
  - Record Code Sheet with names and pseudonyms in locked digital file.
  - Transcriptions and related notes will be kept in a separate locked file.
  - Data identification and manipulation will be kept in password protected files on a password protected computer only accessible by the researcher.
  - All electronic records will be kept in password protected files.

#### Data Collection Interview Protocol:

- Schedule interviews of willing participants.
  - Confirm each participant's availability and schedule a Zoom meeting at a time that works for their schedule.
  - Send electronic consent form for signature and return prior to interview.
  - Send a reminder email to each participant on the day prior to their scheduled interview.
- For interview:
  - Test the Zoom room day of interview to ensure that all technology is working properly.
  - Ensure that the Recording function is available in the meeting window.
  - Ensure that a notebook and writing utensil is available for the researcher.
  - Ensure that the semi-structured interview guide is printed out and available for use.
  - Ensure that the consent form is available to reference if needed in the interview.
- At interview:
  - Turn researcher's own phone off and ask the participant to turn their phone off.
  - Acknowledge and review the consent form with the participant from the interview guide language.
  - Answer any questions that the participant may have prior to asking the interview questions.

- Be aware of any subjectivities and biases – avoid professing the researcher’s own experiences, thoughts on topics, behaviors/feelings, and met or unmet expectations of the interview.

#### Post-Interview Protocol:

- Download the transcription of the interview to the computer and backup the file to a secure location.
- Download the interview recording to the computer and backup the file to a secure location.
- Send a thank you email to the participant for their participation in the interview.
- Record personal field notes and thoughts on the interview in a secure file.
- Note any items that will need follow up.
- Check transcripts, make edits, and then send to participants for concurrence.
- Begin open coding once transcription is complete and approved.
- Begin coding across categories after a few open coded interviews.
- Coding, categories, and theme identification will occur throughout the process.
- Utilize peer checking of coding after the initial themes are identified.
- Seek additional review by peers later in the process to ensure data collection is thorough and complete.

## Appendix D

### Semi-Structured Interview Guide

**Introduction:** “Good morning/afternoon \_\_\_\_\_. Thank you for taking time to speak to me today about your experiences. As you may remember from the initial email and consent form, I would like to record our conversation today for review and transcription later. All measures described in the consent form will be taken to ensure the anonymity of your answers. Is that still OK with you? (Allow the participant to answer.). Great. As a reminder, you can choose not to answer a question or request that we stop at any time. I will be taking some notes as well as we go along so that I do not forget anything we discuss. Today I’d like to hear about your experiences in implementing college and career readiness programming as part of the Innovative High School Models grant. First of all, I would like to gain a better understanding of your background and involvement in efforts to ensure students are ready to transition from high school to college and/or career.”

- What is your professional background and current role at your present organization?
- How do you define college and career readiness?
- What do you feel are some of the main supports or tools for students to achieve college and career readiness?
- How do you promote college and career readiness programming in your current position?
- What involvement have you had in implementing the Innovative High School Models Grant?

**Research Question 1: In what ways have high school administrators and teachers integrated college and career readiness aspects into the career and technical education pathways?**

*Lead Question 1: What are some of the ways that you have seen college and career readiness programming integrated into career and technical education pathways?*

- How did your organization become involved with the Innovative High School Models Grant?
- In what ways have you experienced college and career readiness programming change over the past two years?
- How have early postsecondary opportunities evolved within career and technical education pathways?

**Research Question 2: What is the perceived value of these changes?**

*Lead Question 2: How have these changes impacted outcomes?*

- How do you perceive that these changes have affected students' ability to transition successfully to postsecondary education?
- How do you think the quality of career and technical education has been impacted?
- Overall, do you think that positive progress is being made in better preparing students for college and career readiness? Why or why not?

**Research Question 3: Based on the perceived impact, what do participants see as next steps to expand college readiness programming in career and technical education pathways?**

*Lead Question 3: What are the next steps to expand college and career readiness programming in career and technical education pathways?*

- Did the implementation of the IHSM Grant inform future planning with the addition of new resources from the state? Lessons learned? Major wins?
- What will you do differently with college and career readiness programming with the new funding?
- How do you see college and career readiness programming changing in the next 2-4 years?

**Closing:** “Thank you so much for taking time out of your day to speak with me. Do you have any questions for me? (Pause for questions, answer any that arise.) Do you have anything you would like to add that we did not discuss? (Pause for answer from participant). When we leave today I will take some time to go through what we discuss and make some notes. After that I will send you an outline of what we discussed for your review, to ensure I've correctly documented what you said, and have written down what you meant. Thank you again, I really do appreciate you sharing your experiences.”

## Appendix E

### Consent Form



Institutional Review Board  
315 Administration Bldg.  
Memphis, TN 38152-3370  
Office: 901.678.2706  
Fax: 901.678.2219

#### Consent for Research Participation

<b>Title</b>	Transforming College and Career Readiness: A Case Study of an Innovative High School Model in Tennessee
<b>Researcher(s)</b>	Chelesa Rose, University of Memphis
<b>Researchers Contact Information</b>	(276) 708-6453, cdrose1@memphis.edu

You are being asked to participate in a research study. The box below highlights key information for you to consider when deciding if you want to participate. More detailed information is provided below the box. Please ask the researcher(s) any questions about the study before you make your decision. If you volunteer, you will be one of about 8 people to do so.

#### Key Information for You to Consider

**Voluntary Consent:** You are being asked to volunteer for a research study. It is up to you whether you choose to participate or not. There will be no penalty or loss of benefit to which you are otherwise entitled if you choose not to participate or discontinue participation.

**Purpose:** This study will evaluate how educational leaders in both secondary and postsecondary education have collaborated to leverage the Innovative High School Models Grant to promote college and career readiness opportunities for students. Their perspective on the value of this initiative within the scope of their school district and region will be examined. Data will be collected to determine how experience implementing the IHSM Grant is informing how to effectively expand on this work in the future.

**Duration:** It is expected that your participation will last 80 to 90 minutes total.

**Procedures and Activities:** You will be asked to participate in a conversation with the researcher regarding your experience supporting the implementation of the Innovative High School Models Grant. You will be asked about your perception of the impact of college and career readiness programming and how the perceived value of this programming is informing future planning and decision making.

**Risk:** To the best of my knowledge, participation in this research will pose no more risk of harm than you would experience in everyday life.

**Benefits:** Some of the benefits that may be expected include greater clarity of your own lived experiences through reflection and analysis. There may be benefits to others in contributing to the body of knowledge available on the research topic.

**Alternatives:** Participation is voluntary, and the only alternative is to not participate.

#### Who is conducting this research?

Chelesa Rose of the University of Memphis, Department of Leadership is in charge of the study. Her faculty advisor is Dr. Daniel Collier. There may be other research team members assisting during the study. No research team members have any financial interest related to the research topic.

#### What happens if I agree to participate in this Research?



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 Office: 901.678.2705  
 Fax: 901.678.2219

If you agree you will be asked to participate in a conversation with the researcher regarding your experiences supporting the implementation of the Innovative High School Models (IHSM) Grant. You will be asked about your perception of the impact of college and career readiness programming and how the perceived value of this programming is informing future planning and decision making. The researcher will ask general questions about how college and career readiness programming is being implemented into career and technical education (CTE) pathways, how these programs have impacted student outcomes, and how implementation of the IHSM Grant will inform future planning related to college and career readiness. Should you choose to participate, you may skip any questions that make you uncomfortable and may stop at any time.

The interview conversation will be done in a virtual setting and recorded for accuracy in a secure, password protected account accessible only by the lead researcher. Following the interview, the researcher will document the conversation in a transcript, which you will then be able to review for accuracy. Identifying information such as names and locations will be given pseudonyms for anonymity. The recording will then be deleted.

#### **What happens to the information collected for this research?**

Information collected for this research will be combined with information from other people taking part in the study interviews. The researcher will write about the study to share it with other researchers. The researcher may write about individual experiences as well as about combined information with similarities gathered from other participants. Your name will not be used in any publications about this study, and you will not be personally identified in the written materials. The researcher may seek to publish the results of this study but will keep your name and other identifying information confidential.

We will make [all efforts](#) possible to prevent anyone who is not on the research team from knowing that you gave us information or what that information contains. Any personal identifiers from the interviews will be removed. The information could be used for future research analysis or distributed to another investigator without obtaining additional consent.

#### **How will my privacy and data confidentiality be protected?**

We promise to protect your privacy and security of your personal information as best we can. Although you need to know about some limits to this promise, measures we will take include:

- Interviews will be conducted using internet software. The interviews will be recorded in a password protected account, and the password will only be known by the lead researcher.
- Interview recordings will be kept until they are transcribed by the lead researcher, and then reviewed for accuracy by the participant. They will be deleted once accuracy is confirmed.
- Your participation in this research will not be disclosed to other participants by the researcher.
- You will be assigned a pseudonym, which will only be known to the lead researcher. Any identifiable information in the interview transcript will be changed or redacted to protect your identity.
- Audio recordings and data will be stored on a password protected account and analysis program. Access to these programs will be limited to the lead researcher and will be stored on a password protected computer and storage device.

Individuals and organizations that monitor this research may be permitted access to inspect the research records. This monitoring may include access to your private information and interview transcripts. These individual and organizations include:

- Institutional Review Board





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- The University of Memphis
- Dr. Daniel Collier and the Dissertation Committee Members

**What other choices do I have besides participating in this research?**

If you do not want to be in the study, there are no other choices except not to take part in the study.

**What if I want to stop participating in this research?**

It is up to you to decide whether you want to volunteer for this study. It is also ok to decide to end your participation at any time. There is no penalty or loss of benefits to which you are otherwise entitled if you decided to withdraw your participation. Your decision about participating will not affect your relationship with the researcher(s) or the University of Memphis.

**Will it cost me money to take part in this research?**

There are no costs associated with participation in this research study.

**Will I receive any compensation or reward for participating in this research?**

You will not be compensated for taking part in this research.

**Who can answer my question about this research?**

Before you decide to volunteer for this study, please ask any questions that might come to mind. Later, if you have questions, suggestions, concerns, or complaints about the study, you can contact the investigator, Chelsea Hoxe at [cdhoxe1@memphis.edu](mailto:cdhoxe1@memphis.edu) or (278) 708-5453 or advisor, Dr. Daniel Collier at [daniel.collier@memphis.edu](mailto:daniel.collier@memphis.edu) or (901) 678-3445. If you have any questions about your rights as a volunteer in this research, contact the Institutional Review Board staff at the University of Memphis at 901-678-2705 or email [irb@memphis.edu](mailto:irb@memphis.edu). We will give you a signed copy of this consent to take with you.

**STATEMENT OF CONSENT**

I have had the opportunity to consider the information in this document. I have asked any questions



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needed for me to decide about my participation. I understand that I can ask additional questions through the study.

By signing below, I volunteer to participate in this research. I understand that I am not waiving any legal rights. I have been given a copy of this consent document. I understand that if my ability to consent for myself changes, my legal representative or I may be asked to consent again prior to my continued participation

As described above, you will be Audio/video recorded while performing the activities described above. Audio/video recordings will be used for accuracy in transcribing for data analysis. Initial the space below if you consent to the use of recording as described

\_\_\_\_ I agree to the use of audio/video recording

Name of Adult Participant	Signature of Adult Participant	Date
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**Researcher Signature (To be completed at the time of Informed Consent)**

I have explained the research to the participant and answered all of his/her questions. I believe that he/she understand the information described in this consent and freely consent to participate.

Name of Research Team Member	Signature of Research Team Member	Date
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## Appendix F

### Institutional Review Board Approval



Institutional Review Board  
Division of Research and Innovation  
Office of Research Compliance  
University of Memphis  
315 Admin Bldg  
Memphis, TN 38152-3370

June 5, 2023

PI Name: Chelsea Rose  
Co-Investigators:  
Advisor and/or Co-PI: Daniel Collier  
Submission Type: Initial  
Title: Transforming College and Career Readiness: A Case Study of an Innovative High School Model in Tennessee  
IRB ID: PRO-FY2023-384  
Exempt Approval: June 2, 2023

The University of Memphis Institutional Review Board, FWA00006815, has reviewed your submission in accordance with all applicable statuses and regulations as well as ethical principles.

Approval of this project is given with the following obligations:

1. When the project is finished a completion submission is required
2. Any changes to the approved protocol requires board approval prior to implementation
3. When necessary submit an incident/adverse events for board review
4. Human subjects training is required every 2 years and is to be kept current at [citiprogram.org](http://citiprogram.org).

For any additional questions or concerns please contact us at [irb@memphis.edu](mailto:irb@memphis.edu) or 901.678.2705

Thank you,  
James P. Whelan, Ph.D.  
Institutional Review Board Chair  
The University of Memphis.