

COLLEGE AND CAREER READINESS PREPARATION in TENNESSEE:
A CASE STUDY OF THE CENTRAL MAGNET SCHOOL
in MURFREESBORO, TENNESSEE

by

Krista Little

An Abstract

of a thesis submitted in partial fulfillment
of the requirements for the degree of
Education Specialist in Human Services – Technology and Occupational Education
in the School of Professional Education and Leadership
University of Central Missouri

December, 2018

ABSTRACT

by

Krista Little

The purpose of this research was to investigate college and career readiness preparation in Tennessee, specifically focusing on the methods teachers and administrators were using at the Central Magnet School (CMS) in Murfreesboro, TN, to meet state academic standards. Additionally, the researcher focused on the strategies CMS was implementing to increase the percentage of “Ready Graduates” which serves as an indicator of the Tennessee ESSA Title 1 Accountability Rating. The qualitative case study focused on three research questions, and the researcher incorporated an electronic survey to collect qualitative data. Conclusions included CMS was offering high numbers of advanced placement and dual credit courses, distinguished diplomas, higher graduation status for earning students, research and independent projects, industry networking, and industry internships which were meeting the State of Tennessee’s academic standards. However, industry certifications and the ASVAB assessment were not offered. Six recommendations and 43 references are provided.

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December, 2018

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CHAPTER 1 THE PROBLEM AND ITS SETTING

Background of the Study

The Every Student Succeeds Act was signed by President Barack Obama in 2015. It was a reauthorization of the Elementary and Secondary Education Act of 1965, and it replaced the 2002 No Child Left Behind Act (U.S. Department of Education, 2018). Per the U.S. Department of Education, the purpose of the Elementary and Secondary Education Act and reauthorizations such as No Child Left Behind and Every Student Succeeds is to provide all children with high quality education and to close the educational achievement gap in special populations. Each reauthorization differs in how the Federal Government plans to achieve these goals. No Child Left Behind defined school performance on mandatory state testing proficiency. The Every Student Succeeds Act transitioned the school performance rating focus away from state test scores to a variety of accountability indicators including college and career readiness. Each state has created and submitted their plan for how school performance will be evaluated in that state. The state education agency determined if college and career-readiness will be included in the equation, and if so, how it will be included.

In the February 2011 publication of *Pathways to Prosperity*, the Harvard Graduate School of Education outlined the nation's history in employment and education and current issues facing American employers and employees. Before the year 2000, the United States led the world in preparing youth for success as adults. However, since 2000, the United States has fallen behind many other nations. Young Americans are displaying a lack of skills needed for employment; they are demonstrating a drastic decline in the ability to find work (Symonds, Schwartz, & Ferguson, 2011).

The Education Trust published *Meandering Toward Graduation: Transcript Outcomes of High School Graduates* in April 2016. In this report, The Education Trust examined how so many high school graduates hold a diploma and no real plan or preparation for the future. This report concluded forty-five percent of high school graduates in 2013 did not complete a career or college-ready program of study (Bromberg & Theokas, 2017). Only eight percent of high school graduates completed both a career and college-ready program of study (Bromberg & Theokas, 2017). As of 2018, a college-ready program of study included fifteen courses in English, Math, Science, Social Studies, and a foreign language, and would cover the required courses for college admission. Also, as of 2018, a career education program of study included three courses in a single field or industry (Bromberg, & Theokas, 2017).

According to Starr (2016) and the 2016 Phi Delta Kappan Poll, twenty-five percent of Americans indicated the main purpose of education is to prepare students for work; forty-five percent of Americans indicated the main purpose of education is to prepare students academically (Starr, 2016). However, the 2017 PDK Poll, Starr presented that Americans' views of public education may have changed. The report stated that eighty-two percent of Americans support job and skills preparation courses even if time spent on academics is sacrificed. Moreover, eighty-six percent of Americans indicated schools should offer industry certifications in schools (Starr, 2017). These data suggest the majority of Americans believe it is a fundamental responsibility of schools to prepare this country's youth for success after high school as they progress into adulthood.

Statement of the Problem

Education Strategies Group and AdvanceCTE published *Career Readiness and the Every Student Succeeds Act: Mapping Career Readiness in State ESSA Plans Round 1* (2017). This

report provided an overview of how states are implementing college and career readiness as an accountability indicator for ESSA. According to this report, Tennessee had included a focus on college and career readiness. The report stated the vision of Tennessee was to equip students with the knowledge and skills to be successful in their desired life plan (AdvanceCTE, 2017).

The college and career-readiness goal of the Tennessee State ESSA Plan aligns with the Governor's goal of fifty-five percent of Tennesseans holding a postsecondary degree or certificate by 2025 (AdvanceCTE, 2017). The plan included four goals. One goal was that the majority of Tennessee high school graduates in the class of 2020 would earn a postsecondary certification, diploma, or degree. One of the priorities framing the ESSA plan was "Bridges to Postsecondary." This priority focused on student completion of postsecondary education (AdvanceCTE, 2017).

The *Career Readiness and the Every Student Succeeds Act: Mapping Career Readiness in State ESSA Plans Round 1 Report* (AdvanceCTE, 2017) also outlined the Tennessee ESSA Title 1 Accountability "Ready Graduate" indicator. This was calculated by multiplying the graduation rate by the percentage of students scoring a 21 or higher on the ACT/SAT. Additional criteria were completing four early postsecondary opportunities, completing two early postsecondary opportunities and obtaining an industry certification in an approved program of study, and completing two early postsecondary opportunities and scoring a state determined score on the ASVAB. This indicator was worth twenty-five percent of the overall Title 1 Accountability Rating (AdvanceCTE, 2017).

Based on the list of college and career readiness activities have been provided and approved for the Tennessee ESSA Plan, there was a lack of data on specific activities that individual school districts in Tennessee were implementing to improve student college and

career-readiness. When reviewing high school rankings in Tennessee, Central Magnet School in Murfreesboro, Tennessee, offered a broad range of programs with school district data that supported student success (Central Magnet School, 2018).

As of 2018, Central Magnet School's website provided a listing of the academic programs available. Central Magnet School was a public magnet school in Murfreesboro, Tennessee, with 1,217 students in grades six through twelve. Seventy-six percent of the teachers possessed a Master's degree or higher with an average of twelve years experience in teaching. The average graduating class size was 195 with a teacher to student ratio of 20:1. The school's mission statement expressed an emphasis on challenging students academically through rigorous educational programs and development of effective critical thinking skills (Central Magnet School, 2018). The researcher determined the focus of this research would be on the Central Magnet School.

Therefore, the problem driving this study was lack of data on how the teachers and administrators at the Central Magnet School in Murfreesboro, Tennessee, were improving college and career readiness and increase the percentage of "Ready Graduates" indicator of the Tennessee ESSA Title 1 Accountability Rating.

Purpose of the Study

The purpose of this research was to identify methods teachers and administrators at Central Magnet School in Murfreesboro, TN, were implementing to increase the percentage of "Ready Graduates" which serves as an indicator of the Tennessee ESSA Title 1 Accountability Rating. This study explored three interrelated areas including early postsecondary opportunities, industry certifications, and ACT/SAT and ASVAB test scores.

Statement of the Research Questions

This study addressed three research questions. These were:

1. What early postsecondary opportunities are being offered to Tennessee high school students enrolled at the Central Magnet School and how is student participation and completion of early postsecondary opportunities being encouraged?
2. What industry certifications are being offered to Tennessee secondary education students enrolled at the Central Magnet School and how is student participation and attainment of industry certifications being encouraged?
3. How are Central Magnet School teachers and administrators encouraging secondary student participation on the ACT/SAT and ASVAB, and what is being done to increase student achievement on these assessments?

Definitions of Terms

The following definitions were used in this research.

Adequate Yearly Progress (AYP). The Term AYP is defined as the amount of yearly improvements required in Title 1 that schools and school districts are expected to make. States are required to determine their own definition per their State Plan (U.S. Department of Education, 2009a).

Career and Technical Student Organizations (CTSOs). “Student organization integrated into career and technical education courses and programs” (NCC-CTSO, 2018, p. 1). CTSOs include intracurricular activities in technical skill development, professional skill development, community service, and leadership skill development.

Non-Googleable. For the purpose of this study, the term non-Googleable will be operationally defined as answers to a challenge or question that cannot be answered with a Google search.

Ready Graduate. “Ready Graduate” is one of Tennessee’s ESSA’s indicator of student success and school quality. The Ready Graduate measures the “percentage of students who earn a diploma from a Tennessee High School and who have met measures of success that increase their probability of seamlessly enrolling in postsecondary education and securing high-quality employment” (Tennessee Department of Education, 2017, p. 1).

Early postsecondary opportunities (EPSOs). High school courses offered for high school credit that also include offering post-secondary credit if additional coursework is completed that meets the postsecondary requirements. Examples include advanced placement courses and dual credit courses (Tennessee Department of Education, 2016b).

Scope and Delimitations of the Study

The following delimitations were presented for this study.

1. This study did not attempt to collect data on student test scores, ACT scores, nor ASVAB scores.
2. This study did not attempt to collect data on student views toward their own college and career readiness.
3. This study did not attempt to collect data on student views toward college and career preparation in high school.
4. This study only focused on the college and career readiness methods of the Central Magnet School in Murfreesboro, TN.

Assumptions

The following assumptions were presented for this study.

1. It was assumed that all participants would cooperate in an honest manner to the best of their ability.
2. It was presumed that all data retrieved from district, state, and national sources were accurate.

Need and Significance of the Study

College attendance for high school graduates has been a popular idea during No Child Left Behind (Phi Delta Kappa, 2017). However, the Every Student Succeeds Act allows for schools to focus more on preparing students for their career as well as college. In the 2017 Phi Delta Kappa poll, parents of public school children were surveyed about their expectations regarding their child and college plans. Sixty-one percent of parents reported that they expect their children to attend college full-time. Twenty-two percent of the parents reported they expect their child to attend part-time and work at the same time. Seven percent of the parents reported they expect their child to find full-time employment after high school graduation (Ferguson, 2017).

In October 2015, Ball (Tennessee Department of Education, 2015a) outlined the Tennessee Department of Education's updated goals to measure success in education. One goal put forth by the commissioner was that the majority of high school graduates in the class of 2020 would earn a postsecondary degree, diploma, or certification. The Department took on preparing graduates for postsecondary completion. The Tennessee Department of Education determined it was the responsibility and a priority of schools to prepare young Americans for success in adulthood (Tennessee Department of Education. (2015a).

This research collected data to identify the methods being implemented to increase the percentage of “Ready Graduates” at Central Magnet School in Murfreesboro, Tennessee. This included collecting data on specific activities and methods that were geared toward increasing student college and career readiness. Based on the success at the Central Magnet School, school districts across the state and country may use this research to improve their own programs and student outcomes.

Summary

With the signing of the Every Student Succeeds Act, the Act provides the states an opportunity and a responsibility to implement activities to better prepare high school graduates for college and careers. The state of Tennessee has created a plan to accomplish this goal. The plan focuses on early postsecondary opportunities, industry certifications, and ACT/SAT and ASVAB scores. This research focuses on what opportunities and activities teachers and administrators at Central Magnet School, Murfreesboro, Tennessee, are providing and how student participation and achievement is being encouraged. This research will be useful to improve student college and career readiness in the Tennessee and across the country.

CHAPTER 2 REVIEW OF RELATED LITERATURE

Overview

The purpose of this research was to identify methods teachers and administrators at Central Magnet School in Murfreesboro, TN, were implementing to increase the percentage of “Ready Graduates” which serves as an indicator of the Tennessee ESSA Title 1 Accountability Rating. This Literature Review provides a summary of the search strategies and terms used. It includes in-depth and detailed review of literature and publications on the Every Student Succeeds Act, college and career readiness in high schools, Tennessee’s plan for improving college and career readiness, and postsecondary testing and early postsecondary opportunities.

This review is presented with the following themes of literature: An overview of the Every Student Succeeds Act, College and Career Readiness, Tennessee’s Plan, Postsecondary Testing and Early Postsecondary Opportunities, and the Summary of the Literature Review. Each theme contains multiple subthemes to additional structure to the literature review.

Summary of Search Strategies and Terms Used

Search strategies used. The following search strategies were used to locate literature for this research.

1. Keyword searches were conducted in the ProQuest database at the James C. Kirkpatrick Library at the University of Central Missouri. Results were narrowed to the years 2000 to 2017 and full text available online. Sources searched included thesis and dissertations, trade journals, scholarly journals, books, reports, and magazines.
2. Keyword searches of the Tennessee Department of Education website at tn.gov.
3. Keyword searched of the Education Week website at Edweek.org.
4. Review of ASVAB Career Exploration Program and Exploring Careers Guide.

5. On-site communication with the U.S. Army Recruiting Center in Greenville, TX.
6. Review of research publications on the ACT website at act.org.

Search terms used. Terms used to search for literature included advanced placement, advanced placement course, industry certification, college readiness, career readiness, ESSA indicator, ESSA AND readiness, ESSA, dual enrollment, “ACT score,” Tennessee AND dual enrollment, career technical education industry recognized certification, ACT, STEM, Tennessee “ACT score,” ASVAB AND ESSA, ESSA parent engagement, college readiness define, career ready define, and ASVAB.

Overview of the Every Student Succeeds Act

Overview. The Elementary and Secondary Education Act of 1965 was signed into law by President Lyndon B. Johnson with the purpose of ensuring all children have access to equal, quality education and close the achievement gap between student populations. ESEA reauthorizations include the No Child Left Behind Act of 2001 and the Every Student Succeeds Act (ESSA) of 2015 (U.S. Department of Education, 2018). The purpose of the ESSA, like its predecessors, is to ensure all children equal access to high quality education and to close the achievement gap between student populations. Investigating changes made with the ESSA will build understanding for a new focus on college and career preparation.

Policy changes. The most obvious change that took place in the shift from No Child Left Behind to Every Student Succeeds concerns academic standards. With ESSA, states must have challenging academic standards for math, English language arts, and other subjects; however, according to Coppes (2016) in *New Opportunities for CTE in the Every Student Succeeds Act*, academic standards must also align with postsecondary institution entrance requirements and applicable state career and technical education standards.

The Federal Information and News Dispatch published the news report *Elementary and Secondary Education Act of 1965, as Amended by the Every Student Succeeds Act – Accountability and State Plans*. This news report outlines the changes made with the ESSA (Federal Information and News Dispatch, 2016). One change outlined by the Federal Information and News Dispatch report concerns school targeted support and improvement. Under No Child Left Behind, schools were required to make adequate yearly progress as identified by the U.S. Department of Education. Failure to meet adequate yearly progress resulted in escalating interventions (Federal Information and News Dispatch, 2016; U. S. Department of Education, 2009b). With ESSA, state and local education agencies are responsible for determining how to identify low performing schools and how to improve low performing schools. Interventions and school improvement activities should be evidence-based (Federal Information and News Dispatch, 2016).

ESSA also made changes to school report cards. According to Burnette II (2017), in the article *A-F School Rankings Draw Local Pushback* published by Education Week, school report cards continued to report graduation rates and scores on state test; however, they were also required to present additional information including per-pupil spending. The Federal Information and News Dispatch report provides additional areas that must be presented to the public including the number and percentage of students enrolled in preschool, high school graduates enrolled in postsecondary education programs, English language proficiency, homeless students, foster care students, and students with a military parent (Federal Information and News Dispatch, 2016).

According to the Federal Information and News Dispatch report, significant changes were made to Title I. No Child Left Behind required each state education agency to base

complete school accountability on mandatory state assessment scores. Under ESSA, more flexibility was given to the states in regard to accountability. State education agencies were required to determine their own system for school accountability. This system was required to include at least one indicator of school quality or student success and one indicator of student growth (Federal Information and News Dispatch, 2016). Education Week published the article *Making Sure That Schools Measure Up Under ESSA* by Klein (2017). In this article, Klein elaborated on these indicators. Klein (2017) explained that states must include five total indicators for school performance. Four indicators should be specifically focused on academics. The last indicator should focus on school quality or student success (Klein, 2016). Klein (2017) continued to include possible school quality and student success indicators. Moreover, these indicators may include student engagement, education engagement, advanced coursework, postsecondary readiness, or school climate and safety. One academic indicator must be state test results; another academic indicator could include graduation rates. It was up to state education agencies to determine the weight of individual indicators (Klein, 2017).

Education Week published an article by Klein, Sawchuk, and Ujifusa (2017) titled *Inside ESSA Plans: How Are States Looking Beyond Test Scores?* In this article, the authors point out that at least thirty-three states incorporated a college and career readiness indicator. Specifically, this could consist of ACT/SAT scores, dual enrollment, advanced placement courses and tests, and career and technical education industry certifications (Klein, et al., 2017).

New focus. Policy changes in the ESEA reauthorization ESSA brought an opportunity for schools to broaden curriculum. Under No Child Left behind, math and English language arts curriculum became focus points for schools to prepare students for state tests. The ESSA moved toward a well-rounded student. Education Week published *Under ESSA, an End to the*

“*Narrowing of the Curriculum?*” In the article, Sawchuk (2017) outlined some options states are proposing to enhance well-rounded students. Some schools were increasing the focus in physical education, the arts, social studies, and science (Sawchuk, 2017). In the publication *New Opportunities for CTE in the Every Student Succeeds Act*, Coppes (2016) presented more subject areas that states are providing, including technology, engineering, economics, and civics. Coppes explained that Career and Technical Education is an essential part of all well-rounded students.

Coppes (2016) described ESSA’s stronger support for teachers. Title II of the ESSA provided opportunities for schools to offer professional development to train teachers in integrating career and technical education into the academic classroom. This practice may ensure students are presented with opportunities to practically apply their academic knowledge in real-world situations. Cross curricular planning and learning activities were designed to help students make connections between their academic subjects and future career goals (Coppes, 2016). Besides professional development support, ESSA also encouraged teacher certification support. This act encouraged states and local education agencies to develop their own method for alternative teacher certification. Coppes (2016) stated the alternative route should assist professionals outside education to enter the teaching field.

ESSA encouraged parental and community engagement by moving more decision making opportunities from the federal level to the state and local levels. Ujifusa (2016) in the article *Examining How ESSA Changes the Terrain for Parent and Community Engagement*, explained how this change encouraged parent and family engagement. Schools were to be open for parents, families, and community groups to be proactive regarding education decisions. An example of engagement would be parents providing input as to what the fifth indicator of school

quality and student success should be. “High need” school districts were able to receive funding for engagement (Ujifusa, 2016).

The goals of the Every Student Succeeds Act are to provide high quality, equal education to all students and to close the achievement gap. One step in achieving these goals was to move decision making power from the federal level to the states. El Moussaoui (2017) published *Chalk Talks- The Every Student Succeeds Act and its Impact on Vulnerable Children* in the *Journal of Law and Education*. In this article, El Moussaoui described how student subpopulations are impacted. Public elementary and secondary schools were becoming more racially diverse. The low socioeconomic population was also increasing. The ESSA removed the math and English proficiency goal and allowed for states to set goals that better fit their students (El Moussaoui, 2017). ESSA still required states to maintain high standards for student achievement to prepare students for graduation and adulthood. Under the flexibility of new accountability system, low income and minority population growth and performance could be assessed in a more meaningful way. States could identify strengths and weaknesses of these subpopulations to better meet the needs of the students (El Moussaoui, 2017).

Another major focus of ESSA is preparing students for their futures through improving college and career readiness of students. Gandal (2016) published *Getting Serious About College and Career Readiness*. In this article Gandal (2016) explained how ESSA had presented states with a great opportunity to build on the rigorous standards they created under No Child Left Behind. States could evaluate what had been done, make corrections where needed, and increase innovation in achievement standards (Gandal, 2016). To successfully enhance college and career readiness, Gandal opined that states must not lower their standards. Rather, they must provide support to subpopulations in need, they must investigate the career side of college and

career ready, and they must work closely with postsecondary education institutions and industry employers (Gandal, 2016).

College and Career Readiness

Overview. According to Symonds, Schwartz, and Ferguson (2011), high school graduates were not displaying skills needed for employment. They were demonstrating a decline in the ability to find a job. Moreover, young adults may have possessed a high school diploma, but they had no plan or practical preparation for future success (Bromberg & Theokas, 2017). Bromberg and Theokas also stated that American schools saw the need and had the responsibility to improve college and career readiness in high school graduates. Investigating employers and college opinion on high school graduate performance would continue to outline deficiencies in college and career readiness. High schools were implementing methods in an attempt to address the lacking skills (Bromberg & Theokas, 2017).

What are employers saying? DeWitt (2012) defined career readiness as “students having the required academic, employability, and technical skills required for employment in today’s career” (p. 17). *Are They Ready to Work? – Employer’s Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce* is a study completed by The Conference Board, Inc. and Partnership for 21st Century Skills. Casner-Lotto (2006), the main author of the publication, explains employers’ views of the high school graduate workforce. Employers classify written communication, leadership, professionalism and work ethic, and critical thinking and problem solving as basic employability skills. In 2006, eighty percent of employers found high school graduates deficient in written communication skills. Seventy-five percent found high school graduates deficient in leadership skills. Nearly seventy percent of employers said high school graduates are deficient in professionalism and

work ethic as well as critical thinking and problem solving (Casner-Lotto, 2006). High school graduates were reported as demonstrating employability skills at an *Excellence* level in zero areas (Casner-Lotto, 2006).

Gaining popularity: Career readiness starts early. Alexander and Miller (2015) stated that career readiness begins in elementary school. Alexander and Miller authored *Grow Your Own Tree: Tools for Career Readiness, Exploration, and Evaluation*. In this article, Alexander and Miller explained the stages of career preparation education. The first stage is career awareness. During this stage students identify roles and careers of interest. Students begin to work together. Elementary students focus on their interests, values, strengths, and weaknesses. Students learn the value of work and responsibility. They use role models in their family and community to identify roles of various careers. They comprehend how people work together. They understand the importance of responsibility, cooperation, and good work habits. Alexander and Miller then discussed the middle school aspect of this first stage, where students begin taking career assessments and interest inventories. Students attend career fairs where they meet career professionals outside their immediate community. A push for integrating career exploration lessons into core academic areas presents hands-on activities where students can apply their knowledge in a variety of fields (Alexander & Miller, 2015).

Stage two of career preparation education is career exploration. During this stage, Alexander and Miller opined that students investigate potential careers. During investigation activities, students become more aware of the specific requirements of various careers. Students investigate education and training needed for employment, wages earned in the field, and knowledge and skills needed to be successful. They find careers they have never thought of before. Most middle school students are required to take a career exploration course. During this

course, they have an opportunity to inquire with school counselors and industry partners to find high school level courses and opportunities that will help them prepare for their future career (Alexander & Miller, 2015).

Stage three, according to Alexander and Miller is career application and transition. It is time for students to make choices. High school students conduct detailed exploration and research into themselves and what they want for their future. They must consider their personal and professional goals. They narrow options by researching the labor market and comparing postsecondary institution costs and programs. Students develop a resume and gain knowledge, skills, and experience in their desired field. They take courses specific to different industries and participate in Career and Technical Student Organizations (Alexander & Miller, 2015).

Alexander and Miller stated that stage four of career preparation is time to take action. This includes completing career and technical education courses and programs and participating in job shadowing, internships, and apprenticeships. Students may enter a two or four year postsecondary institution to pursue more education and training in their field. Providing opportunities for students to explore and prepare for their careers at an early age encourages career readiness.

What Are colleges saying? In the article *Career Readiness: Has Its Time Finally Come?* DeWitt (2012) defined college readiness as “academic preparedness for college” (p. 17). Tucker (2017) also addressed this in *College Readiness: Are Different Definitions Driving Inequality?* a column for Education Week’s blogs. In this blog, Tucker described the findings of a recent study reviewing community colleges in the United States prepared by the National Center on Education and the Economy (NCEE). The NCEE found most high school graduates attending community colleges are not prepared to be successful at the entry level college algebra

course. Tucker explained this math course was usually a basic requirement of all community colleges to complete as part of any degree. Tucker went further to claim that college algebra is middle school level Algebra 1 with the addition of small amounts of geometry or statistics (Tucker, 2017).

The NCEE investigated the reading and writing curriculum as well. NCEE personnel found that while most beginning college textbooks are written at a twelfth grade level, community college instructors are summarizing the text into slide presentations so students can understand it. Tucker (2017) stated that high school textbooks are often written at a seventh or eighth grade level. The NCEE study concluded community college instructors are not assigning as many writing assignments because they believe they will have to spend their time teaching basic writing skills (Tucker, 2017). Tucker identified the disappearing low-skilled, high-wage jobs and the increased need for highly-skilled, creative, and well-educated people.

Gaining Popularity: Science, technology, engineering, and math (STEM)

According to Jolly (2016), STEM lessons have gained popularity in education. STEM lessons encourage students to develop their creativity and inventive problem solving skills. Jolly's article titled *How to Design a Successful STEM Lesson*, surveys effective STEM Lessons. Jolly suggested that STEM lessons "engage students in creating engineering solutions for real-world problems" (p. 1). Lessons are centered around math and science topics. Real world challenges provide students with opportunities to apply practical knowledge to solve the problem. In another article written by Jolly, *The Search for Real-World STEM Problems*, the author explained the importance of the problem having real-world application. It must involve an "authentic engineering challenge" to engage students in a societal, economic, or environmental issue (Jolly, 2017, p. 1). The problem aligns with grade-level math and science standards. There is a strong

focus on effective inquiry-based learning and purposeful teamwork (Jolly, 2016). Teams should be able to work toward a variety of solutions in a variety of ways. STEM lessons provide opportunities for students to continue developing college and career readiness skills.

Gaining popularity: Project-based learning (PBL). Project-Based Learning (PBL) units are being implemented in schools to enhance college and career readiness skills including math comprehension and problem solving skills. Project-based learning units focus on the learning process that takes place throughout the unit rather than a single finished product. In the 2017 Education Week’s *Spotlight on Project-Based Learning*, project-based learning was defined as the act of learning about multiple subjects concurrently or simultaneously. (Education Week, 2017). The entire Spotlight collection featured seven different articles that highlighted students, teachers, and programs focused on PBL. Throughout the articles, the various authors presented themes such as how PBL worked and multiple success stories. For example, students identified a research essential, non-Googleable, real-world problem, and they investigated various evidence-based solutions. Students then created a project that could be presented to the public. Throughout the instructional unit, students completed critical writing assignments, journaling and self-reflective assignments, and small-group, purposeful talks. These units that incorporated PBL strategies can improve college and career readiness by enhancing students’ writing, math, and problem solving skills.

Gaining popularity: Evidence-based writing. College entrance exams present examples where students must communicate evidence-based ideas. Yaron (2016) wrote *A Practical Guide to Evidence-Based Writing Across Subject Areas*. In this article, Yaron explained evidence-based writing could start as early first grade. Students must carefully and skillfully respond to essay-based prompts using evidence they have located from other sources.

(Yaron, 2016). Yaron also stated that students must evaluate the validity of texts and determine how much evidence is sufficient in supporting their point. Students create relevant, cohesive, responses that directly address the prompt. Yaron concluded that these evidence-based writing activities can improve writing skills and better prepare students for college and their career.

Tennessee's Plan

This research study focused on the success of the Central Magnet School in Murfreesboro, Tennessee. As of 2018, Central Magnet School served sixth through twelfth grades as part of the Rutherford County School District. Investigating the Tennessee ESSA Plan will provide understanding and context for the specific activities Central Magnet School teachers and administrators are implementing.

Tennessee Succeeds. In 2017, the Tennessee Department of Education published *Tennessee Succeeds. Where are we going? How will we get there?* (Tennessee Department of Education, 2015b). This plan outlined Tennessee's educational goals and how the state and local districts planned to achieve these goals. The first goal was that Tennessee will rank in the top half of the states by the National Assessment of Educational Progress by 2019. Historically, in 2013 Tennessee's ranking went from the mid-forties to the mid-thirties. However, Tennessee did rank in the top half in three subjects in 2016.

The second goal was for the Tennessee high school student ACT average score to be a 21 by 2020. Between 2011 and 2015, the average ACT score had increased from 19.0 to 19.4. According to this Tennessee Succeeds goal, increasing the average ACT score to 21 would signal that Tennessee graduates were prepared for postsecondary coursework.

The third goal was that the majority of high school graduates from the class of 2020 would earn a postsecondary certificate, diploma, or degree. Based on this third goal, Governor

Haslam advocated for and the state implemented the Tennessee Promise program (Tennessee Department of Education, 2018a). This initiative made technical college and community college free for all Tennessee high school graduates. Baseline data suggested that prior to the state implementing the Tennessee Promise program be, sixty percent of high school graduates enrolled in a postsecondary program; however, only twenty-four percent completed their program (Tennessee Department of Education, 2018a).

To accomplish these goals Tennessee established a plan to maintain high standards to ensure graduates were ready for their future careers and postsecondary education. All core academic standards, including math, English language arts, science, and social studies continued to be reviewed on a six-year cycle (Tennessee Department of Education, 2015b). Statewide assessments were aligned to Tennessee's core academic standards with a focus on improving information about critical thinking, problem solving, and skills needed for postsecondary education and the workforce. The design included maintaining strong accountability. Feedback processes associated with accountability systems continued to be improved, as did teacher evaluation practices. Portfolio models for career and technical education are available for teachers in non-tested grades and subjects. Student growth measures continue to be developed for areas that do not already have these (Tennessee Department of Education, 2015b).

Tennessee established five priority areas as part of Tennessee Succeeds. The first priority was Early Foundations and Literacy. This priority focused on building skills in early grades to contribute to future success. The State believed the early grades focus is important since there is no state assessment or gauge for student growth before third grade (Tennessee Department of Education, 2015b). Less than three percent of the six thousand students in Tennessee that rated below basic in third grade English language arts rated proficient by fifth grade (Tennessee

Department of Education, 2015b). The Tennessee Department of Education also stated that children who were not proficient in reading by third grade were four times less likely than their peers to graduate high school by age nineteen (Tennessee Department of Education, 2015b). Therefore, Tennessee planned to increase department support and program monitoring programs serving birth to four year olds, measure and share data for kindergarten readiness and third-grade proficiency, provide high quality assessments and usable data in early grades, and strengthen literacy educator training (Tennessee Department of Education, 2015b).

The second priority was high school and the bridge to postsecondary. This focused on preparing more students for postsecondary completion. According to Tennessee Department of Education data, twenty-four percent of high school graduates earned a postsecondary certification, diploma, or degree within six years of graduation (Tennessee Department of Education, 2015b). Of the entire state of Tennessee 2015 high school graduating class, only half the students who took advanced placement courses passed those courses (Tennessee Department of Education, 2015b). To increase advanced placement success, Tennessee planned to increase the industry certifications and early postsecondary opportunities available to students, measure postsecondary and workforce readiness, expand information access concerning postsecondary trajectory for students, parents, and counselors, and expand opportunities for ACT preparation (Tennessee Department of Education, 2015b).

The third priority was “All Means All.” This means providing individualized support and opportunities for all students, including a focus on students who were behind academically. Tennessee would do this by improving the quality of school interventions, increasing high quality core instruction and intensive interventions for students with disabilities and English Language Learners, expanding personalized learning to all students, increasing access to highly

effective teachers, and increasing resources for students' non-academic needs (Tennessee Department of Education, 2015b).

The fourth priority of the Tennessee Succeeds initiative was Educator Support. This included supporting the preparation and development of an exceptional educator workforce. To do this, Tennessee would use an educator preparation report card to measure outcomes of educator preparation programs, improve accuracy and feedback related to teacher evaluation, support district development for more professionalized, effective, professional learning tools, support districts in creating differentiation of teacher salaries, roles, and responsibilities, and create a leadership pipeline to create transformational school leaders (Tennessee Department of Education, 2015b).

The fifth and final priority was District Empowerment. The focus of this priority was providing districts with the tools and autonomy they need to make the best decisions for students. To achieve this, Tennessee planned to increase data transparency, provide strategic planning resources for effective and efficient use of resources, simplify success to state provided technology, create district networked improvement communities, and explore options for innovative and adaptive instruction (Tennessee Department of Education, 2015b). The Tennessee Department of Education aligned these priorities and goals with the Tennessee Promise Initiative and the Tennessee ESSA plan.

Tennessee Promise. The Tennessee Promise initiative is a scholarship and mentoring program designed to increase the number of high school graduates who attend postsecondary institutions (Tennessee Department of Education, 2018a). As of 2018, this scholarship provided tuition-free attendance to a state community college or technical college in Tennessee for all Tennessee high school graduates. Students must have maintained at least a 2.0 grade point

average and eight hours of community service each semester to receive the scholarship. The Tennessee Student Assistance Corporation coordinated local organizations for mentoring and community services (Tennessee Promise, 2017). This initiative removed the financial burden and provided postsecondary opportunities to all high school graduates (Tennessee Department of Education, 2018a).

Tennessee's ESSA. As of 2018, The Tennessee Department of Education had submitted its ESSA plan and it had been approved by the United States Secretary of Education Betsy DeVos. The ESSA set guidelines for the State Education Agency to set up its own plan to meet the guidelines that works best for their students. The vision of the Tennessee Department of Education is “districts and schools in Tennessee will exemplify excellence and equity such that all students are equipped with the knowledge and skills to successfully embark upon their chosen path in life” (Tennessee Department of Education, 2017). The State Report Card accountability metrics were designed to reflect district and school accountability. This information is available to the public as required by the ESSA. Each district was to be responsible for setting and achieving goals and for implementing reforms and interventions to best address the needs of the students. Schools remain responsible for day-to-day activities, processes, and procedures to prioritize and encourage student learning and achievement (Tennessee Department of Education, 2017). The accountability rating included metrics for English Language Learners, exclusionary discipline, extended cohort graduation rate, access to highly effective teachers, and teacher retention. It also included postsecondary matriculation and completion, types of early postsecondary opportunities (EPSO) offered, students earning EPSO credit, students completing more than one EPSO credit, students completing two or more EPSO credits and earning an industry certificate, students completing more than four EPSO credits, and students earning an

industry credential (Tennessee Department of Education, 2017). The accountability system emphasized a strong focus on college and career readiness. The Tennessee system was aligned to the state's vision of preparing all students for their desired path in life. Many of these metrics were centered around the components of the Tennessee Ready Graduate indicator.

Ready Graduate indicator. According to the Tennessee Department of Education's ESSA plan, the Ready Graduate indicator encouraged a focus on readiness for postsecondary education, military, and the workforce (Tennessee Department of Education, 2017; Tennessee Department of Education, 2018b). Four routes to become a Ready Graduate were created. They included scoring a 21 or higher on the ACT or equivalent on the SAT, completing four early postsecondary opportunities, completing two early postsecondary opportunities and earning an industry certification in an approved career and technical education program of study, or completing two early postsecondary opportunities and scoring a state determined score on the Armed Services Vocational Aptitude Battery (ASVAB) (Tennessee Department of Education, 2017). These four paths were used to determine college and career readiness in Tennessee.

Postsecondary Testing and Early Postsecondary Opportunities

Overview. College and career readiness was identified as a Tennessee Ready Graduate indicator. To count as a Ready Graduate, students must have completed early postsecondary opportunities and/or earned a state determined score on a postsecondary test including the ACT, SAT, and the ASVAB. This literature theme provides an overview of the different postsecondary tests and early postsecondary opportunities available to Tennessee students.

Pursuing and successfully completing early postsecondary opportunities were essential to attaining Ready Graduate status (Tennessee Department of Education, 2016b). These opportunities included advanced placement courses, dual credit courses, and industry

certifications. Investigating early postsecondary opportunities is essential to understanding how a high school student becomes a Ready Graduate.

Advanced placement courses. As described by the Tennessee Department of Education's *Early Postsecondary Opportunities in Tennessee* document (2016b), advanced placement courses are college level courses offered to high school students. These courses have nationally recognized exams in many subject areas. Students may take these courses for high school credit without paying a fee. To receive postsecondary credit, students must pay the exam fee and earn a predetermined score on the exam. The College Board, the provider of advanced placement course, and the state offer assistance for low-income students' fees (Tennessee Department of Education, 2016a). As of 2018, Federal block grants through ESSA were also available. Cost may have also been covered by the Carl D. Perkins Career and Technical Education Act of 2006 (2006), the local Chamber of Commerce, or industry partnerships (Tennessee Department of Education, 2016a).

The Tennessee Department of Education outlined its Advanced Placement program in its document by the same name (Tennessee Department of Education, 2016a). As part of this program, an Advanced Placement Expansion Pilot was started in 2016. This pilot was designed to increase the number of students who enrolled in advanced placement courses while in high school, complete the exam, and pass the exam to earn postsecondary credit. Training for districts and for teacher support was provided to help schools implement Advanced Placement programs in high schools (Tennessee Department of Education, 2016a).

Dual credit. State dual credit courses are high school courses aligned to postsecondary standards. These courses are free to students. Students receive high school credit for completing this course; they can also receive postsecondary credit if they score high enough on the challenge

exam associated with the course. The challenge exam is required (Tennessee Department of Education 2016b).

Local dual credit courses are high school courses aligned to local postsecondary institutions. High school students receive secondary credit and postsecondary credit if they choose to take the optional exam and earn a score at or above the predetermined cut off score. This course is free; however, the exam does have a fee. The postsecondary credit is only accepted by the local postsecondary institution with which the high school has entered into a partnership (Tennessee Department of Education, 2016b).

Industry certification. High school students may take an industry-sponsored exam to earn an industry certification. The exam is a portion of the high school students' program of study at the local high school (Tennessee Department of Education 2016c). The Tennessee Department of Education described industry certifications in its documentation focusing on industry certification (Tennessee Department of Education, 2016c). Students are encouraged to complete industry-aligned coursework in a specific career and technical education program of study. Students earn high school credit for the courses completed. The industry certification itself is not a graduation requirement and does not earn secondary graduation credit (Tennessee Department of Education, 2016c).

For the 2017-2018 school year, there were over 60 promoted industry certifications. Career clusters represented include: Advanced Manufacturing, Agriculture and Natural Resources, Architecture and Construction, Business, Management, and Administration, Health Sciences, Hospitality and Tourism, Human Services, Information Technology, STEM, and Transportation and Logistics (Tennessee Department of Education, 2016c).

Armed Services Vocational Aptitude Battery (ASVAB). Students interested in entering the military after high school are included as Ready Graduates if they earn a state determined score on the Armed Services Vocational Aptitude Battery (ASVAB). *ASVAB Exploring Careers: The ASVAB Career Exploration Guide* describes all parts of the ASVAB and career exploration. The ASVAB score results indicate a measure of skills and abilities (United States Military Processing Command, 2016). Career exploration scores include verbal skills, math skills, and science and technical skills. Career explorations scores show students' current skills in these areas. This can identify areas in which students need more training.

ASVAB tests include general science, arithmetic reasoning, word knowledge, paragraph comprehension, mathematics knowledge, electronics information, auto and shop information, and mechanical comprehension. An overall Military Entrance Score is also included. This score determines if a student is able to enter the military, what specific branches students may enter, and jobs students are able to choose. While this test is required to enter the military, students are not required to enter the military once taking the test. They may use the information to explore industry outside the military. The scores do not predict success or failure; however, they do identify skills and abilities (United States Military Processing Command, 2016).

ACT. High school students scoring at least a twenty-one on the ACT count as a Tennessee Ready Graduate. In the 2017 ACT Profile Report, ACT describes the exam and the changes that took place between 2016 and 2017. The ACT is a curriculum-based measure of academic achievement in English, math, reading, science, STEM, and writing (American College Testing Service, 2017).. Clark (2015) wrote *Building a Common Language for Career Readiness and Success: A Foundational Competency Framework for Employers and Educators*. In this paper, Clark included the ACT's definition of college readiness: "The level of

achievement a student needs to be ready to enroll and succeed – without remediation – in credit-bearing first-year postsecondary courses” (Clark, 2015, p. 2). ACT defined career readiness as “the level of foundational skills an individual need for success in a career pathway or career cluster, coupled with the level of career planning skills needed to advance within a career path or transition to other career paths” (Clark, 2015, p. 3). In the calculation of their career readiness score, ACT would still report English, mathematics, reading, and science, but would exclude rhetorical skills and art/literature. Categories aligned with ACT College and Career Readiness will be the focus (American College Testing Service, 2016).

Summary of the Literature Review

The Every Student Succeeds Act provides the states with more flexibility to implement practices to best meet its students’ needs. Recent studies have depicted a deficiency in high school graduate college and career readiness. Tennessee’s plan to prepare students for their desired plan in life includes a focus on college and career readiness. College and career readiness is identified in Tennessee by the Ready Graduate indicator. To be a Ready Graduate and demonstrate college and career readiness, students must either complete early postsecondary opportunities, or earn a required score on a state determined postsecondary test, or both. Comprehending changes required by the Every Student Succeeds Act, priorities identified by the Tennessee ESSA Plan, common trends identified in college and career readiness, and early postsecondary opportunities offered helps contextualize this study. This information builds a strong foundation to identify specific activities the Central Magnet School is implementing to build strong Ready Graduates.

CHAPTER 3 METHODOLOGY

Overview

The purpose of this research was to identify methods teachers and administrators at Central Magnet School in Murfreesboro, Tennessee, were implementing to increase the percentage of “Ready Graduates” which serves as an indicator of the Tennessee ESSA Title 1 Accountability Rating. Chapter Three presents methodology aspects of this research study including the research questions, the populations and sample, research design, data collection instrumentation, data collection methodology, and data analysis methodology.

Statement of the Research Questions

This study addressed three research questions. These were:

1. What early postsecondary opportunities are being offered to Tennessee high school students enrolled at the Central Magnet School and how is student participation and completion of early postsecondary opportunities being encouraged?
2. What industry certifications are being offered to Tennessee secondary education students enrolled at the Central Magnet School and how is student participation and attainment of industry certifications being encouraged?
3. How are Central Magnet School teachers and administrators encouraging secondary student participation on the ACT/SAT and ASVAB, and what is being done to increase student achievement on these assessments?

Population and Sample

Critical case sampling is a purposeful sampling technique used to collect data on a specific case in which some action is happening (Creswell & Creswell, 2018). For this study, the sample included nine responding faculty and staff members from Central Magnet School,

Murfreesboro, Tennessee, which was the highest ranking college readiness school in the state of Tennessee. Central Magnet School scored 96.9/100 on the college readiness index according to a U.S. News Best High Schools Poll (U.S. News and World Report, 2017). As documented by the U.S. News report, Central Magnet School had a math and English proficiency rating of 100%. The graduation rate was also 100%.

The convenience sample was selected from the entire population, which included all Central Magnet School educators and school personnel working to enhance college and career readiness and Ready Graduates in the state of Tennessee. This data identified activities this specific and effective school implemented to increase Ready Graduates.

Research Design

This study incorporated a qualitative research design. At the time of this research, The Every Student Succeeds Act was relatively new to education. The predecessor to ESSA, No Child Left Behind, focused on state test scores. The ESSA allowed schools to focus on different areas of interest and student need, including college and career readiness. A qualitative research design with open-ended interview questions allowed participants to elaborate in a non-restrictive and convenient environment (Creswell & Creswell, 2018). Qualitative research also allowed participants to evaluate and explain specific activities they implemented in various areas affecting college and career readiness.

The specific research design was a case study. This case study examined the Central Magnet School college and career readiness activities in-depth, which is a benefit of case study research. Central Magnet School has the highest rating for college readiness in the state of Tennessee. Using the Central Magnet School as the subject of this case study identified effective

methods the rest of the state and country may be able to employ to enhance college and career readiness.

Data Collection Instrumentation

An online interview data collection instrument using Google Forms consisted of open-ended interview questions focused on addressing the research questions. The researcher-developed instrument was reviewed and approved by the researcher's thesis committee (see Appendix A). An online interview instrument with open-ended qualitative questions was used for this study because it allowed data collection of more respondents in a variety of positions to participate in a timely fashion. This method helped to minimize disruption in the regular workday.

The instrument included questions presented in multiple sections. The first section addressed Institutional Review Board (IRB) consent to participate in the study and for interview survey responses to be used in data collection and analysis. This section provided the title of the study, the creator of the data collection instrument and study, purpose of the study, and that participation is voluntary. This question ensured data collected could be used in data analysis.

The next section included instrument questions two and three, which addressed the first research question. To collect data on early postsecondary opportunities being offered at Central Magnet school, participants were asked to identify and describe any early postsecondary opportunities they are offering students at their school specific to their subject area or profession. Participants were also asked to explain how they are encouraging student participation and completion of these early postsecondary opportunities. These open-ended, qualitative survey questions provided participants with an opportunity to elaborate on the specific activities and methods they are implementing to address early postsecondary opportunities.

The third section of the data collection instrument included instrument questions four, five, and six, which addressed the second research question. To collect data on industry certifications being offered at Central Magnet School, participants were asked to identify and describe any industry certifications they are offering students at their school. They were asked to identify the program of study the industry certifications are part of. They were also asked how they are encouraging student participation and certification attainment. These open-ended qualitative survey questions provided participants an opportunity to describe and explain the specific activities and methods they are implementing in their field to address industry certifications in regard to college and career readiness.

The fourth section of the instrument included instrument questions seven and eight, which addressed the third research question. To collect data on college and career preparation exams, participants were asked to explain methods they are using to encourage participation and achievement on the ACT/SAT and the ASVAB. These open-ended qualitative survey questions provided participants with the opportunity to elaborate on specific ways they are encouraging student participation and achievement on college and career preparedness exams.

The final section of the instrument included one question. This final question allowed the participants to provide additional information on any other methods being implemented to increase the probability of student success after graduation.

Data Collection Methodology

Preliminary school contact and Institutional Review Board approval. The researcher made preliminary, initial contact with the Central Magnet School principal on during October, 2017, to gauge the school's interest in participating in this research. The principal agreed to participate on behalf of the Central Magnet School and committed the school's teachers and staff

to assist the researcher. The researcher then began building a research participant list by accessing teacher email address and their content areas from the school's website. School email addresses were utilized to encourage participation in the natural education setting. Since the research questions focused on early postsecondary opportunities including, but not limited to, Advanced Placement and dual credit courses, industry certifications, and college and career readiness exams, the researcher included appropriate teachers in the prospective participant list. School personnel capable of implementing methods and practices to enhance these areas included core area teachers, career and technical education teachers, school counselors, administrators, and college adviser coordinators.

With this assurance of participation from Central Magnet School and prior to data collection, the researcher then pursued Institutional Review Board (IRB) approval. The IRB approved the research as an Exempt level of research on February 8, 2018 (see Appendix B). The researcher's IRB packet included a letter from the Central Magnet School principal indicating the school's agreement to participate in the research (see Appendix C).

Data collection. Once IRB approval was received on February 8, 2018, the researcher immediately re-contacted the principal later in the day on February 8, 2018. This second contact initiated the data collection process. The principal emailed an announcement to the staff regarding the upcoming online interview survey distribution, encouraging staff participation.

To collect the data, the researcher emailed the interview-based data collection instrument to the Central Magnet School staff on February 8, 2018, later on the day of IRB approval notice and shortly after the principal had notified the Central Magnet School staff about the research. These participants were identified as the research participants based on their roles at Central

Magnet School. A reminder email was sent to the participants one week after the original electronic interview-based instrument was emailed.

The instrument was available for two weeks from February 8, 2018, through February 22, 2018. The data collection phase resulted in nine responses. Teachers, administrators, and school personnel were able to respond at a time that best fit their individual needs. Participants completed and submitted their responses online. The participant responses were stored within Google Forms,

Data Analysis Methodology

Raw qualitative, interview-based data were collected through the electronic interview data collection responses. To ensure validity and reliability in the findings, a college and career readiness colleague with a background as a high school counselor, test coordinator, and career and technical educator agreed to serve as a research assistant and reviewed the data. The intent of this action was to minimize reviewer bias.

Although the Exempt level of IRB approval was designed for anonymous data, the researcher removed any identifiable participant information. The data were then printed for a hard copy record and to assist in data analysis.

During the data analysis phase, data were organized into three areas including early postsecondary opportunities, industry certifications, and exams. Creswell (2018) described this qualitative data analysis methodology and organizing data into these groups prepared the data for analysis. The qualitative data were read thoroughly. After these responses were reviewed, the data were coded into three emerging themes. Coding the data put common ideas and methods together. The researcher and research assistant then identified categories that grouped the data

by related topics. The three category themes included Advanced Placement and Dual Credit, Industry Certifications and Career Preparation, and Testing.

Consistent with the IRB approval process, after the data were reviewed and analyzed the researcher destroyed all data. This included shredding the printed data and deleting all online / electronic data.

Summary

This qualitative research study attempted to identify the activities that Central Magnet School teachers and administrators were implementing to increase college and career readiness. The researcher incorporated an electronic, Google-form based interview data collection instrument that included nine questions. The instrument was emailed to school teachers, administrators, and staff. After a two-week data collection period, nine participants provided insight and data for the nine data collection questions that were designed to address the three research questions.

The data were coded to identify emerging themes including Advanced Placement and Dual Credit, Industry Certifications and Career Preparation, and Testing. Findings were reviewed by a college and career readiness colleague who served as a research assistant to limit research bias. This colleague possessed experience as a high school counselor, test coordinator, and career and technical educator.

CHAPTER 4 TREATMENT OF THE DATA

Overview

The purpose of this research was to identify methods teachers and administrators at Central Magnet School in Murfreesboro, Tennessee, were implementing to increase the percentage of “Ready Graduates” which serves as an indicator of the Tennessee ESSA Title 1 Accountability Rating. This Chapter will provide an overview of the data collected for each research question.

The Tennessee ESSA plan lays out four paths to become a Tennessee Ready Graduate. They include scoring a 21 or higher on the ACT or equivalent on the SAT, completing four early postsecondary opportunities, completing two early postsecondary opportunities and earning an industry certification, or completing two early postsecondary opportunities and scoring a state determined score on the Armed Services Vocational Aptitude Battery.

This chapter presents the data that were collected to address what early postsecondary opportunities the Central Magnet School was providing as well as how student participation was being encouraged. Data will also identify industry certifications being offered and explain how student participation and attainment of industry certifications is being encouraged. Data will also identify methods being implemented to encourage student participation and achievement on the ACT/SAT and ASVAB.

Research Question One Data

Research Question One stated “What early postsecondary opportunities are being offered to Tennessee high school students enrolled at the Central Magnet School and how is student participation and completion of early postsecondary opportunities being encouraged?”

Responses to this research question included data on areas offering advanced placement and dual

credit courses. Advanced placement courses are completed in high school; however, students may also earn college credit if the final exam is passed. Dual credit courses are college courses students take during high school. Students gain both college credit and high school credit for the course. Four out of nine participants mentioned “advanced placement” or “dual credit” courses offered in their department or at their school. Participants reported advanced placement courses that were offered at Central Magnet School in a wide variety of subject areas.

According to the participants, advanced placement offerings in social studies were the most comprehensive offerings at Central Magnet School. Offerings included Geography, European History, Psychology, World History, U.S. History, Microeconomics, Macroeconomics, U.S. Government and Politics, and Comparative Government. Dual credit Sociology was also offered. One participant included a course in research as a dual credit offering in the social studies department. *Student Research in Contemporary Problem Solving* was expected to be an extensive course. According to the participant, the research was meant to “develop student understanding of significant global issues.”

Options for advanced placement in mathematics included AB Calculus, BC Calculus, and Statistics. English advanced placement offerings included English Language and Composition as well as Literature and Composition. One respondent included a detailed explanation of the work required for the advanced placement Literature and Composition course outside of class. The respondent explained that students were required to complete readings over the summer before beginning the course in the fall. Students were required to complete readings and analysis outside of class to maximize learning and time spent in class. Advanced placement courses in Computer Technology included Computer Science Principles and Computer Science.

Two respondents included details of the specific diplomas earned at Central Magnet School. In regard to Research Question One, the Diploma of Merit was offered and required students to complete four hours of advanced placement credits. This would meet the state requirement of a Ready Graduate in the state of Tennessee.

Research Question Two Data

Research Question Two stated “What industry certifications are being offered to Tennessee secondary education students enrolled at the Central Magnet School and how is student participation and attainment of industry certifications being encouraged?” Prior to addressing the specifics of this research question, the following data are provided.

Central Magnet School employs seven career and technical education teachers. Career and technical education programs at the Central Magnet School include accounting and personal finance, biomedical, and engineering. Ninety-nine percent of Central Magnet School graduates attend a four-year university after high school. One percent of Central Magnet School graduates attends a two-year college (Central Magnet School, 2018).

Responses to this research question provided data on career preparation and real world training including conducting research, independent projects, industry networking, career skills attainment, and internships. Seven of nine participants included career preparation and training data. One participant described practical research training in Advanced Honors Positive Psychology. Students in this course were required to conduct and present their own research in the social science field. Two participants submitted data on Honors PLTW Biomedical Innovations. Students in this biomedical course completed an independent project while being mentored by an advisor from the biomedical industry. One participant explained this was a “way of networking and gaining field experience.” These advisors may be from a university, hospital,

or research institution. Students were also required to present their work to science, technology engineering, and mathematics (STEM) professionals throughout the course. One participant described student expectations in the Journalism and Yearbook courses. Journalism students published the school newspaper. Yearbook students produced and published the school yearbook. These classes provided students with an opportunity to “learn industry skills” according to the participant.

One participant included data on computer science courses. In Honors Coding, students learned “programming techniques, created simple computer applications, and learned methods of troubleshooting and debugging.” Engineering Practicum was offered to seniors who had completed three other engineering courses. Students enrolled in Engineering Practicum completed a local internship and job shadowed a local person in the industry. No specific industry recognized credential was mentioned in any response.

Two participants included examples connecting Research Question Two with students graduating with distinction. One option to achieve this status included earning an industry-recognized credential. However, as previously mentioned, no specific industry-recognized credential language was mentioned in any response. Earning an industry-recognized credential would meet the Ready Graduate Status in Tennessee.

One participant connected earning the Diploma of Merit to career preparation. This participant explained the requirement of completing a senior thesis to obtain this diploma. This participant also explained that all graduating students must complete three hours of the same elective focus.

Research Question Three Data

Research Question Three stated “How are Central Magnet School teachers and administrators encouraging secondary student participation on the ACT/SAT and ASVAB, and what is being done to increase student achievement on these assessments?” Prior to addressing the specifics of this research question, the following data are provided.

The average 2014 ACT Score for Central Magnet School was English: 28.9, Math: 26, Reading: 28, Science/Reasoning: 26.6, and Composite: 27.5. The national average this same year was English: 20.3, Math: 20.9, Reading: 21.3, Science/Reasoning: 20.8, and Composite: 21. The average ACT score for the entire state of Tennessee in 2014 was English: 19.6, Math: 19.2 Reading: 20.1, Science/Reasoning: 19.6, and Composite: 19.8 (Central Magnet School, 2018).

The 2016, 2017, and 2018 graduating classes have increased their average ACT Composite Score. The Class of 2016 average score was 29.1, the Class of 2017 average score was 29.3, and the Class of 2018 average score was 29.6 (Central Magnet School, 2018).

Regarding the data for this specific research question, two participants provided data to answer this research question. Both participants provided data on tests being taken at Central Magnet School. One participant explained that to encourage ACT participation and achievement, “students are required to have an ACT score of 22 to enroll in Dual Credit courses.” The participant continued to explain “students may graduate with distinction if they score a 31” on the ACT and “ACT benchmark scores are required to graduate with honors.” When comparing the participant data with the information located on the school website, the school website stated the Science ACT score must be at least 23, Reading and Math ACT scores must be at least 22, and the English ACT score must be at least 18 (Central Magnet School, 2018). The other participants explained “challenging curriculum prepares students for success on the ACT.

One participant did provide data on the TNReady exam. According to the Tennessee Department of Education website (Tennessee Department of Education, 2018b), The TNReady exam assessed true student knowledge and understanding. The state used the findings to assess student preparation for future application and success (Tennessee Department of Education, 2018b). TNReady Integrated Math II was offered in Advanced Honors Integrated Mathematics II and Honors Integrated Mathematics II according to the respondent.

In addition to the ACT, the ASVAB also meets Tennessee ESSA State Plan criteria that contributed to Tennessee students being designated as Ready Graduates. However, no participants mentioned offering or encouraging participation on the ASVAB.

Summary

Ready Graduates in Tennessee are defined as students who score a 21 or higher on the ACT or equivalent on the SAT, complete four early postsecondary opportunities, completing two early postsecondary opportunities and earning an industry certification, or completing two early postsecondary opportunities and scoring a state determined score on the ASVAB. Participants in this study reported offering and encouraging student participation in early postsecondary opportunities including advanced placement courses and dual credit courses. While specific industry-recognized credentials were not mentioned by the research participants, internships, research projects, and independent projects were mentioned. Additionally, research participants also mentioned the ACT and TNReady exams were being successfully completed and encouraged. However, the ASVAB was not mentioned by the research participants as being successfully completed or encouraged.

CHAPTER 5 SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Overview

The purpose of this research was to identify methods teachers and administrators at Central Magnet School in Murfreesboro, Tennessee, were implementing to increase the percentage of Ready Graduates which serves as an indicator of the Tennessee ESSA Title 1 Accountability Rating. This chapter provides a summary of this research project with the main ideas from each chapter highlighted. The main findings of the data are outlined. Conclusions, based on the findings, are presented as they relate to the three research questions. Recommendations that contribute to addressing the problem statement are provided.

Summary

High school graduates in the United States have demonstrated a lack of employment skills and knowledge necessary to be successful in entry level careers (Symonds, Schwartz, & Ferguson, 2011). Under the Every Student Succeeds Act, states were required to implement activities to better prepare high school graduates for college and work.

Like all states were required to do, the state of Tennessee created its own ESSA plan to accomplish this. The plan focused on early postsecondary opportunities including advanced placement and dual credit courses, industry certifications, and ACT/SAT and ASVAB scores (Tennessee Department of Education, 2018b). This research focused on what opportunities and activities Tennessee schools were offering and how students were being encouraged to achieve and succeed. To focus this study, the researcher investigated successful high schools in Tennessee using both state and national data. Based on this review, the Central Magnet School was chosen to be reviewed for this research. Therefore, the problem driving this research was lack of data on how the teachers and administrators at the Central Magnet School in

Murfreesboro, Tennessee, were improving college and career readiness and increase the percentage of “Ready Graduates” indicator of the Tennessee ESSA Title 1 Accountability Rating. The data from this research may be useful to improve student college and career readiness in the state of Tennessee and across the country.

The ESSA provided states with flexibility to implement methods and practices that best meet its students’ needs. According to the Tennessee Department of Education (2018b), recent studies have documented deficiencies in high school graduate college and career readiness in the United States. Tennessee’s ESSA plan includes a focus on college and career readiness. College and career readiness is identified in Tennessee by the Ready Graduate indicator (Tennessee Department of Education, 2018b). A Tennessee Ready Graduate was identified as a student who scores a 21 or higher on the ACT, completed four early postsecondary opportunities, completed two early postsecondary opportunities and earned an industry recognized certification, or completed two early postsecondary opportunities and earned a state determined score on the ASVAB (Tennessee Department of Education, 2018b).

Exploring changes to the U.S. education system mandated by the Every Student Succeeds Act, priorities laid out by the Tennessee ESSA Plan, trends identified by academic institutions and industry leaders, and early postsecondary opportunities offered helped contextualize this study. This background knowledge built a strong foundation for understanding of the specific activities Central Magnet School was implementing to prepare Tennessee Ready Graduates.

The researcher implemented a qualitative case study research design, using a Google Form-based interview data collection instrument to interact with teachers and administrators at the Central Magnet School. The data collection instrument included nine open-ended questions that provided insight and data to address the researcher’s three research questions.

Qualitative data collected provided the participants' methods of encouraging student participation in early postsecondary opportunities including advanced placement courses and dual credit courses. Opportunities and encouragement activities to lead students to pursue specific industry-recognized credentials were not reported. However, offerings of internships, research projects, and independent projects were reported. While ACT and TNReady exam participation and qualitative achievement data were also reported, no participation, achievement nor student encouragement data for the ASVAB were reported.

Findings

The following research findings are presented by research question.

Research Question One. Research Question One stated “What early postsecondary opportunities are being offered to Tennessee high school students enrolled at the Central Magnet School and how is student participation and completion of early postsecondary opportunities being encouraged?”

Data reported advanced placement and dual credit courses were being offered. Advanced placement course credits were completed in high school but may also count as college credit if the final exam is passed. Areas of advanced placement courses at Central Magnet School include social studies, mathematics, English, and computer technology. One dual credit course in social studies was also offered.

“Ready Graduate” status can be met through the achievement of the Central Magnet School Diploma of Merit requirements. This diploma includes completing four hour advanced placement credits. By offering this diploma, Central Magnet School was encouraging and recognizing student participation in advanced placement courses.

Central Magnet School offered an extensive number of Advanced Placement courses in a variety of subject areas. Students were provided an opportunity to complete several hours of postsecondary credit before high school graduation. This makes Tennessee's priority of students completing their postsecondary education within six years of graduation much more realistic and attainable.

Research Question Two. Research Question Two stated "What industry certifications are being offered to Tennessee secondary education students enrolled at the Central Magnet School and how is student participation and attainment of industry certifications being encouraged?"

Data suggested no specific industry certification offerings were available. However, data did suggest students are offered opportunities to conduct research, complete independent projects, take part in industry networking, attain career skills, and complete internships. The Advanced Honors Positive Psychology course requires students to conduct and present their own research in the social science field. Honors PLTW[®] Biomedical Innovations students complete an independent project while being mentored by an advisor from the biomedical industry. Students present their work to STEM professionals throughout the course. Journalism students publish the school newspaper. Yearbook students produce and publish the school yearbook. In Honors Coding, students learn programming techniques, create simple computer applications, and learn methods of troubleshooting and debugging. Engineering Practicum is offered to seniors who have completed three other engineering courses. Students complete a local internship and participate in job shadowing opportunities.

Central Magnet School offers a Diploma of Merit. One option for attaining this diploma includes completing a senior thesis. All graduating students must complete three hours of the

same elective focus. Throughout the entire state of Tennessee, industry certifications may be earned by taking and passing an industry sponsored exam as a portion of a program of study (Early Postsecondary Opportunities in Tennessee, 2016). One option for students to graduate with distinction includes earning an industry recognized credential. However, as previously mentioned, not a single specific industry recognized credential was reported being offered at Central Magnet School. Offering this diploma could encourage student participation in industry certification attainment if industry certifications were also offered.

Research Question Three. Research Question Three stated “How are Central Magnet School teachers and administrators encouraging secondary student participation on the ACT/SAT and ASVAB, and what is being done to increase student achievement on these assessments?” Participant data suggested the ACT test is strongly encouraged, and even required to be taken at Central Magnet School in some situations. To encourage participation and achievement on the ACT, students interested in a dual credit courses are required to earn an ACT score of 22. In addition, ACT benchmark scores are required to graduate with honors. An ACT Science score of at least 23 was required, while ACT Reading and ACT Math scores of at least 22 were required. Finally, an ACT English Benchmark score of at least 18 was required. One option for earning graduation with distinction included scoring a 31 or higher on the ACT. These activities encourage participation and achievement on the ACT at Central Magnet School. However, the ASVAB was not mentioned in the data collected.

Research participants did provide data regarding the TNReady exam. According to the Tennessee Department of Education (2018b) the TNReady exam assessed true student knowledge and understanding. The state used the findings to assess student preparation for future application and success (Tennessee Department of Education, 2018b). TNReady

Integrated Math II was offered in the Advanced Honors Integrated Mathematics II course and the Honors Integrated Mathematics II course. Research participant comments suggested student achievement on this exam could encourage college and career readiness in high school graduates.

Conclusions

Based on the data collected, the researcher makes the following conclusions.

1. The majority of early postsecondary opportunities being offered at the Central Magnet School include advanced placement courses and dual credit courses.
2. Central Magnet School students are being encouraged to complete these advanced placement and dual credit courses by offering more distinguished diplomas and higher graduation status.
3. Industry certifications are not being offered, but the spirit of industry certification attainment is being encouraged through offering more distinguished diplomas and higher graduation status.
4. Other methods of career skill attainment are offered in the form of conducting research, completing independent projects, taking part in industry networking, and completing internships.
5. The ACT is offered and encouraged, but the ASVAB is not encouraged or offered.
6. High achievement on the ACT is encouraged through the “Graduating with Honors” requirement, the “Graduating with Distinction” requirement, and “Enrolling in Dual Credit” requirement.

Discussion

The following discussion based on each research question is presented.

Research Question One. A priority of the Tennessee Succeeds initiative is to bridge the gap between high school education and postsecondary education. The focus is on students to complete a postsecondary degree within six years of high school graduation. To achieve this, Tennessee launched a plan to make more post-secondary opportunities available to students in high school including advanced placement and dual credit courses (Tennessee Department of Education, 2015). An Advance Placement Expansion Pilot was implemented in Tennessee. This program was designed to train districts and teachers to implement effective advanced placement programs in high schools and increase student participation in AP courses (Tennessee Department of Education, 2016).

Another option for bridging the secondary-to-postsecondary gap is dual credit courses. Dual credit courses are high school courses aligned to postsecondary standards. Students take dual credit courses during high school but also meet postsecondary standards at the same time. Dual credit courses provide students with both college credit and high school credit if they pass the course and the challenge exam associated with the course (Tennessee Department of Education, 2016).

The number of options for advanced placement courses available at Central Magnet School was impressive. This is likely not normal practice for most high school across the state or the country. The ability of this school to provide this many advanced placement courses most likely stems highly educated and qualified teachers being employed at Central Magnet School. Seventy-six percent of the teachers possessed a Master's degree or higher with an average of twelve years of experience in teaching at the time of this research (Central Magnet School,

2018). These school characteristics likely lend themselves to creating an optimal learning environment with a motivated student population.

Other states and other schools can learn from this research, from the Central Magnet School, and from the State of Tennessee. States and schools can express the importance of continuing education for their teachers. Laws may be passed, or employment requirements may be made that encourage secondary teachers to earn higher degrees. Continuing education can lead to better, more highly qualified teachers.

One aspect of methods implemented at Central Magnet School that may not be realistic for some other schools across the state and nation includes the hiring practices. There may not be a large pool of teacher applicants in all states and school districts who have the educational background or the desire to teach advanced placement courses. Other districts may have a difficult time finding qualified employees to make this practice a reality.

Research Question Two. While industry certification attainment is directly mentioned as one route to becoming a Tennessee Ready Graduate, the participants in this research did not provide data to suggest industry certifications, suggesting industry certifications are not offered at Central Magnet School. However, Central Magnet School is implementing other methods to maintain high standards and provide opportunities for students to develop their career skills.

New policy changes with the Every Student Succeeds Act include states requiring challenging academic standards for math, English, and other subjects. As mentioned in the Review of Related Literature section of this research, The National Center on Education and the Economy published a study that found community college instructors are summarizing the texts into slideshows so students can understand it. Instructors are not assigning as many writing

assignments because they are spending the bulk of their time teaching basic writing skills (Tucker, 2017).

STEM lessons are encouraged in schools. In the 2017 article, *The Search for Real World Stem Problems*, Jolly reviews aspects of STEM lessons. They address real-world problems. They involve an authentic challenge. They engage students in societal, economic, or environmental issues. These challenges and issues are aligned with science and math standards (Jolly, 2017). STEM lessons help students develop college and career readiness skills through enhancing math, science, and problem solving skills.

In addition, project-based learning enhances college and career readiness skills. In the 2017 *Spotlight on Project-Based Learning*, Education Week authors describe the benefits of the project-based learning model. Project-based learning units also focus on real-world challenges and the entire, ongoing learning process. Research is essential to project-based learning. Products are able to be presented to the public in the form of critical writing, journaling, and small-group, purposeful tasks (Spotlight on Project-Based Learning, 2017; Heyck-Williams, (2017). These tasks improve writing, math, and problem solving skills.

Evidence based writing is being utilized to encourage college readiness. College entrance exams require students to communicate using evidence-based ideas. Yaron stated students must be able to skillfully work with research, data, and other forms of evidence in responding to essay prompts (Yaron, 2016). Activities that require students to create relevant, cohesive responses and use sufficient evidence to prove their point better prepares students for college and their career (Yaron, 2016).

The extensive real-world application in each course at the Central Magnet School was also impressive. This is a likely not normal practice for most high schools across the state or the

country. The ability of this school to provide this many STEM courses is most likely a result of the focus on student admission standards and high standards in the curriculum. Students are tested in core subject areas before being admitted to the school. The high quality education staff also likely has an effect on this. The school's mission statement expresses an emphasis on challenging students academically through rigorous educational programs and development of effective critical thinking skills. These school characteristics likely lend themselves to creating an optimal learning environment with a motivated student population.

The lack of industry certifications opportunities mentioned was interesting. With the high quality education available and high standards present in the curriculum, it seems industry certifications could easily be incorporated. Central Magnet School did seem to focus more on developing college and career related skills through real-world educational opportunities rather than industry certification attainment. This could be due to the fact that Central Magnet School graduates' transition to college rather than the workforce. According to the school, ninety-nine percent attend a four year university; one percent attends a two year college (Central Magnet School, 2018).

Central Magnet School and other schools across the state and country could benefit from incorporating industry certifications. More students could be prepared for their futures by earning industry certifications to find gainful employment. Graduates with industry certifications may use their certifications to work while earning a college degree.

One aspect of Central Magnet School that is not applicable in other public schools is the ability to admit students based on test scores. Public schools must provide free and quality education to every student in the district. They may not turn students away based on how students perform on tests. The second aspect of Central Magnet School that is likely not

applicable to all other public schools is the money spent on each course. Even the ability for school districts to fund the transportation costs to and from internships and job shadowing experiences would be questionable.

Research Question Three. The second goal of Tennessee Succeeds includes raising the average ACT score in Tennessee to 21 by 2020 for Tennessee high school graduates. According to Tennessee Succeeds, an ACT score of 21 will signal that Tennessee graduates are prepared for postsecondary coursework (Tennessee Succeeds, 2016).

The high ACT scores achieved by Central Magnet School graduates were also impressive. The average 2014 ACT Composite Score for Central Magnet School was 27.5. The national average that same year was 21. The average ACT Composite score for the entire state of Tennessee in 2014 was 19.8 (Central Magnet School, 2018). The Class of 2018 average ACT score was 29.6 (central.rcschools.net).

Ready Graduate status may be attained by scoring a 21 on the ACT and by scoring a state determined score on the Armed Services Vocational Aptitude Battery (ASVAB) (Tennessee ESSA Plan, 2017). In *ASVAB Exploring Careers: The ASVAB Career Exploration Guide* all parts of the ASVAB and career exploration are described. The ASVAB score results indicate a measure of skills and abilities including verbal skills, math skills, science, and technical skills. (ASVAB Exploring Careers: The ASVAB Career Exploration Guide, 2008).

The lack of ASVAB opportunities mentioned was surprising. With the high quality education available and high standards present in the curriculum, it seems student completion of the ASVAB could easily be incorporated. Central Magnet School did appear to focus more on college bound rather than Military bound. With 99% of Central Magnet School's graduating seniors attending four year universities and above average ACT scores it does appear likely

ASVAB participation would increase. The focus of this school and the students is college, not the workforce or the Military.

Data that were not presented was the success rate of Central Magnet School students who actually complete a college degree. While other schools across the state and country could benefit from encouraging student participation on the ASVAB, so too could Central Magnet School. Students could benefit from completing the ASVAB to discover their skills and abilities and link these to future career possibilities. While the ASVAB is a requirement to join the military, it can also be utilized by anyone to identify their own skills and abilities.

Recommendations for Practice

The Tennessee Department of Education has developed an ESSA plan to implement a focus on college and career readiness of high school graduates. The plan outlines the qualifications for “Ready Graduate” status. How are Tennessee schools better preparing students for their futures and increasing the number of Ready Graduates?

1. Early postsecondary opportunities provide students with advanced level coursework career skills attainment. Early postsecondary opportunities including, but not limited to, Advanced Placement courses and Dual Credit courses should continue being offered and encouraged in a variety of academic areas.

2. Industry certifications provide graduates with a marketable credential to find employment. They are useful for work bound students as well as college and university bound students. They provide students with career skills to build on. Industry certifications should be offered and encouraged.

3. Students benefit from acquiring college readiness and career related skills. This can be continued by incorporating real-world problem solving methods to lessons including, but not limited to, STEM and PBL.

4. Students would further benefit from completing the Armed Services Vocational Aptitude Battery (ASVAB) and the ACT. This provides assessment of career skills and academic knowledge already attained. Students may be able to identify career fields and academic areas that meet their skills, abilities, and interests. ASVAB and ACT completion should be encouraged.

Recommendations for Additional Research

The following recommendations would be useful in replicating this study and improving the data collection.

1. To collect a broader spectrum of data, future research should include more than one school in the sample. While a case study focusing on Central Magnet School contributed to the literature base, including more schools can provide additional data to inform and impact best practice.

2. To collect more specific, in-depth data, future research could include face-to-face interviews rather than relying solely on survey research.

Collecting data on methods and practices used at Central Magnet School to increase ready graduate status and better prepare students for their futures provided insight to ideas other schools can try to increase their own student college and career readiness. This research can provide in depth insight to areas students need improvement, stressed areas of interest under the ESSA, and practical methods to address student college and career readiness concerns. More research should be done in the future to provide greater insight to college and career readiness

trends in a variety of school settings, the effectiveness of the ESSA goals, and the effectiveness of methods schools are implementing to meet their college and career readiness goals.

REFERENCES

- AdvanceCTE: State Leaders Connecting Learning to Work (AdvanceCTE). (2017). *Career readiness & the every student succeeds act: Mapping career readiness in state ESSA plans – Round 1*. Retrieved from <https://careertech.org/resource/mapping-career-readiness-essa>
- American College Testing Service (ACT). (2017). *Profile report – National graduating class of 2017*. Retrieved from act.org.
- Alexander, K., & Miller, C. (2015). *Grow your own tree: Tools for career readiness, exploration, and evaluation. Techniques, 90(6), 8.*
- Bromberg, M., & Theokas, C. (2016). *Meandering toward graduation: Transcript outcomes of high school graduates*. Retrieved from <https://entrust.org/resources/meandering-toward-graduation/>
- Burnette II, D. (2017). A-F school rankings draw local pushback. *Education Week, 36(1), 16.* Retrieved from <http://www.edweek.org/ew/articles/2017/03/08/a-f-school-rankings-draw-local-pushback.html?qs=A-f+school+rankIng>
- Carl D. Perkins Career and Technical Education Act of 2006 (Perkins), Pub. L. 109-270, 120 Stat. 683 (2006).
- Casner-Lotto, J. (2018). *Are they ready to work – Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st Century U. S. workforce*. The Conference Board, Inc. & Partnership for 21st Century Skills. Retrieved from http://www.p21.org/storage/documents/FINAL_REPORT_PDF09-29-06.pdf
- Central Magnet School. (2018). *School profile: General school information*. Retrieved from <https://central.rcschools.net/>

- Clark, H. (2015). Building a common language for career readiness and success: A foundational competency framework for employers and educators. *ACT Working Papers Series*. Retrieved from act.org
- Coppes, M. (2016). New opportunities for CTE in the Every Student Succeeds Act - Accountability and State Plans. *Techniques*, 91(5), 24.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd Ed.). Los Angeles: SAGE
- DeWitt, S. (2012). Career readiness: Has its time finally come. *Techniques*, 87(3),16.
- El Moussanoui, S. (2017). Chalk talk- The Every Student Succeeds Act and its impact on vulnerable children. *Journal of Law and Education*, 46(3), 407-413.
- Federal Information and News Dispatch. (2016). *Elementary and Secondary Education Act of 1965, as amended by the Every Student Succeeds Act--accountability and state plans*. Lanham: Federal Information & News Dispatch, Inc.
- Ferguson, M. (2017). A new push for integrating college and career preparation? This year's PDK poll reveals a sharp rise in public support for integrating academic and career preparation. *Phi Delta Kappan Magazine*, 99(1), 42.
- Gandal, M. (2016). Getting serious college and career readiness. (Commentary). *Education Week* 35(28), 18, 21. Retrieved from <http://www.edweek.org/ew/articles/2016/04/20/getting-serious-about-college-and-career-readiness.html?qs=ESSA+college+career>

- Heyck-Williams, J. (2017). *Picking the perfect problem, the heart of project-based learning*. Education Week's Blogs. Retrieved from https://blogs.edweek.org/edweek/next_gen_learning/2017/10/picking_the_perfect_problem_the_heart_of_project-based_learning.html)
- Jolly, A. (28 September, 2016). How to design a successful STEM lesson. *Education Week Teacher, CTO Collaboratory*. Retrieved from <http://www.edweek.org/tm/articles/2016/09/23/how-to-design-a-successful-stem-lesson.html?qs=How+to+design+a+successful+stem+lesson>
- Jolly, A. (19 July, 2017). The search for real-world STEM problems.. *Education Week Teacher, CTO Collaboratory*. Retrieved from <http://www.edweek.org/tm/articles/2017/07/17/the-search-for-real-world-stem-problems.html?qs=The+search+for+real-world+stem+problems>
- Klein, A. (2017). Making sure that schools measure up under ESSA. Quality Counts 2017- Building on ESSA's K-12 foundation. *Education Week*, 36(16), 19-20.. Retrieved from <http://www.edweek.org/ew/articles/2017/01/04/making-sure-that-schools-measure-up-under.html?qs=Making+sure+schools+measure+up>
- Klein, A., Sawchuk, S., & Ujifusa, A. (24 September 2017). Inside ESSA plans: How are states looking beyond test scores? *Education Week's Blogs*. Retrieved from <https://blogs.edweek.org/edweek/campaign-k-12/2017/09/>
- National Coordinating Council for Career and Student Technical Organizations (NCC-CTSO). (2018). *CTSO definition document*. Retrieved from <http://www.ctsos.org/>
- Sawchuk, S. (23 June, 2017). *Under ESSA, an end to the "narrowing of the curriculum?"* *Education Week*. Retrieved from <http://blogs.edweek.org/edweek/curriculum/2017/06/>

Under_ESSA_an_end_to_curriculum_narrowing.html?qs=ESSA+music+art+education&print=1

Education Week. (2017). Spotlight on project-based learning. *Education Week Spotlight Series*.

Retrieved from edweek.org/ew/marketplace/products/spotlight-on-project-based-learning.html

Symonds, W. C., Schwartz, R., & Ferguson, R. F. (2011, February). *Pathways to prosperity:*

Meeting the challenge of preparing young Americans for the 21st Century. Cambridge,

MA: Pathways to Prosperity Project, Harvard University Graduate School of Education.

Retrieved from <http://NRA.harvard.edu/urn-3:HUL.InstRepos:4740480>

Tennessee Department of Education. (2018a). *About Tennessee Promise*. Retrieved from

Tnpromise.gov/about.shtml.

Tennessee Department of Education. (2018b). *TNReady*. Retrieved from

<https://www.tn.gov/education/assessment/tnready.html>

Tennessee Department of Education. (2017). *Tennessee's ESSA Plan*. Retrieved from

<https://www.tn.gov/education/essa.html>

Tennessee Department of Education. (2016a). *Advanced placement*. Retrieved from

<https://www.tn.gov/education/topic/advanced-placement>

Tennessee Department of Education. (2016b). *Early postsecondary opportunities in Tennessee*.

Retrieved from <https://www.tn.gov/education/section/early-postsecondary>

Tennessee Department of Education. (2016c). *Early postsecondary: Student industry*

certifications. Retrieved from <http://tn.gov/education/topic/student-industry-certification>.

Tennessee Department of Education. (2015a). *Tennessee announces new goals to measure*

education progress. Retrieved from <https://www.tn.gov/education/news/18813>

- Tennessee Department of Education. (2015b). *Tennessee succeeds. Where are we going? How will we get there?* Retrieved from https://www.tn.gov/content/dam/tn/education/documents/strategic_plan.pdf
- Starr, J. (2016). The 48th annual PDK poll of the public's attitudes toward the public schools. *Phi Delta Kappan*, 98(1), K1-K31
- Starr, J. (2017). The 49th annual PDK poll of the public's attitudes toward the public schools. *Phi Delta Kappan*, 99(1), K1-K31,
- Tucker, M. (19 January, 2017). College readiness: Are different definitions driving inequality? *Education Week's blogs Top Performers*. Retrieved from http://blogs.edweek.org/edweek/top_performers/2017/01/college_readiness_are_different_definitions_driving_inequality.html?qs=Define+college+readiness.
- Ujifusa, A, (25 March 2016). Examining how ESSA changes the terrain for parent and community engagement. *Education Week's blogs*. Politics K-12. Retrieved from http://blogs.edweek.org/edweek/campaign-k-12/2016/03/examining_how_essa_changes_the.html?qs=ESSA+parental+involvement
- United States Military Processing Command (2016). *ASVAB exploring careers: The ASVAB career exploration guide*. DD Form 1304-5WB. Retrieved from www.asvabprogram.com/pdf/ASVAB_CEP_GUIDE_2016_online.pdf
- U.S. Department of Education (2018). *Every Student Succeeds Act (ESSA)*. Retrieved from <https://www.ed.gov/ESSA>
- U.S. Department of Education (2009a). *Guidance on standards, assessments, and accountability: Adequate yearly progress*. Retrieved from https://www2.ed.gov/policy/elsec/guid/standardsassessment/guidance_pg5.html

- U.S. Department of Education. (2009b). Guidance on standards, assessments, and accountability. *Laws & Guidance, Elementary and Secondary Education*. Retrieved from https://www2.ed.gov/policy/elsec/guid/standardsassessment/guidance_pg5.html
- U.S. News & World Report. (2017). Top ranked Tennessee schools: Best high schools rankings. *U.S. News & World Report*. Retrieved from <https://www.usnews.com/education/best-high-schools/tennessee>
- Yaron, L. (30 August, 2016). A practical guide to evidence-based writing across subject areas. *Education Week Teacher (Web Only)*. Retrieved from <http://www.edweek.org/tm/articles/2016/08/30/a-practical-guide-to-evidence-based-writing-across.html?qs=A+practical+guide+to+evidence+based+writing>

APPENDIX A
CONSENT FORM AND DATA COLLECTION INSTRUMENT

Data Collection Instrument – Text-based (IRB version)

You are being asked to participate in the “*Enhancing College and Career Readiness in Tennessee Schools*” study being conducted by Krista Little, a student at the University of Central Missouri under advisement of Dr. Michelle Conrad. The primary concern of this research is to identify methods Tennessee schools are implementing to increase the percentage of “Ready Graduates.”

This study will explore three interrelated areas including early postsecondary opportunities, industry certifications, and ACT/SAT and ASVAB test scores. Your participation will require approximately fifteen minutes and is completed online at your computer. There are no known risks or discomforts associated with this survey. Benefits of this survey include providing data to assist schools, students, and employers across the state of Tennessee and the country. Educators and districts may use the findings to employ effective methods of improving college and career readiness in high school graduates. Taking part in this study is completely voluntary. If you choose to be in the study you can withdraw at any time. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. (see <https://www.ucmo.edu/osp/app.cfm>). Any report of this research that is made available to the public will not include your name or any other individual information by which you could be identified.



Clicking the “Yes” box below indicates that you are 18 years of age or older, and indicates your consent to participate in this survey.

1. Please identify and describe any early postsecondary opportunities you are offering students at your school.
2. Please explain how you are encouraging student participation and completion of these early postsecondary opportunities.
3. Please identify and describe any industry certifications you are offering students at your school.
4. If you are currently offering any industry certifications, please identify the program of study each industry certification is part of.
5. If you are currently offering any industry certification, please explain how are you encouraging student participation and attainment of industry certifications?
6. Please describe how you are encouraging student participation and achievement on the ACT/SAT.
7. Please describe how you are encouraging student participation and achievement on the ASVAB.
8. Please describe any other methods or practices you incorporate to increase the probability of student success after high school.

Thank you for your time.

Data Collection Instrument – Actual (Google Forms version)

Fwd: College and Career Readiness at Central Magnet School Inbox x

 **Krista Little**
to me 

Google Forms

You are being asked to participate in the "Enhancing College and Career Readiness in Tennessee Schools" study being conducted by Krista Little, a student at the University of Central Missouri. The primary concern of this research is to identify methods being implemented to increase the percentage of "Ready Graduates". Your participation will require approximately fifteen minutes and is completed online at your computer. Benefits of this survey include providing data to assist schools, students, and employers across the state of Tennessee and the country. Educators and districts may use the findings to employ effective methods of improving college and career readiness in high school graduates. Taking part in this study is completely voluntary. If you choose to be in the study you can withdraw at any time.

College and Career Readiness

Central Magnet School

[FILL OUT FORM](#)

College and Career Readiness

Central Magnet School

* Required

You are being asked to participate in the “Enhancing College and Career Readiness in Tennessee Schools” study being conducted by Krista Little, a student at the University of Central Missouri under advisement of Dr. Michelle Conrad. The primary concern of this research is to identify methods Tennessee schools are implementing to increase the percentage of “Ready Graduates”. This study will explore three interrelated areas including early postsecondary opportunities, industry certifications, and ACT/SAT and ASVAB test scores. Your participation will require approximately fifteen minutes and is completed online at your computer. There are no known risks or discomforts associated with this survey. Benefits of this survey include providing data to assist schools, students, and employers across the state of Tennessee and the country. Educators and districts may use the findings to employ effective methods of improving college and career readiness in high school graduates. Taking part in this study is completely voluntary. If you choose to be in the study you can withdraw at any time. Your confidentiality will be maintained to the degree permitted by the technology used. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. (see <https://www.ucmo.edu/osp/app.cfm>). Any report of this research that is made available to the public will not include your name or any other individual information by which you could be identified. Clicking the “Yes” box below indicates that you are 18 years of age or older, and indicates your consent to participate in this survey. *

YES

NO

Please identify and describe any early postsecondary opportunities you are offering students at your school.

Your answer

Please explain how are you encouraging student participation and completion of these early postsecondary opportunities.

Your answer

Please identify and describe any industry certifications you are offering students at your school.

Your answer

If you are currently offering any industry certifications, please identify the program of study each industry certification is part of.

Your answer

If you are currently offering any industry certification, please explain how you are encouraging student participation and attainment of industry certifications.

Your answer

Please describe how you are encouraging student participation and achievement on the ACT/SAT.

Your answer

Please describe how you are encouraging student participation and achievement on the ASVAB.

Your answer

Please describe any other methods or practices you incorporate to increase the probability of student success after high school.

Your answer

Thank you for your time

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APPENDIX B
INSTITUTIONAL REVIEW BOARD APPROVAL



Office of Sponsored Programs and Research Integrity
Administration 315
Warrensburg, MO 64093
Office 660-543-4264
Grants/Contracts: osp@ucmo.edu
Compliance: researchreview@ucmo.edu

Exempt Review
2/8/2018
Protocol Number: 974

Dear Krista Little:

Your research project, 'College and Career Readiness Preparation in Tennessee', was approved by the University of Central Missouri Human Subjects Review Committee on 1/18/2018.

If an adverse event (such as harm to a research participant) occurs during your project, you must IMMEDIATELY stop the research unless stopping the research would cause more harm to the participant. If an adverse event occurs during your project, notify the committee IMMEDIATELY at researchreview@ucmo.edu.

The following will help to guide you. Please refer to this letter often during your project.

- If you wish to make changes to your study, submit an “Amendment” through Blackboard under the “Amendment and Renewals” tab. **You may not implement changes to your study without prior approval of the UCM Human Subjects Review Committee.**
- If the nature or status of the risks of participating in this research project change, submit an “Amendment” through Blackboard under the “Amendment and Renewals” tab. **You may not implement changes to your study without prior approval of the UCM Human Subjects Review Committee.**
- **When you have completed your collection of data, please submit the “Final Report” found on Blackboard under the “Final/Renewal Report” tab.**

If your protocol contained a consent form and the consent form was approved, you will receive an additional e-mail. The e-mail will contain a copy of your consent form with an approval stamp in the top right corner. Do not begin data collection until you receive a copy of your consent form with an approval stamp. Note: One year after your protocol's approval date, a request for renewal OR a final project report is required.

If you have any questions, please feel free to contact me at researchreview@ucmo.edu.

Sincerely,

Kathy Schnakenberg
Program Administrator/Research Compliance Officer
Office of Sponsored Programs and Research Integrity
University of Central Missouri

cc: mconrad@ucmo.edu

Equal Education and Employment Opportunity

APPENDIX C
CENTRAL MAGNET SCHOOL AGREEMENT TO PARTICIPATE



CENTRAL MAGNET SCHOOL

To Whom It May Concern:

Krista Little has permission to conduct research at Central Magnet School. I understand that she will be asking some of our teachers to complete a survey.

Sincerely,

☐

Dr. John E. Ash
Central Magnet School
Principal

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