

**Impacts of Tier 1 Supports through Multi-Tiered System of Supports on
Ninth-Grade Student Academic Achievement.**

A Doctoral Capstone Project

Submitted to the School of Graduate Studies and Research

Department of Education and Administrative Leadership

Ryan R. Edwards

PennWest University

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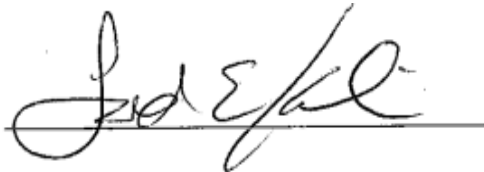
Department of Secondary Education and Administrative Leadership

We hereby approve the capstone of

Ryan R. Edwards

Candidate for the Degree of Doctor of Education

8/14/23



Dr. Todd Keruskin
Assistant Professor, PennWest University
Doctoral Capstone Faculty Committee Chair

8/14/23



Dr. Matthew Meakin
Assistant Superintendent of Schools
Doctoral Capstone External Committee Member

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Abstract

The action-research was completed at Northern High School in the Northern York County School District. The focus of the research was on the impacts of Tier 1 supports through the Multi-Tiered System of Supports framework on ninth-grade student academic achievement. Teacher observations were conducted in the core ninth-grade academic classrooms – English, Earth and Space Science, English I, and Algebra I – to observe the Tier 1 instructional academic strategies being used. Additionally, academic performances from those classrooms were gathered in the form of grades to evaluate passing rates. Additionally, grades in the courses for the past three years were gathered and used comparatively with the student grades during the 2022-2023 academic year.

Chapter I

Introduction

Student disengagement and social awareness is believed to be a detrimental concern continuing to pervade in the educational setting. Due to the rising issue across the nation, research will be conducted on Multi-Tiered System of Supports (MTSS) with a focused effort on the effects of Tier 1 supports for academic ninth-grade students. With MTSS focusing on student supports in the academic, behavioral, and social-emotional areas, the targeted work emphasizes success on struggling learners passing classes. Additionally, a focus on the ninth-grade students is vital because there is a common belief that once ninth grade is supported and achieving, it will flow into the upper levels. Therefore, improving ninth-grade student achievement should enhance academic success in the future years.

As a school administrator at Northern High School in Northern York County School District, there has been an increased disengagement from secondary learners causing failure rates to rise (127 of 260 ninth grade students failing more than 2 classes at the end of Semester 1) along with behavioral issues rising (discipline rates have increased by 20% across the middle school and high school buildings). Through discussions with district leaders and building leaders at all levels in the district, there seems to be a direct relationship between student engagement during classroom instruction and school activities with student academic and social performances. As a learning community, Northern is looking at the impacts of Tier 1 supports through the Multi-Tiered System of Supports framework at the high school level with a focus on ninth graders since this

transition to the high school setting appears to be one of the biggest areas of need to address student success and achievement in achieving passing grades.

To address the growing needs, Northern York County School District's middle and high schools are going to begin implementing a Multi-Tiered System of Supports. Through the work of MTSS teams, students will be identified based on academic, behavioral, or social needs and supports will be put into place to meet those needs at increasing tiered levels (Tier 1, Tier 2, and Tier 3). Additionally, professional development will be provided to teachers in both the middle and high school to equip teachers with instructional strategies at the Tier 1 level because these occur in the classroom and are the first supports are established for learners.

In order to identify the impacts on the learning community, Tier 1 supports in academic ninth-grade courses will be measured through student performance through passing grades, teacher intervention implementations, and teacher perceptions. Data will be collected through a variety of sources. First, the historical academic performance of students in the academic ninth-grade classes will be found in the student information system records. Student grades will be used for comparison with a focus on number of failures. End of the year grades will be pulled for students over the past three years for comparison to performance in the 2022-2023 year. Each marking period, the grades will be gathered along with summative assessment grades. The final grades for each academic student will be gathered as quantitative data as well.

The participating teachers of ninth-grade academic courses will be interviewed at the beginning and the end of the school year about their perception of Tier 1 supports in the classroom. The qualitative data will be gathered and analyzed throughout the year.

Additionally, observations of practices and implementation of practices will be conducted twice quarterly for each ninth-grade academic teacher during the academic year to see the implementation of different Tier 1 supports.

Qualitative data will be collected through teacher interviews within the first two months of school and approximately 8 months later to evaluate perception of the supports implemented. Based on the survey results, categorization and themes will be identified through a coding system and analyzed in conjunction with the quantitative data.

Additionally, observations will be conducted twice a marking period during the school year. Observations will be conducted with the observer as a participant as the individuals being observed will be aware of the presence of the researcher and no formal conversation held. The observation data will be investigating the implementation of Tier 1 strategies in the classrooms.

Quantitative data will be collected through data mining within the learning management system and the student information system. Data will be pulled for academic performance over the past three years. During the 2022-2023 academic year, quarterly, student grades will be gathered along with summative assessment scores. Additionally, the end of the year grades will be gathered for comparative analysis with the historic grades from the student information system. After the data is collected, statistical analysis will be done to identify trends and patterns. As the information is categorized and conclusions made, the data will be compared to the qualitative work completed.

Throughout the research, intentional practices to support students at the Tier 1 level in ninth grade should show student performance increases from previous years when there

wasn't targeted supports and instructional strategies as a focus. The number of failures of ninth-grade academic courses will decrease while teachers will identify the positive impacts encouraging them to continue to equip themselves with strategies to support student academic achievement.

The research, implementation of a Multi-Tiered System of Supports, and evidence collection process will not cause any financial needs for the district. Using the current systems in place and resources available, the district will not incur financial implications.

To complete a comprehensive research approach, the research questions that will be addressed in the process are:

1. What are ninth-grade teacher perceptions of Tier 1 MTSS supports before implementation and after?
2. What is the impact of MTSS framework on ninth-grade student passing rates?
3. What are the most effective MTSS Tier 1 strategies for students to achieve passing grades?

Chapter II

Literature Review

Introduction

Students in ninth grade have many challenges and needs as this is often a transition year from a middle school setting to a high school setting. As Aromolaran (2021) stated:

Transitioning from middle to high school comes with a lot of hiccups and challenges for adolescents as they are having to deal with this huge change during a season of life that is challenging. During adolescence, teenagers experience various mental, psychological, and physiological changes. (p. iv)

Additionally, the coursework being completed becomes permanent on student transcripts which follow them for the years to come. Student supports are essential for individuals to be successful due to the many stressors present in the ninth-grade year.

With the many approaches that school systems establish and work through, the goal with Multi-Tiered System of Supports (MTSS) is to provide best practices and address student needs through academic, behavioral, and social and emotional supports and interventions. Sutton (2020, para. 3) claims, “The most common MTSS framework consists of three-tier levels. Tier 1 is the largest group and in a healthy practice, should include approximately 80% of the student population.” Failures rates of ninth grade students have been shown to decrease when concerted efforts are made within the areas of focus with MTSS. As Gilespe (2018, para. 9) shared, “Area districts [in Chicago] credit increasing efforts to provide students with academic as well as emotional support

as they make the transition into high school.” Additionally, the framework of MTSS provides structured steps and process to ensure students succeed and thrive.

History of Interventions

Council for Exceptional Children

Interventions in the educational setting can be dated back to the 1920’s. In 1922 the Council for Exceptional Children (CEC) was established as a national organization to advocate for students with special needs to improve their educational success. The Council for Exceptional Children was organized by a group of educators attending the summer sessions at Teacher College, Columbia University, and their faculty members on August 10, 1922 (Council for Exceptional Children, 2022). There were 12 members that were part of the core council that were instrumental in 1922 for establishing the professional standards for the field of special education as a fundamental aim of the CEC. Within their first decade the work by the Council for Exceptional Children became affiliated with the National Education Association (NEA).

The work of the Council for Exception Children built in advocacy for special education students. The council’s work in providing equity and support for exceptional children had a huge step in the 1950s as the constitution was revised due to the continued efforts. In 1951, the constitution was revised for a special interest division and then in 1953 the Teacher Education Division and Council for Administrators of Special Education were first formed (Council for Exceptional Children, 2022). Today the Council for Exceptional Children states (2022) that they “advocate for appropriate governmental policies, sets professional standards, provides professional development, and help professionals obtain conditions and resources necessary for effective professional

practice.” Their continued work has impacted many laws passed providing equity and opportunity for all learners including *The Education for All Handicapped Children Act*, *Carl D. Perkins Vocational Education Act*, involvement in *Individuals with Disabilities Educational Act*, providing guidelines for *No Child Left Behind*, and work with *Every Student Succeeds Act* which ended up replacing *No Child Left Behind* (Council for Exceptional Children, 2022). From the work beginning in the early 1920s, the CEC has been instrumental in providing the support and structure for all learners to have access and opportunity in the educational setting. The Council for Exceptional Children’s work has directly impacted the beginnings and continued work on the Multi-Tiered Systems of Support framework which has been seen all over the United States.

Brown v. Board of Education of Topeka

Aside from the early work of the Council for Exceptional Children, an earmark in the transformation of education’s equity in access and supports was the *Brown v. Board of Education of Topeka* Supreme Court decision that “separate-but-equal” education is no longer legal. On May 17, 1954, the U.S. Supreme Court issued one of its most controversial rulings in *Brown v. Board of Education of Topeka*. Through the case, “Brown made it clear that the segregation of students based on race did not ensure equal access to education and could no longer stand,” (Hodges, 2019, p. 1). It was stated by the Legal Defense Fund (n.d.) that “segregation was rooted in the desire to keep the people who were formerly in slavery as near to that stage as is possible.” This landmark case allowed to break down the racial barriers that prevented access to appropriate education for all learners. Therefore, all students needed to have equal access to education which led to the desegregation of schools. Separation based on race was no longer a permissible

way to approach education: “The Brown ruling represented change on a large scale...for the entire nation. Brown required Americans to reevaluate the way they viewed one another as citizens,” (Hodges, 2019, p. 2). Across the nation, educational entities needed to address learning of all students and interventions allowing all individuals to succeed. Once the ruling from the case was finalized, the Legal Defense Fund (n.d.) notes that public schools were to desegregate with deliberate speed. Unfortunately, the work wasn’t hasty, but change took much longer to allow for equity in education for all students of color. These efforts broadened the landscape of schools and allowed all students to receive the same supports in their learning.

Vocational Rehabilitation Act

As educational reform was occurring with regard to racial divides, there was much work still needed with equity in learners of all abilities. In 1973, the Rehabilitation Act prohibited discrimination based on disability to support all individuals. With the *Brown v. Board of Education* having made national impact concerning racial divides, the Rehabilitation Act of 1973 paved the way for individuals with disabilities to have access to equal education. The U.S. Department of Justice put into act language that states (2020) “The Rehabilitation Act prohibits discrimination on the basis of disability in programs conducted by Federal agencies, in programs receiving Federal financial assistance, in Federal employment, and in the employment practices of Federal contractors.” Section 504 of the Rehabilitation Act of 1973 impacts educational entities more than other components of the rights law because it had statues protecting individuals with disabilities and their access to educational opportunities (Dragoo & Cole, 2019). It states:

No qualified individual with a disability in the United States shall be excluded from, denied, the benefits of, or be subjected to discrimination under any program that either receives Federal financial assistance or is conducted by any Executive agency or the United States Postal Service. (U.S. Department of Justice, 2020, p. 22)

Since schools in the United States receive federal funding, Section 504 directly impacts their students with disabilities. Due to the far reach of the impacts of federal funding, Dragoo and Cole (2019) points out that the impacts stretch from preschool through twelfth grade public education along with postsecondary education, employment, and access to public facilities. This results in protection for those in the educational system along with those individuals outside of education with disabilities.

The educational services provided through Section 504 allow for individuals with disabilities to receive accommodations allowing for equitable access to learning. When disabilities were established as part of the language in the 504 Act, there was concern over the specifics for which individuals had to qualify. Therefore, the definition of disability came into question so there needed to be guidelines for who would receive support. Dragoo and Cole (2019) states that individuals with disabilities is defined as broad coverage to the maximum extent permitted. This allowed for a vast array of individuals with countless disabilities to fall under Section 504. Also, the disability must substantially limit one major life activity at some point (could be in remission or episodic). There is no language depicting the frequency or occurrence of the impactful disability for the individual which leaves much liberty for those seeking equal access to

through Section 504. The U.S. Department of Education (2020) identified examples of physical or mental impairments that can qualify under Section 504 in saying:

The Section 504 regulatory provisions as 34 C.F.R. 104.3.(j)(2)(i) defines a physical or mental impairment as any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological, musculoskeletal; special sense organs,; respiratory, including speech organs; cardiovascular; reproductive; digestive; genito-urinary; hemic and lymphatic; skin; and endocrine; or any mental or psychological disorder, such as mental retardation, organ brain syndrome, emotional or mental illness, and specific learning disabilities. (para. 2)

There are not any exhaustive lists with diseases and/or conditions as the lists' comprehensive nature could be questioned. The U.S. Department of Education (2020) also identifies major life activity areas that could qualify for Section 504 including "functions such as caring for one's self, performing manual tasks, walking, see, hearing, speaking, breathing, learning, and working." With these general guidelines around Section 504 of the Rehabilitation Act, individuals are able to identify qualifying conditions and receive structured supports and accommodations in their learning or workplace environment.

Individuals with Disability Education Act (IDEA)

Shortly after the establishment of the Rehabilitation Act and Section 504, the Education for All Handicapped Children Act (EHA) was put into public law. The EHA was established in 1975 to "support states and localities in protecting the rights of, meeting the individual needs of, and improving the results for infants, toddlers, children,

and youth with disabilities and their families,” (U.S. Department of Education (2020), “Students Protected Under Section 504” section). This act allowed the entrance of children with educational disabilities to school settings with the supports needed to be successful. In 1990, the law was reauthorized and renamed to Individuals with Disabilities Education Act (IDEA) as it added traumatic brain injuries and autism to the language of the act. Barker and Johnson (2022) explains the role of IDEA as:

The IDEA mandates a free and appropriate public education for eligible students with a disability in one or more of the 13 categories, to the greatest extent possible, for inclusion, so that students with disabilities are educated alongside their peers without disabilities. (p. 17)

Attorney Andrew Lee produces work to help people understand legal, parental and parenting concerns regarding IDEA. Lee (n.d.) identified and described components of the thirteen categories identified by the Individuals with Disabilities Education Act. They are listed below as:

1. Specific learning disability – learning challenges associated with reading, writing, listening, speaking, reasoning and mathematics (examples: dyslexia, dyscalculia, written expression disorder)
2. Other health impairment – limiting a child’s strength, energy, or alertness (example: ADHD)
3. Autism spectrum disorder – wide range of symptoms impacting a child’s social and communication skills

4. Emotional disturbance – individuals with mental health disorders (examples: anxiety disorder, schizophrenia, bipolar disorder, depression, obsessive-compulsive disorder)
5. Speech and language impairment – difficulties with speech and language including kids that struggle to express themselves
6. Visual impairment, including blindness – eyesight problem including partial sight and blindness, but if eyewear rectifies the problem individuals do not qualify
7. Deafness – cannot hear most or all sounds, even with a hearing aid
8. Hearing impairment – hearing loss but not considered under the definition of deafness, can possibly change over time
9. Deaf-blindness – this is a severe hearing and vision loss where communication and needs are outside of those under deaf or blind
10. Orthopedic impairment – lacking function or ability with the child’s body (example: cerebral palsy)
11. Intellectual disability – individuals have a below-average intellectual ability often resulting in poor social skills, communication, self-care, and/or communication (example: down syndrome)
12. Traumatic brain injury – an accident or physical force causing brain damage impacting a child’s abilities
13. Multiple disabilities – children with more than one of the disabilities identified under Individuals with Disabilities Education Act and needs are not able to be met within a program that is designed for any single disability. (para. 2-13)

These thirteen qualifying categories for Individuals with Disabilities Education Act are identifiers for those that need specific accommodations to their academic programming. Under the Individuals with Disabilities Education Act, schools are required to identify, evaluate, and provide services to students with the thirteen disabilities to see if they qualify for special education services. As students qualify, schools are required to provide appropriate instruction for these individuals in the least restrictive environment. The least restrictive environment is one that provides the most similar educational experience as those not identified under IDEA and appropriate within the identified disability. Therefore, educational accommodations, supports and interventions in the regular education classroom will be part of the programming for the identified students. The growth of the students towards their established goal(s) is monitored throughout the year to ensure progress is being made.

In December 2004, the Individuals with Disabilities Education Act was reauthorized which Congress required the Secretary to delegate to the Director of the Institute of Education Sciences the responsibilities for studies and evaluations (U.S. Department of Education, 2020, p. 265). The research being done was to verify the impacts of implementation of IDEA and identify the progress of individuals with disabilities. Additionally, with the reform, the nation reaffirmed its commitment to improving early interventions and education results and functional outcomes for infants, toddlers, children, and youths with disabilities (U.S. Department of Education, 2020, p. XV).

The Individuals with Disabilities Education Act held a major impact on accessibility for students with one of the thirteen disabilities that qualify for services. The

supports and structures put into place for qualifying students are individualized based on the student needs and established to create conditions for students to be successful in their learning environments.

Americans with Disabilities Act (ADA)

In 1990, the Americans with Disabilities Act was established as civil law protecting against discrimination based on disability. “When Congress enacted the Americans with Disabilities Act (ADA) in 1990, approximately 43,000,000 Americans had one or more physical or mental disabilities. That number had grown to approximately 54 million in 2021” (Hunter et al., 2021, p. 273). The number of individuals identified with a disability continues to climb in the United States. Through the ADA, law was put into place to help eliminate discrimination due to disability and create conditions for success. Hunter et al. (2021) made note that Congress specifically found:

- Physical or mental disabilities in no way diminish a person’s right to fully participate in all aspects of society.
- Historically, society has tended to isolate and segregate individuals with disabilities.
- Discrimination against individuals with disabilities persists in such critical areas as employment, housing, public accommodations, education, transportation, communication, recreation, institutionalization, health services, voting, and access to public services.
- Unlike individuals who have experienced discrimination on the basis of race, color, sex, national origin, religion, or age, individuals who have experienced

discrimination on the basis of disability have often had no legal recourse to redress such discrimination.

- Individuals with disabilities continually encounter various forms of discrimination, including outright intentional exclusion, the discriminatory effects of architectural, transportation, and communication barriers, overprotective rules and policies, failure to make modifications to existing facilities and practices, exclusionary qualification standards and criteria, segregation, and relegation to lesser services, programs, activities, benefits, jobs, or other opportunities.
- Census data national polls, and other studies have documented that people with disabilities, as a group, occupy an inferior status in our society, and are severely disadvantaged socially, vocationally, economically, and educationally.
- The nation's proper goals regarding individuals with disabilities are to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for such individuals.
- The continuing existence of unfair and unnecessary discrimination and prejudice denies people with disabilities the opportunity to compete on an equal basis and to pursue those opportunities for which our free society is justifiably famous, and costs the United States billions of dollars in unnecessary expenses resulting from dependency and nonproductivity. (p. 273)

With all the work through the Americans with Disabilities Act, entities need to provide appropriate accommodations for employees with disabilities.

In the educational setting, ADA does not have to directly impact special education services as individuals can qualify for needs under the Americans with Disabilities Act

but not qualify under Individuals with Disabilities Education Act. Because schools are a public entity, they are required to maintain accessibility for all individuals. For example, this can be ramps, elevators, and specific accommodations around facilities to allow for equitable access for all individuals. Supports and services need to be met under ADA for disabled individuals in to ensure they comply with legal parameters. The Americans with Disability Act continued the movement to make sure all individuals are serviced in all settings, including educational entities.

No Child Left Behind Act (NCLB)

The No Child Left Behind Act (NCLB) was enacted in 2002. The implementation of NCLB caused the federal role in holding schools accountable for student outcomes to be highly increased (Klein, 2015, para. 6). The objective of No Child Left Behind was to close the achievement gap between learners from diverse backgrounds and experiences. The measures were through standardized testing. Schools were charged with having all learners achieve a proficient performance on state created standardized assessments. Those individuals unable to achieve proficiency were needing supports and interventions to help close any achievement gaps and meet expectations going forward. The system's goal of meeting all learners needs had lofty intentions. Additionally, teachers had to become highly qualified which means they would need a bachelor's degree in the subjects being taught. "States are also supposed to ensure that 'highly qualified' teachers are evenly distributed among schools with high concentrations of poverty and wealthier schools," (Klein, 2015, para. 11). These requirements brought some challenges to schools, but the intentions and implementation of No Child Left Behind put solid groundwork to support student learning.

Schools had expectations to meet proficiency with all learners which required additional supports and equity in access to class content. Carlson (2021, p. 1) states that “No Child Left Behind succeeded in shifting the focus from inputs to outcomes, shining a light on performance of different student subgroups, and using reporting requirement to spur development of more-robust education data system.” Through the evaluation of performance and focused efforts on holding schools accountable, many interventions and supports were put into place for individuals to meet the requirements set forth. The use of data allowed for targeted areas of supports for individuals struggling.

Unfortunately, No Child Left Behind did have some holes for the possible outcome of helping all students achieve proficiency. First, there were unrealistic goals and expectations set in policy. Carlson (2021) had clear skepticism with the effectiveness of policies stating everyone must meet the set standards when he said:

Setting a goal of universal reading and math proficiency by 2014 effectively ensured we would end up judging accountability, and NCLB more broadly, as a failure. Even at the time, it was clear we were never going to achieve that goal or come close to it. And because the law required states to specify a trajectory toward universal proficiency, the failure judgements wouldn't be put off until 2014. They would trickle in much earlier. (p. 4)

There was an obvious flaw in policy that everyone would meet the standard.

The second flaw with No Child Left Behind was the narrow focus on reading and math test results. The educational system has many areas outside of math and reading that are essential to the learning process. Allowing students to experience other subjects and activities opens opportunities for growth and engagement. “NCLB’s accountability

system didn't explicitly say education shouldn't do these [educational experiences outside of math/reading] things, but by basing its ratings almost entirely on students' performance on math and reading tests, it signaled what is valued" (Carlson, 2021, p. 5).

Lastly, the control of the federal government without any leniency made No Child Left Behind a challenge to be successful. Policymakers enacted strict expectations and when schools were unable to meet them, there were punitive and inflexible outcomes. Policymakers believed that their punishments would empower teachers to work harder. As schools fell below the annual yearly progress expected, schools were at jeopardy for funding. The belief of this as a motivator for teachers was inaccurate and caused tension in schools. The inflexibility did not allow for the reality in local districts causing backlash from performances.

These barriers for No Child Left Behind's success prevented the set forth objectives of creating a system to close achievement gaps and support struggling learners. The intentions and goals of the act were appropriate, but implementation distracted from the possible successes.

Every Student Succeeds Act (ESSA)

On December 10, 2015, Every Student Succeeds Act was signed into law to replace and update the No Child Left Behind Act. The work of Every Student Succeeds Act present two opportunities – moving away from punitive consequences of No Child Left Behind; opportunity to have state-level efforts including more equitable and predictable funding for public schools and valid measures of school performance beyond standardized test scores (U.S. Department of Education n.d.). The purpose of the act was to “provide all children significant opportunity to receive a fair, equitable, and high-

quality education, and to close education achievement gaps” (U.S. Department of Education, n.d.). This impacts all learners from pre-kindergarten to postsecondary.

Every Student Succeeds Act has provisions to ensure success for students and schools. The Components of ESSA from the U.S. Department of Education are (2022):

- Advances equity by upholding critical protections for America's disadvantaged and high-need students.
- Requires—for the first time—that all students in America be taught to high academic standards that will prepare them to succeed in college and careers.
- Ensures that vital information is provided to educators, families, students, and communities through annual statewide assessments that measure students' progress toward those high standards.
- Helps to support and grow local innovations—including evidence-based and place-based interventions developed by local leaders and educators—consistent with our Investing in Innovation and Promise Neighborhoods
- Sustains and expands this administration's historic investments in increasing access to high-quality preschool.
- Maintains an expectation that there will be accountability and action to effect positive change in our lowest-performing schools, where groups of students are not making progress, and where graduation rates are low over extended periods of time. (para. 6)

As shown, the focus is on students' success and growth through Every Student Succeeds Act. The replacement of No Child Left Behind language needing to meet specific criteria

of proficient achievement allows for more attainable results and viable accountability meeting all learners needs.

Every Student Succeeds Act took a different approach than NCLB. “Every Student Succeeds Act marks an important move toward a more holistic approach to accountability by encouraging multiple measure of school and student” (Darlin-Hammond et al., 2016, p. 1). Through Every Student Succeeds Act, states are required to implement assessments that measure higher-order thinking skills and understanding “...and allows the use of portfolios, projects, or extended performance tasks as well as adaptive assessments,” (Darlin-Hammond et al., 2016, p. 5). The variety in measuring student learning allowed for a more comprehensive approach from the narrowed No Child Left Behind expectations. Darlin-Hammond et al. (2016, p. 2) continued saying, “These [measurements] include the mastery of core academic content; the ability to critically think, collaborate, and communicate; the development of academic mindset; and the capacity for independent learning.” The law has the following minimum requirements for Every Student Succeeds Act that are delineated by each state (Darlin-Hammond et al., 2016):

- Academic achievement as measured by proficient on annual assessment in English language arts and math (in each grade 3-8, plus on grade in high school).
- Another “valid and reliable statewide academic indicator” for elementary and middle schools, which can be a measure of student growth.
- The four-year adjusted cohort graduation rate for high schools (states may add an extended year adjusted cohort graduation rate if they choose).

- A measure of progress in English language proficiency for English language learners (in each of grades 3-8, plus one grade in high school).
- At least one measure of school quality or student success that is valid, reliable, and comparable across the state and allows for meaningful differentiation in school performance. These measures may include student engagement, student access to advanced coursework, postsecondary readiness, school climate and safety, or other measures. (p. 5)

Through Every Student Succeeds Act, there are more comprehensive evaluative measures for student success. Those individuals that are falling below the standards set forth, are to receive targeted supports to help in achievement. Like the No Child Left Behind Act, Every Student Succeeds Act's goal is to identify those learners, or subgroups, that are underachieving success (as determined by the set standards) and support their learning to be successful.

What is Multi-Tiered System of Supports?

There is a connection between Every Student Succeeds Act and Multi-Tiered System of Supports. "The Every Student Succeeds Act refers to Multi-Tiered System of Supports as an approach for increasing student achievement and teacher effectiveness" (Thurlow et al., 2020, p. 2). Gamm (et al. 2012) defines Multi-Tiered System of Supports as:

A Multi-Tiered System of Supports is designed so that schools can provide the appropriate level of instruction and intervention for their students. Using performance data and monitoring learning rates through MTSS, educators can make important instructional decisions to meet the needs of students from different backgrounds, learning styles, and levels of attainment. Also referred to

as Response to Intervention (RtI) in some school districts, MTSS is the umbrella concept under which both academics and behavior fall. Some educators think of RtI as applying to academics only; others consider Positive Behavior Supports (PBS) as applying to behavior only. Still other educators use RtI in the context of both. The intentional shift in terminology to a multi-tiered system is meant to integrate both academics and behavior as uniformly critical to student success in our educational system. (p. 3)

History of MTSS

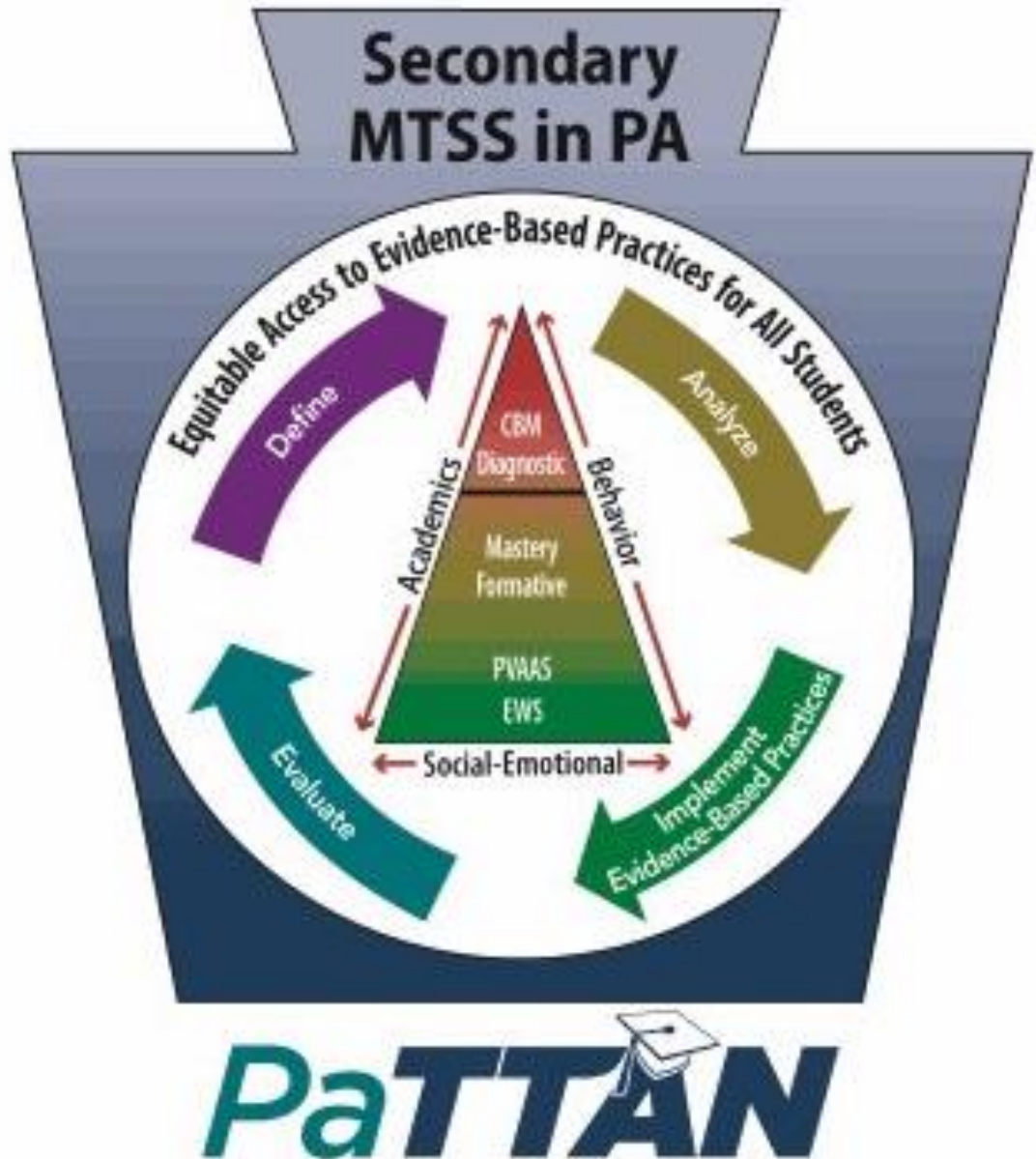
Multi-Tiered System of Supports is a framework being implemented in school districts across the United States to address the academic, behavioral, and socioemotional needs of students. As Castillo et al. (2018, pp. 1-2) says, “MTSS involves organizing educators’ assessments, instruction, and data-based decision-making practices into multiple tiers of service that increase in intensity.” Thurlow et al. (2020, p. 3) also adds that supports are increasingly for behavioral needs as well as academics. Preventions and interventions are implemented at increasing levels of need to support student achievement.

Typically, MTSS framework include a three-tier triangular model of support in which, according to the National Center on Response to Intervention, the largest area tier is focused on primary prevention, the next smaller area tier focuses on secondary preventions, and the third smallest area tier is focused on tertiary preventions. (Thurlow et al., 2020, p. 2).

Figure 1 from the Pennsylvania Training and Technical Network (PaTTAN) portrays the tiers, process, and areas which the MTSS framework addressed.

Figure 1

Secondary MTSS Description in PA



Note. Each color in the triangle represents a tier within the MTSS framework while the academic and behaviors increase in supports with the ascending tiers

(<https://www.pattan.net/Multi-Tiered-System-of-Support/MULTI-TIERED-SYSTEM-OF-SUPPORTS>).

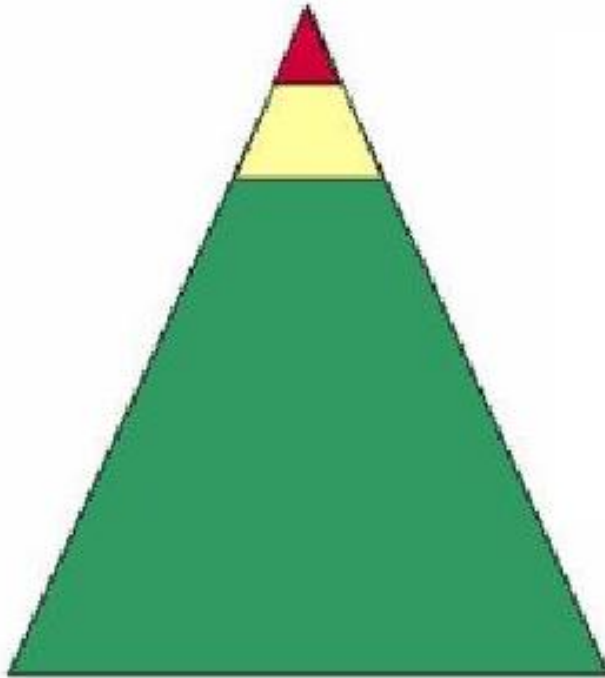
The MTSS framework's tiered approach to support learners found roots in special education. According to Sailor (2021, p. 26), there were two lines of study which special education research focused on for tiered supports. One of which was pedagogy around behavior problems preventing learning while the other was associated with deficiencies in learning to read. The research done provided the groundwork back in the mid-1980s for Positive Behavior Interventions and Supports (PBIS). Sugai and Simonsen (2012) define PBIS as "a framework for enhancing the adoption and implementation of a continuum of evidence-based interventions to achieve academically and behaviorally important outcomes for all students" (para. 1). The work with PBIS allowed for tiered behavior interventions to support student success and a proactive approach to student engagement in the learning setting.

The academic focus' early aim was at reading skills for struggling learners. Data was collected for student progress which allowed for identification of individuals with learning disabilities to qualify for special education. The process used for academic concerns was Response to Interventions (RTI) (Sailor et al., 2021, p. 26). With PBIS and RtI working together as proactive and interventional supports, there was a desire to connect these systems in an encompassing framework which helped pave the way for the Multi-Tiered System of Supports.

In 1996, Hill Walker published a paper providing the model of concepts and practices that are MTSS along with the multi-tiered triangle which is synonymous with MTSS (see Figure 2) (Swenson et al., n.d.). Hill's interdisciplinary work allowed him to look at the health and educational needs when completing his work. The green area represents the large-scale Tier 1 supports while the yellow represents Tier 2 and red Tier 3. The percent of students needing supports decreases as the supports get more intensive. Approximately 80% of students benefit from Tier 1 supports (the green area). The second tier of supports, yellow, represent approximately 15% of students. These individuals require further supports outside of the traditional instructional periods. The 5% remaining are individuals that need supports in the third tier. These individuals require intensive supports and often accompany an evaluation for special services. Student data and feedback are driving forces behind individuals' movement within the tiers of supports. Those individuals with their needs not being met within the first tier get moved into more intensive supports of Tier 2. If there are still further interventions needed for these learners, they are moved into the most intensive Tier 3 approaches. Figure 2 represents the original tiered structure that was established.

Figure 2

Original MTSS Triangle

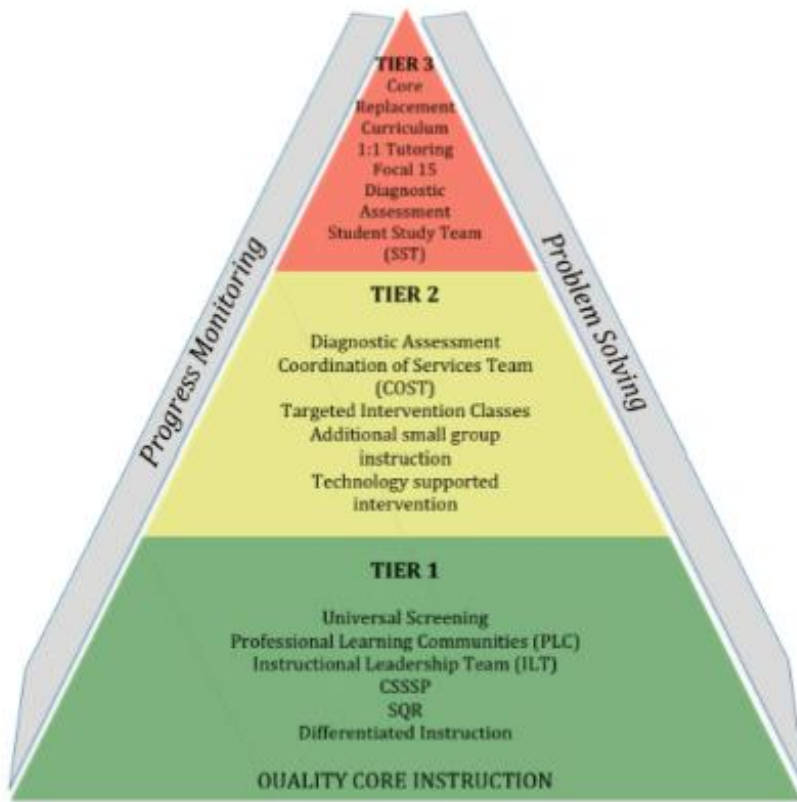


Note. Each color represents a different tier of support in the MTSS framework with the green being Tier 1, yellow Tier 2 and red Tier 3

(<https://sites.ed.gov/osers/tag/mtss/#:~:text=The%20multi%2Dtiered%20triangle%2C%20first,in%20particular%20are%20still%20emerging>).

With the work of Hill, the approach to the ‘MTSS triangle’ evolved into many different factions. Most renditions have language identifying the tiers and interventions that are associated with the supports. As seen in Figure 3, the Multi-Tiered System of Supports triangle shows information about each tier of support while also relationships between the tiers labeled outside of the triangle. The supports listed address the academic, behavioral, and socioemotional learning needs of individuals as a means to support and intervene. The early work of PBIS and RTI are encompassed into these facets along with the addition of social and emotional learning.

Figure 3

Example MTSS Labeled Triangle

Note. Interventions increase in intensity as they ascend the MTSS triangle

(<https://cedar.education.ufl.edu/mtssudldi-professional-development-module/mtss-chapter/>).

Implementing MTSS

As organizations began to look towards implementing a Multi-Tiered System of Supports, there were many ways in which practices could be put into place. As many states have taken on the framework as a means to meet student needs, state education associations have been able to provide supporting resources for districts and learning communities. The American Institutes for Research has the Center on Multi-Tiered System of Supports which provides a general guide for implementing the framework.

The initial phases of implementing MTSS is to assess the current context and accurately plan and prepare in ways that support. The American Institutes for Research (2022, para. 1) suggest MTSS “Teams must examine current capacity and readiness, develop plans for ongoing professional learning, create structures and processes, conduct ongoing evaluation and review of implementation to inform continuous improvement, and engage stakeholders as partners in the work.”

The examination of resources and materials is completed through different needs assessment tools providing context for current availabilities and those that can be considered to help support individuals. Additionally, the vision for the program should be completed through a collaborative effort with stakeholders to allow for buy-in and development of mutually agreed upon goals. In order for initial steps to have success, there must be an understanding of the four essential elements of MTSS – screening, progress monitoring, multi-level prevention system, and data-based decision making (The American Institutes for Research, 2022, para. 2).

After comprehensive preparation, there is implementation of processes, assessments, and interventions identified in development. The American Institutes for Research (2022) states:

Monitoring fidelity of implementation is critical at this phase and teams should identify and address barriers to implementation through regular teaming and problem solving. Ongoing professional learning focuses on improving staff’s use of data, increasing quality of instruction, and refining implementation fidelity of the four essential components. (para. 3)

The success of implementation hinges on support of the practices, monitoring work being done, and continued improvement of practices. Additionally, the collective belief and buy-in of practices are another major factor for the implementation of the framework. All the work should revolve around the four essential components of MTSS to ensure the most effective system.

After planning and implementation, the sustainability and expansion of practices is the objective when starting MTSS. The American Institutes for Research (2022, para. 4) points to a continued effort on efficacy and efficiency to allow for sustaining practices. Additionally, addressing the changing needs of the staff, students, state, and federal demands is a focal point to sustaining efforts. Data analysis and stakeholder engagement allows for the continued efforts to focus the work on the Multi-Tiered System of Supports. When there are new staff and shifts in priorities, the infrastructure and aligned system will be the sustaining force. Actionable steps need to be in place as different changes occur in order to support the sustained efforts of the system in supporting students.

Desired Outcomes and Purpose

Groups may look at the implementation process of the Multi-Tiered System of Supports in a variety of ways, the purpose and outcomes of the framework all focus on students. MTSS has an "...encompassing emphasis on implementation of education programs, activities, and teacher development that supports all students..." (Thurlow et al., 2020, p. 2). The multi-tiered approach to supporting students increases in levels of intensity as strategies and interventions are used with individuals based on comprehensive data. MTSS's first tier of supports looks at best practices in all areas of

the learning environment to meet the needs of all learners. Tier one supports are good for all learners and meet the majority of students' needs in the classroom. Specific individuals with needs or falling within an MTSS team's criteria are also targeted with supports in efforts to provide a successful learning experience at the tier two and, further, tier three levels. The use of data to make decisions about further supports provides an evidence-based approach to interventions and supports.

MTSS – RTI and PBIS leading to Establishment of MTSS

One aspect Multi-Tiered System of Supports' (MTSS) work is with the Response to Intervention (RTI) framework when addressing student academic needs and experiences. There are three basic features that are imperative to RTI and MTSS concerning academic work.

The first component is matching high quality research-based interventions to student's education and behavioral needs. Second, progress monitoring is used to assess the need for changes in instruction or goals. Third, student responses from progress monitoring data is the basis of important education decisions, which might include additional levels of tiers of instructional intensity or possibly eligibility for special education. (Bianco, 2010, p. 4)

Averill and Rinaldi (2013, p. 1) point out that since 2004 reauthorization of the Individuals with Disabilities Education Improvement Act, there was an encouragement to use the scientific research-based approach of Response to Interventions to support students with specific learning disabilities. This multi-tiered approach to support student learning has continued to be foundational for frameworks with which districts implement

supports. No matter the adjustments to RTI, there is a consistency of universal screenings and multiple tiers of supports for which students' needs can be addressed.

Next, MTSS's behavioral focus is addressed using a Positive Behavior Interventions and Support (PBIS) framework. The PBIS framework provides a three-tiered system that increases supports proactively or in response to student needs. Marx et al. (2020) defines PBIS as follows:

Positive Behavioral Interventions and Supports is a three-tiered framework for improving and integrating all the data, systems, and practices affecting student outcomes every day. PBIS is a way to support everyone – especially students with disabilities – to create the kinds of schools where all students are successful. (p. 1)

As pointed out by McIntosh and Goodman (2016, p. 4), RTI and PBIS “have been implemented on a scale of social significance that has evaded many previous attempts at school reform.” The systems are proven to be effective and continue to be so within MTSS. The Positive Behavior Interventions and Supports framework has three particular defining characteristics according to Sugai and Simonsen (2012) that help with its lasting impacts. The three characteristics from Sugai and Simonsen are:

1. Student outcomes based in practice selection, data collection, and intervention evaluations. Outcomes are academic and social, individual or small group, and judged on educational and social value and importance.
2. PBIS framework highlights and adopts a research and evidence based practices. Practices are school wide, non-classroom, classroom, and individual student routines.

3. PBIS has a continuum of behavior systems and practices. They are unified with universal screenings, continuous progress monitoring, team-based decision-making rules and procedures, explicit monitoring of implementation fidelity, and local content fluency and expertise. (para. 6-8)

These layers of PBIS allow for targeted supports for individuals throughout the learning environment to see them succeed. Using the Positive Behavior Interventions and Supports framework allows for a tiered approach coinciding with the work of Multi-Tiered System of Supports.

The third component of the Multi-Tiered System of Supports is the social and emotional learning (SEL). MTSS provides a structured and supportive SEL experience for students to improve student achievement. Sailor et al. (2021) provided insights into the impacts of SEL work associated with MTSS.

Current findings document that SEL Programs yielded significant effects on targeted social and emotional competencies and attitudes about self, others, and school. They also enhanced students' behavioral adjustments in the form of increased prosocial behaviors and reduced conduct and internalizing problems, and improved academic performance on achievement tests and grades. (p. 28)

Durlak et al. (2011, p. 405) shares, "Students typically do not learn alone but rather in collaboration with their teachers, in the company of their peers, and with the encouragement of their families." These social connections impact the learning of all individuals and are essential to be successful. Therefore, as a school community is looking to support all learners' success, they must be prepared to address the emotional process as well as the behavioral and academic. Durlak et al. (2011, p. 406) also states...

“schools have an important role to play in raising healthy children by fostering not only their cognitive development but also their social and emotional development.”

Multi-Tiered System of Supports brings a framework for organizing and monitoring the implementation of Response to Intervention, Positive Behavior Intervention and Support, and Social Emotional Learning. Most often, the school setting is seen as a place for students to grow academically and behave according to expectations set forth. Durlak et al. (2011) research noted:

Current findings document that SEL programs yielded significant positive effects on targeted social-emotional competencies and attitudes about self, others, and school. They also enhanced students’ behavioral adjustment in the form of increased prosocial behaviors and reduced conduct and internalizing problems, and improved academic performance on achievement tests and grades. (p. 405)

Research continues to point to a need in all three areas of the educational experience – academic, behavioral, and socioemotional. Response to Intervention and Positive Behavior Intervention Systems alone are not enough to develop students as there is a need of the third prong in Social and Emotional development according to Durlak et al. (2011). The consistent use of a tiered system in academic, behavior, and socioemotional learning with increasing levels of interventions and supports driven by an evidence-based data shows to be the approach that supports all learners most effectively.

Risk Factors Associated with 9th Grade Students

As students move into the high school setting from middle school, the shifts in expectations and performance waiver with the many changes that occur. This leads to the transition having a large impact on student success. “The transition of students from

grade 8 to grade 9 can pose very challenging period marked by socio-emotional changes, friendship changes, and academic changes,” (Harwood, 2021, p. 56). Oakes and Waite (2009, p. 1) made note that points to a smooth transition into high as an indicator of success in high school and beyond. Without direct work in the transition, students have higher risks of failure and poor performance. Additionally, Erickson et al. (2013, p. 2) say the transition between middle school and high school is difficult and often leads to students dropping out. They shared three factors identified are: the social and developmental adjustments; structural and organizational change; and increased academic rigor and failure. These challenges continue to resonate for students as they continue in their secondary learning experiences.

Research by Aromolaran (2021, pp. 86-87) shared that there were two major themes when looking at the experiences, socioemotional challenges, and negative feelings. The social challenges stem from the shifts made in friendships. Student comfort and connections stem from peer relationships and during the transition, this is an area that changes. Students experience a larger population of students, classroom populations with a larger variety of learners and a removal of the team approach often experienced in the middle school setting. These adjustments impact their peer relationships. Additionally, the negative feelings during transition can be connected through aspects of the changes. Aromolaran (2021) says:

During the transition to ninth grade and high school, feeling overwhelmed, anxious, confused, disoriented, and stressed is common outcome of the increased workloads, negotiating an unfamiliar, larger, school building, and interacting with the more complex social life of high school. (p. 88)

The academic rigor shifts are large for students. According to Aromolaran (2021), students described the transition experience as:

They described the coursework in high school as not simple and straightforward as it was in middle school. They had to work harder at schoolwork than ever before. They reported they had more homework that was more difficult, they had more classes making it a challenge to stay organized about the work, and they had difficulties scheduling their different classes. (p. 88)

As noted, the work academically is perceived as substantially more challenging and expectations higher. Gilespe (2018, para. 3) pointed out that those who fail a core class in their ninth-grade year (English, math, science, or social studies) are four times less likely to graduate high school. Additionally, "...in 2017, the same group concluded that students who finish freshman year with an F grade point average have only an 18 percent chance to graduate from high school on time..." (Gilespe, 2018, para. 3).

Oakes and Waite's (2009, p. 5) research found that students are excited about the new activities, choices, and friends, but these come with apprehension and often anxiety. With the population size growth typical of the transition from middle school to high school, individuals often do not have the same personal experiences with teachers and staff members. Oakes and Waite (2009, p. 5) concluded their research stating, "...schools providing a variety of activities that address the concerns of students and their parents and help make the experience a seamless and successful one. Communication and collaboration among all parties appear to be crucial for a successful transition." The transition process is essential in success and then the supports through academic,

behavioral, and socioemotional are means to allow the greatest chances for student achievement.

Impacts of Establishing MTSS

As different school systems look to implement a Multi-Tiered System of Supports, there are many different outcomes. Research suggests that evidence-based practices (EBPs) implemented in secondary school settings will support the academic achievement of students with specific learning needs (Scruggs et al., 2010, p. 437). The researched approaches of effective practices will promote the highest likelihood of student achievement. Additionally, one of the major factors of effectiveness of MTSS is the leadership implementing the system. Gamm et al. (2012, p. 8) shared that “leadership and its continuity when promising reforms are in place have been repeatedly demonstrated as the key ingredients in improving of public schools in urban districts.”

Carter (2018, p. 63) worked with district leaders through interviews and document review to identify that implementing an MTSS framework was a way to improve efficiency and efficacy of school student supports systems and reduce the cost and size of special education population being served. Another impact identified by Carter (2018, p. 71) was the reduction in special education referrals and better allocation of funds. A district spends resources on evaluation and working through the identification process. Using the Multi-Tiered Systems of Supports model enables a district to look at supporting students at different levels within the classroom and school before going into the special education evaluation process. The proactive MTSS supports have been able to save money and resources.

The work using a Multi-Tiered System of Supports in secondary schools has shown to better support student achievement in a proactive approach while also enabling the learning community to be equipped with interventions preventing immediate evaluation of students. Vermeer (2017, p. 19) did research that showed implementation of a Multi-Tiered System of Supports framework into a secondary school that had a reduction in the number of courses failed for a cohort over a three-year period. In the research, there was one year that had a slight increase, but over the three-year period, the number of courses failed were cumulatively substantial allowing for graduation rates to be improved. The use of MTSS in schools continues to provide interventions and supports for learners at differing levels in order to see them achieve and have successful experiences.

Conclusion

Throughout the history of our American education system, there have been many policies and laws put into place to support the learning environment for all learners. Early actions from the Council for Exceptional Children, which is a national professional organization promoting equity in access for all children with disabilities and prevent discrimination, provided some groundwork for learner equity. The continuation of national work was done as racial barriers were being brought down in the educational system through the *Brown vs. Board* court case. The court system eliminated the racial barriers preventing learners from having equity in schooling. The No Child Left Behind Act was put into law driving schools to support struggling learners and subgroups in order to be the standards set by the federal government. As there were needs to continue to develop an effective accountability system for supporting all learners, the federal

government enacted Every Student Succeeds Act. ESSA gave the states the power to establish the standards for which schools would be held accountable. Graciously, the punitive reprimand from No Child Left Behind was eliminated with the enactment of ESSA and a more encompassing approach to student achievement was used to measure school success and learners' needs being met. All the policies and varying levels of work has built the case to have an inclusive environment that promotes student achievement for all learners.

As school communities look to support equitable access and support all students achieving, the Multi-Tiered System of Supports has been a framework embraced to provide a structured approach to support the efforts of many different school-based supports. Through the Multi-Tiered System of Supports, the work of a Response to Instruction and Intervention and Positive Behavior Interventions and Supports come together to create a comprehensive approach to supporting student achievement. As RTI provides the tiered structure for academic supports, the work falls in line with everything MTSS works towards academically. Additionally, student supports through a Positive Behavior Intervention System falls under the work of the behavioral objectives through the MTSS framework. These coupled systems now have an aligned approach that also brings together socioemotional work for student achievement in MTSS. As a Multi-Tiered System of Supports is implemented, student academic, behavior, and socioemotional interventions are intentionally developed to support the learners in the school environment and as they transition into post-secondary plans.

As students transition from eighth grade to ninth grade, there are more risk factors and barriers for success than other transitions in a child's educational journey. With an

increase in rigor, social expectations, and educational expectations, students in ninth grade are at greater odds of under achieving. As seen, success in ninth grade points to the success of students throughout their high school career. There is a need for a focus on ninth grade achievement and to provide a systemic approach to meet their needs. Using the Multi-Tiered System of Supports framework provides a great guide and plan to reduce the risk factors of ninth grade failure while increasing the probability of success in the high school setting.

Chapter III

Methodology

With the escalated need to support all student learning for ninth-grade students, the use of the Multi-Tiered System of Supports is a proven vehicle to positively impact student achievement. With the many variables at play for learners in ninth grade, a focused efforts on Tier 1 supports allowed for evaluating impacts of the strategies on student achievement and teacher perception of the effectiveness of implementing Tier 1 supports in their classroom.

The study collected, analyzed, and reviewed qualitative and quantitative data based on the teacher perceptions of success, tier one supports used in classes, and ninth-grade student grades in their academic level courses. The grades of students were compared to previous years' grades. These grade data points were brought together with the teacher perceptions of implement Tier 1 supports, impacts on student passing rates, and the most effective tier one supports for students achieving a passing grade.

Purpose

Northern High School in the Northern York County School District has implemented a Multi-Tiered System of supports framework during the 2022-2023 school year. The framework was implemented because of the perpetual concern over student achievement, behavior, and social connections. With the many interventions and supports previously implemented, there lacked a continuity of data and systems in place to support collective student achievement. Additionally, there is an evident concern over student success in ninth grade as ninth grade is the year that has been the point of most transitions for students coming from the middle school to the high school. Students coming from the

middle school are given more liberties in the high school building through moving about the hallways. Additionally, academic demands increase substantially from the middle school level to the high school level causing levels of stress for students. These huge adjustments for incoming ninth-grade students adds a level of risk for success coming into their high school experience.

Early in the educational system, supports for inclusive environments have been a focal point to create equitable learning environments. Many laws and court cases have highlighted the need for the educational setting to support all learners from various backgrounds. Working with individuals identified with learning needs under Individuals with Disabilities Educational Act to those impacted by Section 504, student accommodations are being put into place for their success. These specific student populations are able to be targeted in supports within the traditional classroom setting. Additionally, accountability systems have been established by government entities with goals to provide all learners with standardized competencies. Through No Child Left Behind and now, Every Student Succeeds Act, standards have been established for learners to meet allowing schools to show equitable growth and learning. These systems cause a need for school systems to continue to plan supports for all learners in the classroom.

With the many legal demands, different programs have been created to help meet the needs of learners in the educational system. Response to Interventions (RtI) and Positive Behavior Intervention Systems (PBIS) were both effective measures taken by many schools to meet the climbing demands of students. The Response to Interventions system allowed for targeted academic supports for learners while the Positive Behavior

Intervention Systems had focused efforts on interventions around behavior concerns. With these systems at play, the Multi-Tiered System of Supports (MTSS) was developed as a comprehensive framework to meet students' needs. The Multi-Tiered System of Supports was established as an umbrella that is able to house Response to Intervention and Positive Behavior Intervention Systems and many other supports systems in one framework to track all needs. Through the one MTSS framework, student needs are more collectively monitored and addressed. The use of MTSS has shown an effective means to meet student needs and address individuals' academic, behavioral and social and emotional learning.

With the continued success of a Multi-Tiered System of Supports, Northern High School has implemented the framework in efforts to address student achievement. Seeing the continued concerns over ninth-grade academic achievement and research showing the higher needs of supports in this academic year, there is a concerted effort on ninth-grade students' academic performance in the form of grades. The impacts of the Multi-Tiered System of Supports framework and students' achievement will be the focus of the research by working with the Multi-Tiered System of Supports team, observing and interviewing teachers of ninth-grade academic courses, and a data review plan of student academic success.

The research will first investigate the perception of ninth-grade core academic teachers on Tier 1 supports in their classrooms. With the start of the MTSS framework, there will be a concerted effort on strategies that impact student learning at the Tier 1 level. Perceptions of the impacts at the beginning and end of the year will allow for initial

impressions and final reflections on the impacts of the varying Tier 1 strategies in the learning environment.

As well as teacher perceptions, the impacts of Tier 1 strategies on student passing rates for the ninth-grade academic courses will be analyzed through grade reviews. With concerted efforts on Tier 1 supports, the passing rates over the past three years were compared to the 2022.

The final area of investigation was observations of Tier 1 strategies used in the academic core classrooms. Through observations of the implementation of the Tier 1 supports and use of different strategies, the qualitative data was used to compare to the academic success of the students.

Through the collection, analysis, and review of collected data, the following research questions were used:

1. What are ninth-grade teacher perceptions of Tier 1 MTSS supports before implementation and after?
2. What is the impact of MTSS framework on ninth-grade student passing rates?
3. What are the most effective MTSS Tier 1 strategies for students to achieve passing grades?

Setting and Participants

The Northern York County School District is located in south central Pennsylvania. The school district can be found in the northwestern area of York County. The Northern York School District is located between three cities which are Gettysburg, York, and Harrisburg. The majority of attendees are from the community of Dillsburg where there are approximately 2,500 people reside. The district has eight municipalities

and a total population of about 24,500 (Northern York County School District, 2023, para. 1). The Northern York County School District spreads over approximately 119 square miles. It is composed of five townships, eight municipalities, and three boroughs (Northern York County School District, 2023, para. 1).

Within the Northern York County School District, there are six school buildings. The high school houses ninth through twelfth grade students, a middle school that comprises of sixth through eighth grade students, and four elementary buildings with kindergarten through fifth grade students. Additionally, there are approximately seventy to eighty students that attend the Cumberland-Perry Area Career and Technical Center where they are able to receive training within specific trades. The district's student population is approximately 3,500 students with just under 1,100 students in the high school.

The Northern High School includes one principal, two assistant principals, one nurse, and four counselors. There are approximately sixty-five professional staff members creating a student to teacher ratio of 20:1. Additionally, there is an online program that is available for students in grades six through twelve. The online program is offered in conjunction with the Capital Area Online Learning Association. The local program's name is Northern Online Academy (NOLA). Local teachers oversee the core courses and many elective courses in the NOLA program. Those courses that are not overseen by local teachers have teachers provided from the specific vendor to oversee the coursework.

At Northern High School, ninth-grade students are given the option of academic level courses or honors level courses in the core subject areas (English, Math, Science,

and Social Students). The honors courses are offered in English, Science (through an Honors Biology class), World Cultures, and Math (taking Geometry or Algebra II course). Those participating in the ninth-grade honors courses had to have a teacher recommendation from their eighth-grade teacher and met the prerequisite course or performance needed to enroll in the courses. Students not participating in the honors courses are all in the academic level.

The academic level at Northern High School is considered college preparatory course work. Standard courses are for students not looking for post-secondary education. The standard level courses were eliminated for ninth-grade students in the 2018-2019 academic year. Standard level courses still available to students in 10th-12th grade in the core subjects. The purpose of this transition was to allow students an equal opportunity to prepare themselves for their future. As students enter high school, their first year would allow them the experience of academic courses and preparatory work for further education if desired. All students are in a pathway to permit any career pathway going forward from their ninth-grade year. In the academic level courses, teachers work to meet learners of different levels needs and provide a rigorous learning experience within their experiences. With the rigorous demands on all learners in ninth grade core courses through honors or academic levels, students are able to select standard level courses going forward in their following years knowing that they are not preparatory for post high school educational experiences. This equitable opportunity for students in ninth grade was met with a decrease in office referrals and a more accountable ninth grade learning experience.

Since the shift in the ninth-grade course selection removing standard level core courses, there has been a rising concern over instructional practices that meet all learners needs within the classroom with a disparity in ability. Through feedback and continued collaborative work, teachers were looking for professional learning experiences that would equip them with instructional strategies and tools that would allow for better differentiation and personalization in the classroom.

Working through a cohort of teachers in partnership with administration, a Multi-Tiered System of Supports was created with targets on Tier 1 academic supports in the classroom. These instructional strategies have come to meet the specific needs that teachers have voiced based on their experiences in the de-leveled courses. The collective efforts of the high school staff are to be intentional about specific supports within the classroom to meet all learners' needs and see an improvement in student achievement with the ninth-grade students.

Intervention and Research Plan

Throughout the history of supports within the educational system, there has been a continued growth in supporting all students. Throughout the shifts in educational needs, the identification of specific supports for learners that struggled became apparent. Therefore, rights were established for minorities and individuals identified with disabilities. Through legal processes, disabilities under Section 504 and under Individuals with Disabilities Act, student inclusion and supports are necessary for the learning environment. No longer are educators able to provide broad stroke educational experiences for all students, but there are requirements for all learners to receive learning experiences based on their needs.

The Northern York County School District has a structured Multi-Tiered System of Supports framework established within the four elementary buildings in the district. As the successes of student achievement are noted and targeted supports established, secondary leaders identified a need to implement the system as well to track student learning and address specific individual needs within the classroom more effectively. With a lacking targeted support system in the middle and high school settings, the Multi-Tiered System of Supports framework was the best method to implement going forward to help meet the many demands and needs of the learners.

With the implementation of a Multi-Tiered System of Support at Northern High School in Northern York County School District, research focused on the largest forms of supports which target Tier 1 supports during classroom. Due to the transition in building, increases in expectations, and social demands, the ninth-grade students are of high-risk of failure. Due to the high risk of this student population, ninth-grade student core courses are the focus group of the research to support the student group at highest risk. The supports enabling student achievement in the classroom align with the Tier 1 supports from the Multi-Tiered System of Supports framework which drove the research. Looking at specific Tier 1 supports in the classroom through observations and gathering feedback from teachers regarding their perceptions of those tier one supports were essential data pieces. Additionally, the student achievement in the form of grades during the academic year are telling of the effectiveness of those strategies implemented regularly in the classroom.

In order to formalize the research, the focus was student success and teacher perceptions within the Multi-Tiered Systems of Support framework. Quantitative and

qualitative data was collected for these areas of focus. The researcher started with a focus on ninth-grade students in their core courses because of the many variables at play transitioning from the middle school while also academic success is often tied to continued success throughout their high school experience. To proceed with research, the Institutional Review Board approved the research plan, materials, and process, to allow for continuation and validity of the research plans.

A proposal for the research with all research plans was created for the Institution Review Board to review for context and approval of the action-research. The context for the research, purpose, and objectives were all provided by the researcher for the board to have a comprehensive understanding of the process. The risks for all parties involved in the action-research were also disclosed in the proposal for further understanding. Financial components of the action-research were another component as well of the proposal given to the Institution Review Board. The Institution Review Board provided a letter of acceptance upon review (Appendix A).

Part of the supplemental materials given for review were also a letter of approval (Appendix B) provided by the Northern York County School District to conduct action-research at Northern High School while understanding conditions and potential risks. This letter was received from the Northern York County School District Superintendent, Mr. Steve Kirkpatrick. The letter acknowledged that teachers were volunteering for the participation in action-research, data would be collected confidentially, there was low-risk in the action-research, and that interviews were going to be conducted at the beginning and end of the year. Additionally, consent and disclosure forms (Appendix C and Appendix D) were submitted to have teacher participation in classroom observations

and interviews regarding perceptions of Tier 1 supports in the classroom. The forms were provided to teachers to be signed acknowledging the action-research. Information regarding voluntary participation, process of the research plan, and information about whom the participants are able to contact if there were concerns or questions about the research plan. Additionally, clear language was used in the forms to provide understanding that their participation can be withdrawn whenever they would desire as this is completely voluntary. Each teacher was provided these forms for review and needed to return them to the researcher in order for the research to take place. These forms and letters were all part of the Institution Review Board's files reviewed to permit the action-research. The Institution Review Board had to approve the materials prior to teacher reviews and evaluation of participation plans.

Throughout the academic year, teacher observations were a data point that allowed for identifying Tier 1 supports being implemented in classroom instruction regularly. The data collected were noted before instruction, during instruction, and after instruction. These areas are focused due to the nature of engaging students throughout the entire instructional timeframe. Additionally, Tier 1 supports were categorized as impacting academics, behavior, or social and emotional learning. These three areas were coded during observational periods and often had overlapping identifiers. Two teacher observations per marking period were completed to acquire the qualitative data from the classroom and see numerous opportunities for implementation of strategies in the learning environment. Additionally, grades on summative assessments were collected throughout the academic year in their academic core courses to look at passing rates on assessments. Historical grades from the previous two years were gathered from the

student information system for the same courses and used to compare to the current academic passing and failures rates.

Aside from the observational data and grade comparisons, interviews were conducted with the participating teachers from the ninth-grade core academic courses. Teacher interviews were conducted in the first part of the academic year. The questions allowed for teachers to share commonly used Tier 1 instructional strategies and perceptions of the effectiveness of those strategies. The initial interview was conducted prior to the start of concentrated professional development during the academic year about Tier 1 supports and also prior to the end of the first marking period to get an understanding of teacher perceptions and beliefs.

During the last month of school, the same interview was used again to discuss perceptions of Tier 1 supports during instruction of class, and which supports had the most impact on student achievement. This interview provided another set of qualitative data to compare to the beginning of the year and brought to analysis with the tier one supports that were frequently used and academic success of the students. The perception adjustments and effectiveness in reflection were all part of the goal from the teacher. Additionally, the impacts on the student learning outcomes were noted based on those perceptions. All action-research was completed during the course of an academic year spanning from September 2022 to June 2023.

With the use of grades as data, interview feedback, and observational evidence, there are no fiscal implications throughout the research process. All work was done without any needs of financial support or impacting the district or building's finances. Professional development throughout the course of the year was conducted to support

Tier 1 instructional strategies in the classroom, but there were no financial needs to allow for these trainings to occur. Additionally, no resources were needed to be brought in or used in the professional learning and implementation of the action-research project.

Methods of Data Collection

A mixed-method approach to data collection was used throughout the action-research process. Qualitative and quantitative data were collected throughout the action-research for analysis. Qualitative data was collected through interviews of participating teachers in ninth-grade core academic courses. Additionally, classroom observations were conducted with a focus on Tier 1 supports as part of the class period. Quantitative data was collected through acquiring grades on summative assessments during the 2022-2023 academic year. These grades were pulled from the gradebooks of each participating teachers' students. Additional quantitative data was collected through student overall grades in ninth-grade core academic courses for the past three years. These were compared to the current, 2022-2023, academic year in an effort to gauge the impacts of the focus on Tier 1 supports during instructional class periods.

The previous grades for students from the past three years provided a baseline in performance of ninth-grade students in their academic core courses – English, Earth and Space Science, World Cultures, and Algebra 1. These historical academic performances gave insights into traditional failure rates in the recent years. This allowed for comparison to the 2022-2023 academic year performance when there was a focus on a Multi-Tiered System of Supports and Tier 1 supports being intentionally implemented for all learners in the class. The comparative results would show the impacts of the performance on student achievement and passing rates with the intentional implementation of supports.

The student overall grades were used as the specific data point for comparative analysis with the historical grades that were acquired.

Teachers participating in the research were given a number code to keep confidentiality and used within all documentation. The teachers participating were then interviewed about their perception on the impacts of Tier 1 supports within classroom instruction and the supports that make the most impact on student achievement. The same interview questions were used at the end of the research timeframe to gauge perception changes from the focused work with the Multi-Tiered System of Supports at the Tier 1 level that have been implemented. Throughout the course of the academic year, professional development opportunities were provided to the teaching staff to support the work of implementing tier one supports that help meet the learning needs of all students. These embedded professional learning opportunities allowed for teachers to continue to grow in their understanding of impacts and also equip them with further strategies. Therefore, the same interview questions being asked at the end of the year were to gauge further understanding and beliefs in the impacts throughout the course of the year. The interview questions were as follows:

1. What subject area do you teach?
 - a. English
 - b. Social Studies
 - c. Mathematics
 - d. Science
2. Approximately what percent of 9th grade students pass your courses?
 - a. 90-100%

- b. 80-89%
 - c. 70-79%
 - d. 60-69%
 - e. 50-59%
 - f. Below 50%
3. What are your perceptions of MTSS Tier 1 supports in the classroom?
 4. What Tier 1 strategies are implemented in your classroom?
 5. What is the frequency of specific strategies (daily, weekly, monthly, quarterly, semesterly, one attempt)?
 6. What do you believe are the Tier 1 strategies have the strongest impact on student achievement?
 7. What do you believe are the Tier 1 strategies have the weakest impact on student achievement?
 8. What are reasons that students are academically successful in your classroom?
 9. What are reasons that students struggle academically in your classroom?
 10. Are there any other additional thoughts you'd want to share?

Each participating teacher was interviewed during non-instructional times and allowed to provide supporting evidence as they deemed appropriate.

Within each of the four marking periods during the academic year, two observations were conducted of the participating teachers' classes. Observational data was collected on Tier 1 supports being implemented in class. The documentation of supports was separated into before the instructional time, during the instructional times, and then at the end of the instructional period. As Tier 1 supports were identified within

each time of class, the student response to the Tier 1 support was documented as well. The observational effectiveness was noted to identify whether it would be considered a successful strategy at that time. Additionally, each Tier 1 strategy implemented during class was identified as targeting behavior, academics, or social-emotional learning. Some Tier 1 strategies embedded during classes overlapped their impacting areas and these were noted with more than one label. The data collection was organized into a spreadsheet that contained the following information:

1. Teacher Number – used for confidentiality and anonymity
2. Marking Period Observations – four marking period throughout the academic year and two observations per marking period
3. Period which the Observation was Conducted
4. Tier One Supports Implemented
 - a. Targeted Areas of Impact – academic, behavior, social and emotional learning
 - b. Observed Effectiveness of the Strategy

These organized pieces of qualitative data were used in comparison with the quantitative data collected. The data collection sheet that was used had the following components:

1. Teacher Code:
2. Date:
3. Period:
4. Beginning Class
 - a. Tier 1 Supports
 - b. Perceived Effectiveness

- c. Student Engagement (eye contact/body language, following procedures, without distractors)

5. During Class

- a. Tier 1 Supports
- b. Perceived Effectiveness
- c. Student Engagement (eye contact/body language, following procedures, without distractors)

6. End Class

- a. Tier 1 Supports
- b. Perceived Effectiveness
- c. Student Engagement (eye contact/body language, following procedures, without distractors)

7. Notes:

A source of quantitative data collected during the year was student performance on summative assessments during the academic year. This information was broken down by marking period to evaluate performances with conjunction of the Tier 1 supports being implemented in the classrooms. Student identifiers were removed, and a coding system was used to identify students to provide confidentiality. To acquire the summative assessments for the academic year, a report was run through, Schoology, the school's learning management system, to export all grades into a spread sheet. The data was coded and summative assessments left for analysis while all other graded assignments were removed from the data points.

A final piece of quantitative data collected was student final grades in the core academic courses over the past three academic years – 2019-2020, 2020-2021, and 2021-2022. To collect this data, a comprehensive report was completed through the district's student information system, Sapphire, which allowed for final grades for every student enrolled in courses during those specific years. The comprehensive data needed to be reviewed to pull out the specific data points from the three previous years. The data was pared down for each year. The data contained the following information:

1. Student Number – coded number to provide confidentiality
2. Year – academic year for which the data was collected
3. Grade Level – grade of individuals in the courses
4. Course – Algebra 1, Earth and Space Science, English 1, and World Cultures
5. Teacher Name
6. Grade Number – numerical value of the final grade
7. Pass/Fail – indicating if students passed the course or failed it

The collected data was separated further to identify the data that directly relates to teachers participating in the action-research to assist with to developing comparative results from previous years and the current, 2022-2023, academic years. The data set that was pulled out had the following identified areas for focus:

1. Teacher Code
2. 19-20 Academic Year
 - a. Passing
 - b. Failing
 - c. Percent Passing

3. 20-21 Academic Year
 - a. Passing
 - b. Failing
 - c. Percent Passing
4. 21-22 Academic Year
 - a. Passing
 - b. Failing
 - c. Percent Passing

This data was used to compare to academic performance for the 2022-2023 school year.

Throughout the data collection and analysis process, there were no financial requirements and needs. The collection of quantitative data was acquired through reports within the already existing learning management system and student information system. The observational data collected was during instructional time periods of the school day and required no financial needs as well. There were no budgetary requirements for the action-research.

Validity

Validity for the action-research is a vital component to the authenticity of the work done. Due to a mixed-methods approach to the data collect and analysis, there must be mixed methods of validity to the research as well. Conducting qualitative and quantitative research throughout the process provided opportunities to support the findings with valid methods.

During the analysis, the researcher used evaluative validity for the qualitative data collected during the action-research. All research being presented will need to be done in

an unbiased way to share the data reliably. Additionally, all interview data will not be judged by the researcher in the collection process. The qualitative research collected through observations will not be judged or evaluated in acquisition, again, providing a reliable and valid analysis of the collections.

While looking at the quantitative data, validity will be provided based on the outcomes of testing. Therefore, the collection of assessment scores within the core academic ninth-grade courses this academic year and the historical performance of students in the course from the past three years results in benefits and are not detrimental. The results can be furthered used to support student learning and achievement within classroom instruction. The goal being to see students be supported during instruction and have academic success because of the supports embedded. The academic performances are indicators of success from this year's focus on Tier 1 supports and are compared to historical performances that didn't have a similar focus.

Another source of validity and increased rigor is the triangulation of data from the different sources. Using the observational data, assessment scores and historical performances, the verification of the data through the multiple measure assuring that the objects of student achievement based on tier one supports was the focus and supported through the data collected in the action-research process. The researcher's ability to validate the action-research is key to the success and reliability of the research.

Summary

The researcher's approach to the action-research provided a clear understanding of how to complete the process. Through interviews, classroom observations, data extraction from current gradebooks and using the student information system to gather

historical grades, the researcher has engaged in a comprehensive approach to address the questions driving research:

1. What are ninth-grade teacher perceptions of Tier 1 MTSS supports before implementation and after?
2. What is the impact of MTSS framework on ninth-grade student passing rates?
3. What are the most effective MTSS Tier 1 strategies for students to achieve passing grades?

The interview experiences at the beginning and end of the academic year enabled data that address the first question regarding teacher perceptions of Tier 1 supports. The focus on Tier 1 in the classrooms and seeing them with observations allows for a coupling with grades to see academic performance and passing rates for the core ninth-grade academic classes. Lastly, the most commonly used strategies with the highest passing rates in the courses allowed for further solidification of the last question regarding effective strategies being implemented. Ultimately, the researcher was able to conduct effective valid research to support the objectives of the entire project.

Chapter IV

Data Analysis and Results

The primary goal of the research was to investigate the impacts of Tier 1 supports on 9th grade academic achievement. One area of focus was the teacher perceptions of Tier 1 support through the Multi-Tiered System of Supports framework. Teacher perceptions provided qualitative data around Tier 1 strategies perceived as effective and their beliefs in Tier 1 having an impact on student achievement. Additionally, student grades throughout the academic year were used to identify the passing rates of individuals in comparison with previous years. The Northern York County School District teachers were provided professional development on Tier 1 strategies that would contribute to student academic success. Thus, the passing rates of students are a focus for the success of implemented strategies. Due to the focused efforts on Tier 1 supports in the classroom, grades from the 2022-2023 academic year would reflect impacts of intentional implementation of instructional strategies. The strategies used most frequently in classrooms coupled with the high passing rates of students showed the most effective strategies for student achievement. The specific questions that were answered through the research are:

1. What are ninth-grade teacher perceptions of Tier 1 MTSS supports before implementation and after?
2. What is the impact of MTSS framework on ninth-grade student passing rates?
3. What are the most effective MTSS Tier 1 strategies for students to achieve passing grades?

Results

Throughout the course of the year, teachers in the Northern York County School District were charged with an intentional focus on Tier 1 strategies embedded in their instructional practices to support student learning and academic achievement. The teachers participating in the research project were observed for the implementation of Tier 1 strategies, interviewed at the beginning and end of the year for their perceptions of Tier 1 strategies and effectiveness, and student passing rates were collected from the three previous years and the 2022-2023 academic year.

During the 2022-2023 school year, participating teachers were interviewed during the first marking period and again near the end of the year. In the interview, teacher perceptions of Tier 1 supports through an MTSS framework were discussed. Appendix E provides the interview questions used.

Teacher perceptions were gathered at the beginning of the year prior to professional development implemented at Northern York High School through teacher interviews. Each participating teacher were asked their specific perception of MTSS Tier 1 supports in the classroom during interviews as seen in Appendix E number 3. Table 1 shows the participating teachers' response(s) to the question about their perceptions. At the end of the year, the teachers' second interview was held with the same questions used in the beginning of the year as seen in Appendix E. The responses from teachers shifted from the beginning of the year and can be seen in Table 2.

Table 1

Teacher Perceptions of Tier 1 Supports at the Beginning of the 2022-2023 Year

First Interviews		
Perceptions of Tier 1 Supports	T101	Should be used to make a positive and engaging environment
		Makes the classroom manageable for students
	T102	Creates a better experience for all learners
	T103	It reaches all students and are done well within the staff
	T104	Good for engaged students
		Not worth it for all students
	T105	Too many available to really do well
	T107	Important for all learning
T108	Good for all teachers to help students	

Table 2

Teacher Perception of Tier 1 Supports at the End of the 2022-2023 Year

Second Interview		
Perceptions of Tier 1 Supports	T101	Beneficial to all students
		Willing to try anything to help kids
	T102	Tries to connect community to feel safe, heard, and validated
	T103	Intentional but there aren't great impacts on students
	T104	Only impacts students that are engaged
	T105	Needed to have students complete work
	T107	Needed in all classrooms for success
		Helps all learners
	T108	Takes a lot to do things for students
		Students don't use strategies being implemented

The academic success of ninth-grade students is a major concern and another major component of data collection. Ninth-grade student success was defined as passing courses. Ninth-grade student grades were collected from the academic level courses - Algebra I, Earth and Space Science, English I, and World Cultures. The student passing rates are seen in Table 3. These percentages were calculated through the number of students passing the course compared to those enrolled in the specific courses during the specified academic years.

Table 3

Three Year Student Passing Rates for Ninth-grade Core Courses

Percent Passing Core 9th Grade Courses				
	Algebra 1	Earth and Space Science	English 1	World Cultures
2019-2020	89.8	93.1	87.7	90.3
2020-2021	76.9	81.7	73.7	70.4
2021-2022	90.8	89.1	81.4	91.9

The student passing rates for the 2022-2023 year were collected as well for comparative analysis due to a focused effort from teacher on implementing Tier 1 supports in their classrooms. The passing rates from the 2022-2023 school year can be seen in Table 4. Grades in the courses were comparable to previous year’s scores with higher passing rates in Academic English and lower passing rates in Academic World Cultures courses.

Table 4

Ninth-grade Student Passing Rates for Core Courses in 2022-2023

Percent Passing Core 9th Grade Courses				
	Algebra 1	Earth and Space Science	English 1	World Cultures
2022-2023	88.0	89.2	93.2	83.3

Data for each teacher participating in the research was acquired for their specific academic core course. Table 5 shows the passing percentages for each teacher participating in the research over the past three years. As noted, some of the research participating teachers did not teach the course over the past three years which provided fewer specific data points for them.

Table 5

Teacher Specific Passing Rates for Ninth-grade Core Courses Over Three Years

Passing Rates									
Teacher Code	19-20			20-21			21-22		
	Pass	Fail	Percent	Pass	Fail	Percent	Pass	Fail	Percent
T101							48	2	96.0
T102	53	5	91.4	34	14	70.8	24	0	100.0
T103	94	10	90.4	58	15	79.5	107	9	92.2
T104									
T105	37	5	88.1	50	4	92.6	45	2	95.7
T107	97	9	91.5				96	2	98.0
T108							23	4	85.2

In Table 6, the 2022-2023 data for passing rates for the teachers participating in research. The passing rates over the past three years for the specific teachers participating in the research were numerically compared to their passing rates in the 2022-2023 school year to see in the intentional implementation of Tier 1 supports would positively impact student learning.

Table 6

Teacher Specific Passing Rates for Core Courses in 2022-2023

Passing Rates			
Teacher Code	22-23		
	Pass	Fail	Percent
T101	60	8	88.2
T102	43	5	89.6
T103	56	8	87.5
T104	9	4	69.2
T105	26	0	100.0
T107	41	4	91.1
T108	62	7	89.9

Another point of data that was acquired for comparison was the student performance on participating teachers’ assessments. Quiz and test scores were pulled out for comparison throughout the year. The assessment scores each marking period are shown for quarter one in Table 7, quarter two in Table 8, quarter three in Table 9, and quarter 4 in Table 10.

Table 7

Table 9

Third Quarter Teacher Assessment Average Scores in Percentages

Teacher	Section	Quarter 3 Quiz and Test Score Averages						Section Avg	Q3 Average
		Assess 1	Assess 2	Assess 3	Assess 4	Assess 5	Assess 6		
T101	1	62.5	70.6	50.0	47.1	69.2	57.1	59.4	69.4
	2	57.1	68.2	72.7	68.2	75.0	76.5	69.6	
	3	60.0	87.5	60.0	76.5	75.0	70.6	71.6	
	4	80.0	68.8	75.0	68.8	87.5	81.3	76.9	
T102	1	50.0	56.5	91.3	95.2			73.3	72.8
	2	68.0	64.0	78.6	78.6			72.3	
T103	1	42.1	47.6					44.9	58.9
	2	59.1	68.2					63.7	
	3	65.0	71.4					68.2	
T104	1	64.3	66.7					65.5	65.5
T105	1	72.7	66.7	75.0	75.0	50.0	66.7	67.7	69.1
	2	55.6	57.9	94.1	52.9	83.3	78.9	70.5	
T107	1	65.0	42.9	47.6	58.8			53.6	54.1
	2	56.0	44.0	52.0	66.7			54.7	
T108	1	95.7	45.8					70.8	72.0
	2	56.0	82.6					69.3	
	3	90.0	61.9					76.0	

Table 10

Fourth Quarter Teacher Assessment Average Scores in Percentages

Teacher	Section	Quarter 4 Quiz and Test Score Averages								Section Avg	Q4 Average
		Assess 1	Assess 2	Assess 3	Assess 4	Assess 5	Assess 6	Assess 7	Assess 8		
T101	1	33.3	76.5	76.5	84.6	92.9				72.8	72.5
	2	81.8	81.8	68.2	72.7	72.7				75.4	
	3	68.8	87.5	56.3	73.3	60.0				69.2	
	4	56.3	87.5	68.8	81.3	68.8				72.5	
T102	1	66.7	72.7	73.9	78.3	40.0	35.7	55.0	28.6	56.4	61.7
	2	64.0	57.7	92.0	100.0	62.5	53.3	71.4	34.8	67.0	
T103	1	60.0	70.0	61.1						63.7	71.5
	2	90.9	82.0	77.3						83.4	
	3	65.0	77.3	60.0						67.4	
T104	1	60.0	78.6	76.9	64.3	76.9				71.3	71.3
T105	1	66.7	66.7	58.3	91.7	60.0				68.7	69.6
	2	84.2	73.7	57.9	68.3	68.4				70.5	
T107	1	50.0	65.0	95.0	30.0	45.0				57.0	59.3
	2	44.0	64.0	92.0	56.0	52.0				61.6	
T108	1										
	2										
	3										

During teacher interviews, teachers were asked about the most impactful Tier 1 supports and the ones that have the least impact (Appendix E). The most impactful Tier 1 supports as perceived as teachers at the beginning of the year are in Table 11. The perception from teachers shifted and are in Table 12 for the most impactful Tier 1 supports as of the end of the year. In addition to the strongest impacts, teachers were asked which Tier 1 supports have the weakest impact on students and results can be seen in Table 13 for the beginning of the year and Table 14 for the end of the year.

Table 11

Teacher Perception of the Most Impactful Tier 1 Supports Beginning of the Year

First Interview		
Strongest Tier 1 Support(s)	T101	Parent Engagement
	T102	Choice
		Vocabulary practice
		Manipulatives
	T103	Consistency in expectations
	T104	Small grouping
		Immediate feedback
		Targeted practice
	T105	Immediate feedback
Using student data		
T107	Organized and clear expectations	
T108	Clear expectations for all learners	

Table 12

Teacher Perception of the Most Impactful Tier 1 Supports End of the Year

Second Interview		
Strongest Tier 1 Support(s)	T101	Small grouping
		Proximity with strategic seating
	T102	Behavior specific strategies - proximity, reiterate expectations
	T103	Personal conversations to build relationships
		Accountability measures
	T104	Building personal relationships
		Immediate feedback
	T105	Creating a positive environment through relationships
		Positive communication
	T107	Connecting to personal interests
Clear expectations		
T108	Routines for students	

Table 13

Teacher Perception of the Least Impactful Tier 1 Supports End of the Year

First Interview		
Weakest Tier 1 Support(s)	T101	Goal setting
		Student guides
	T102	Mandatory reading
	T103	Study guides
	T104	Direct instruction
	T105	Choice for students
	T107	Online materials for resources
	T108	Student choice

Table 14

Teacher Perception of the Least Impactful Tier 1 Supports End of the Year

Second Interview		
Weakest Tier 1 Support(s)	T101	Scaffolded notes
	T102	Partner work without specific directions
	T103	Organization of online resources
	T104	Choice in class time
		Seating arrangements
	T105	Rewards or credit for compliance
	T107	Anything with boring content
	T108	Direct instruction

Teachers were observed two times each marking period. The observations were used to identify Tier 1 supports being implemented before the instruction, during instruction, and after instruction. The positive impact on the learning environment was gauged by student response through verbal and nonverbal cues. In particular, when a teacher would intentionally use a Tier 1 strategy, the students completing the expectation would be considered successful. Another example of a successful strategy would be students being able to complete tasks without prompting or further instructions needed. Conversely, ineffective strategies were observed through students not responding or unable to complete or disengage in expected activities despite the Tier 1 supports being implemented. Each teacher had specific strategies that were used most frequently having

a positive impact on the learning environment. Tables 15, 16 and 17 show strategies that were used more than 3 times during observations and had positive impacts on students. Table 15 shows each teacher’s most used strategies before instruction; Table 16 shows the most common strategies during instruction; Table 17 shows the most common strategies used by teachers after instruction. The most ineffective strategies used during the observational data collection time periods are in Table 18. These are the culmination of all teachers for each instructional period.

Table 15

Tier 1 Strategies Resulting in a Positive Impact on Students Before Instruction

Before Instruction	
T101	Specific repeated reminders of expectations
	Conferencing with student groups
T102	All materials out for students with directives to get them
T103	Personal conversations with students
	Greeting students at the door
T104	Personal conversations with students
	Praising students and peer recognitions
T105	Personal conversations with students
	Collective review of the previous day (less than 5 minutes)
T107	Reiterating expectations
T108	Expectations posted and reiterated

Table 16

Tier 1 Strategies Resulting in a Positive Impact on Students During Instruction

During Instruction	
T101	Conferencing with small groups
T102	Personal conversations
	Positive reinforcement
	Choice in learning
	Conferencing with small groups
	Explicit expectations announced and reiterated
T103	Conferencing with small groups
	Personal conversations
	Scaffolded notes
T104	Conferencing with small groups
	Choice in assessment levels
T105	Conferencing with small groups
	Announce expectations and directions
	Positive reinforcement
	Collective modeling
T107	Conferencing with small groups
	Celebrating successes collectively
	Proximity for behavior concerns
T108	Conferencing with small groups
	Proximity for behavior concerns
	Pictures to support concepts

Table 17

Tier 1 Strategies Resulting in a Positive Impact on Students After Instruction

After Instruction	
T101	none
T102	Positive reinforcement
T103	none
T104	none
T105	none
T107	none
T108	Personal connections
	Collective directions repeated

Table 18

Culmination of Tier 1 Strategies with Ineffective Results During Class Periods

Ineffective Strategies Observed	
Before	Posted directions
	Modeled work for whole class
	Collective review of materials
	Collective requests
During	Collective announcement and request
	Collective completion of scaffolded notes
	Shh collective group
	Collective request and expectation
	Video with guiding worksheet
	Collective modeling
	Reading story aloud
After	Last minute announcement
	Collected expectations and redirection

The use of historical student grades, current student grades in the 2022-2023 academic year, teacher interview and teacher observations, assisted in addressing the research questions.

Discussion

As teacher interviews were conducted, the perceptions of Tier 1 supports from the Multi-Tiered System of Supports framework were able to be shared. During the beginning of the year, all teachers had positive things to say about the intentional use of Tier 1 supports aside from T104 and T105. These two teachers had wavering views as to the effectiveness on student achievement and viability of implementing them with authenticity. No teachers shared that the intentional supports would be disruptive or a preventative to student achievement which shows that there is a belief in effectiveness to some degree. At the end of the year, teacher perceptions shift slightly with three teachers, T103, T104, and T108 having skeptical comments. T104 seemed to have a consistent concern over impacting all students and that the intentional supports only benefit few despite the goal of engaging all learners for success. Teachers T103 and T108 both

shifted perspective to a student option belief. They both shared concern over student impacts and engagement in them for their success. Through the interview process, the teachers participating had an overall more negative perception of Tier 1 supports having a positive impact in student learning.

Over the past three years, passing rates for the ninth-grade core academic level courses have not been consistent. In all four content areas – Algebra I, Earth and Space Science, English I, World Cultures – the 2020-2021 academic year saw a drop in passing rates. This was the year that COVID had the largest impact on student learning as Northern York County School District worked on a hybrid schedule with students alternating in-person instruction days. If the 2020-2021 year's passing percentages are an outlier, the passing rates from the current, 2022-2023, year can be more appropriately compared to the other two historical academic years – 2019-2020 and 2021-2022.

Considering this adjustment, the Algebra I passing percentage in 2022-2023 was 88.0% compared to 89.8% and 90.8% in 2019-2020 and 2021-2022 respectively. The passing percentages for the 2022-2023 year are slightly lower than 2019-2020 and 2020-2021. These results would show that intentional implementation of Tier 1 supports during the 2022-2023 year did not positively impact passing rates for students. One possible contributor could be the addition of lower-level students into the academic level course. During the 2022-2023 academic year, administration eliminated a leveled Algebra I course for lower achieving students and pushed those individuals into the academic level. This increased the number of students in those courses and may be a contributing factor to the drop in passing rates from previous years.

In Earth and Space Science, the passing rate was 89.2%. In the two comparable academic years, 2019-2020 and 2021-2022, student passing rates were 93.1% and 89.1% respectively. This shows a 0.1% increase in student passing rates during this year. The slight increases can be considered minor as the variation of passing between the comparing years were 4.0%. Therefore, the intentional work with Tier 1 supports do not to have impacted student passing in the academic Earth and Space Science course.

English I had a notable increase in student passing rates, 11.8%. The previous comparable passing rates from 2019-2020 and 2021-2022 were 87.7% and 81.4%. The increased scores appear to show student passing rates were impacted by instructional changes from the Tier 1 supports being implemented.

The World Cultures passing percentages plummeted relative to comparable years of 2019-2020 and 2021-2022. The passing rates this year were 83.3% whereas previously they were 90.3% and 91.9%. These results point to some contributing factor to a significant decrease in student performance in this course.

Looking at specific teacher passing rates for their courses, four of the seven participating teachers had higher passing rates than the average for their course during the 2022-2023 school year. This indicates that the majority of teachers involved in the research were able to provide supports that allowed for greater passing rates than others in the grade level.

Aside from overall passing rates, student assessment performance data was used to look at overall performance due to the implementation of intentional supports from Tier 1. T101 had students perform similarly in the first two marking period with about 77% passing rates on assessments and then saw a drop for the last two marking periods with

69.4% and 72.5% in marking periods three and four respectively. T102 had an increase each marking period throughout the first three marking periods of the year with 66.9%, 69.7%, and 72.8%. In the last marking period, the passing rate dropped to the lowest for the year with 61.7%. T103 had a drop in under 1% each marking period starting at 60.2% from the first to the third, but the last marking period showed the highest passing rate of 71.5%. T104 had a 66.0% passing rate in the first marking period which dropped to a 63.7% in the second marking period. From there it climbed consistently to 65.5% and ending with the last marking period at 71.3%. T105 had 76.9%, 77.3%, 69.1% and 69.6% passing rates over the four marking period. T107 started with the highest percentage of passing rates over the four marking period. T107 started with the highest percentage of passing students with 69.2% passing and then dropped to the lowest with a ready increase at 51.2%, 54.1% and 59.3%. Lastly, T108 had a 75.7% passing rate in the first marking period, 28.9% in marking period two and 72.0% in the third marking period. T108 had no assessments in the last marking period.

With the variation in student passing rates on assessments during each marking, it shows that there was no connections between the continued use of Tier 1 supports implemented in the classroom throughout the year and student performance on assessment. There was belief that throughout the year teachers would continue to use strategies to help students perform on assessments showing their learning, but the data did not support that belief for the participating teachers.

The last research question regarding most impactful strategies being used in the classroom has a varying result. All strategies being used did not impact student passing rates enough to see any results in cumulative student grades or through their assessment scores throughout the year. Despite the lack of impact on passing, there were supports

used in the classroom that engaged students more than others. The common strategy used before instruction was teacher connecting to students in a personal way. This strategy was most repeated among the strategies that were used with all teachers. During instruction, small group conferencing held the highest impact on student engagement. All teachers had small group conferencing with students resulting in productivity and engagement in the classroom. In the end of class, after instruction, there were not many consistently used strategies summarizing or engaging students. Many teachers appeared to lack an ending to class summarizing or engaging students into the end. The least impactful strategies used throughout instructional timeframes were when teachers would make collective announcements, reminders, and requests. These did not engage students and were often ignored. Throughout the interview process, T101 was the only teacher that named the most impactful observed strategy during the second interview as having some of the most positive impacts. All teachers did not identify the observed ineffective strategy most used during the interview process.

Summary

In conclusion, the data was able to provide an encompassing approach to the impacts of Tier 1 supports being implemented from the Multi-Tiered System of Supports. The impact on student passing rates seems to be ambiguous, but there were definite strategies that held higher impacts on student engagement and performance in the classroom.

With interviews at the beginning and end of the year for participating teachers, the overall perceptions of Tier 1 strategies became more negative towards their impacts. Additionally, with the intentional implementation of Tier 1 strategies in the classroom,

there has not been a notable impact on students passing rates of ninth-grade academic core courses compared to the three previous years. Through observational data, the most engaging and impactful Tier 1 strategy in the classroom was small group conferencing. Through the use of small group conferences, students were more inclined to complete tasks and engage in the classroom.

Chapter V

Conclusion and Recommendation

The purpose of this research study was to determine the impacts of Tier 1 supports from a Multi-Tiered System of Supports on ninth-grade student achievement in their academic level core courses – Algebra I, Earth and Space Science, English, World Cultures. The Northern York County School District’s High School focused on Tier 1 supports being intentionally implemented in the classroom for students to find success, the research looked at the impacts of those intentional practices and actions throughout the academic year. In particular, there were three focal points to identify impacts of Tier 1 supports on ninth-grade student achievement. Teacher perception of Tier 1 supports in the beginning and end of the 2022-2023 academic year were gathered through an interview with participants. The teacher perceptions were to identify teacher buy-in and perceived effectiveness towards student achievement. The passing rates of students were the second focus point for the research. Quantitative data was used to look at the passing rates of students on assessments during the 2022-2023 academic year as a measure of student success due to the implementation of Tier 1 supports. Another quantitative data set that was used to measure impacts of Tier 1 supports on passing grades were the students’ overall performance in the core academic courses compared to the last three years. The third focal point of the research was to identify the most impactful Tier 1 supports impacting student passing courses. Using observational data, each participating teacher was observed twice a marking period during the 2022-2023 school year to identify the most impactful Tier 1 supports on student passing.

Research Conclusion

The overall findings indicate that the first year of implementing a Multi-Tiered System of Supports at Northern High School was not successful in influencing ninth grade passing rates. The teacher perceptions of the effectiveness of Tier 1 supports in the classroom slanted more negatively from the beginning to the end of the year. The implementation of MTSS did not impact student passing rates for ninth-grade students in the academic level core courses as the passing rates over the last three years were comparable to the 2022-2023 academic year. Lastly, there were no strategies identified that would contribute most to students passing courses.

Research Question 1

Q1: What are ninth-grade teacher perceptions of Tier 1 MTSS supports before implementation and after?

For change to happen, those implementing it must believe in the outcomes. The Northern York County School District High School started the 2022-2023 academic year with professional development and collective planning to have intentional implementation of Tier 1 supports through an MTSS framework for student success. The teacher buy-in to the process is essential to the effectiveness of the work. Therefore, the perceptions of teachers were a key component to the success of the work. During the beginning of the year interviews, teachers were energetic and held a positive position towards the impacts of supports.

The desire was for all participating teachers to see the possible impacts of Tier 1 supports at the beginning of the year with hope that they would be impacting students passing assessments and the overall course. Additionally, the belief was that teachers would be confident in the effectiveness and impacts on student achievement at the end of

the year after conscientious implementation of supports. Through implementing different Tier 1 supports, teachers would be able to find the most impactful supports impacting student achievement. During the beginning of the year, teachers held positive regards for the effectiveness of the work of Tier 1 supports and at the end of the year, the perception took a dip in belief. There was an evident shift from believing that working to implement Tier 1 supports to help students were less effective and student buy-in was a large factor to success.

The more negative shift in perception brought on surprise as the fade from enthusiasm was not expected. There could be many reasons for the shift of perceptions from the participating teachers in the research. A positive approach was taken going into the year with high hopes of successfully engaging all learners, but as the year goes on and student's performances waivered, the beliefs shifted. This was evident through the data collected in the interviews with each teachers' perception as seen in Table 1 and Table 2.

With the dwindled perception of the effectiveness of Tier 1 supports in the classroom, Northern High School needs to provide specific strategies to engage students that continue to support student learning. When teachers continue to use ineffective strategies or see students not performing well, there needs to be a shift to proven effective strategies for students to have them achieve. As teachers continue to struggle with student engagement and achievement, the belief in effective strategies dips until they are able to consistently engage students in meaningful learning experiences with those effective strategies that have shown to be effective. There was an imbalance in what teachers perceived as effective and the actual supports that positively impacted the learning environment. An alignment in intentional work and those strategies that were observed as

engaging learners would help with student success and could further instill the belief that Tier 1 supports positively impact student achievement.

Northern High School could help with the work by allowing teachers to share out those effective strategies that have been successful and administration sharing out observed and research-based strategies that engage learners most effectively. Providing direction for teachers and supports within specific strategies could also positively impact teacher perceptions of the effectiveness of their work.

Research Question 2

Q2: What is the impact of MTSS framework on ninth-grade student passing rates?

After reviewing passing rates for ninth-grade academic core courses for the past three years and comparing them to passing rates for the 2022-2023 school year, the implementation of a Multi-Tiered System of Supports has not impacted the passing rates for students.

Looking at the data from the 2019-2020, 2020-2021, and 2021-2022 school year, there was an obvious dip in the passing rates for the 2020-2021 school year. This made comparative analysis more challenging because the passing rates were outside of expected results. A major contributing factor to this was Northern High School worked on a hybrid schedule for students where they came to school in person two days of the week and were virtual the other three days of the week. This hybrid schedule was put into place because of the COVID restrictions that were put into place. Additionally, during this time, teachers were learning how to use the learning management system, Schoology, for the first time and struggled to effectively provide materials for students throughout the year. The hybrid schedule was a barrier to students receiving instruction and

accountability in learning. This was a major factor in the reduced passing rates in 2020-2021 making comparative analysis more difficult.

To more effectively compare the passing rates for successes of implementing MTSS at Northern High School, data being collected needs to be from years with a consistent schedule unlike the 2020-2021 academic year. Using the 2018-2019, 2019-2020 and 2021-2022 academic passing rates compared to those when MTSS was implemented, 2022-2023 and beyond, would provide a more comparable foundation for the success. With the current data, the impacts of MTSS are not impacting passing rates.

The participating teacher passing rates provided a barrier to appropriate evaluation of effectiveness of MTSS as well. With only three teachers having taught the same academic core class for the past three years, there wasn't sufficient data for a more comprehensive analysis of each teacher's successful implementation. Without comparative passing rates from previous years, the effectiveness after the first year of implementation isn't possible. To continuing research about the effectiveness of Tier 1 supports on passing rates, the teachers must be teaching the same course for multiple years. Additionally, the participating teachers remaining with the same courses would allow for further investigation in success after the first year of the implementation of MTSS.

Another conclusion from the passing rates that needs considered is the adjustment to the Algebra I course. The 2022-2023 academic year was the first year that eliminated a lower level of Algebra I and consolidated all students taking Algebra I in ninth grade to one academic level. This adjustment inhibited historical data for teachers as they taught the lower level of Algebra in the past. Additionally, the passing rates for the 2022-2023

year had a larger student population of ability than historically seen which is a contributing factor to more disparity in passing rates from the past three years.

The passing rates for student during the 2022-2023 academic year where a Multi-Tiered System of Support was implemented did not have an impact on students passing their academic core courses outside of traditional passing rates. This result was not expected as the belief of MTSS providing strategies to engage learners and the ability to target supports for specific struggling learners was not effective in increasing passing rates. Data showed consistency of passing rates, aside from the 2020-2021 academic year, and coincides with the findings in this study.

Assessment passing rates were another source of unexpected results throughout the research process. With the intentional implementation of Tier 1 supports to promote student learning and engagement, the assessment passing rates were lower than course passing rates. The marking period with the highest passing rates on assessments was the first marking period and teacher T101 at 77.9% passing summative assessments. The passing rate for T101 for the 2022-2023 academic year was 88.2%. Another participating teacher, T108 had no summative assessments during the fourth marking period. This difference in assessment passing rates and course passing rates was evident with all participating teachers. There was an evident consistency in students' assessment passing rates being much lower than the overall course passing rates. The results raise concern at Northern High School for how assessments are being used, student preparation for assessments, and the balance between assessments representing student ability versus work completion.

Due to the lack of continuity between assessment scores and passing rates, the Northern High School administration and district leadership need to look at assessment practices and how students are prepared for the assessments. With the intentional work of MTSS, students should be able to find more success on assessments rather than have a disparity between scores and passing rates.

The assessment and student passing rates results cause a need for Northern High School leadership to approach MTSS and Tier 1 supports in a differently. With the goal to positively impact student achievement, results have not aligned with those expectations. Therefore, leadership needs to provide research-based strategies and evaluate how learning is measured with teachers to support the success of students. Through training in research-based strategies and effective ways to evaluate learning, student achievement would be more directly impacted.

Research Question 3

Q3: What are the most effective MTSS Tier 1 strategies for students to achieve passing grades?

Through teacher interviews, the most effective strategies for student success were asked and results can be seen in Table 11 for the beginning of the year and Table 12 for the end of the year responses. There was hope that a common strategy would be identified by the participating teachers, and it would be similar at the end of the year interview with data showing effectiveness as well. The teacher perceptions of effective Tier 1 strategies changed from the beginning and end of the year. The only consistency was found in T104 projecting “immediate feedback” as an important Tier 1 strategy for

student success and then reinforcing that belief at the end of the year. Otherwise, there weren't any similarities among initial and end of the year interview responses.

All Tier 1 strategies being used did not impact student passing rates enough to see any results in cumulative student grades or through passing summative assessments throughout the year. With the lack of specific strategies directly impacting student passing, there were Tier 1 strategies that were observed in classes that allowed for a larger impact on student engagement and participation.

During the observations of participating teachers, the effective strategies at the beginning, during and after instruction were different. Before instruction, the most effective Tier 1 strategies on student engagement can be found in Table 15. Among all of them, personal conversations with students were a common thread among three of the seven teachers as a means to engage students before the instructional time. Another commonly used and effective strategy was reiterating directions and expectations. The repetition of information allowed learners to engage in the expected outcomes and allowed for an effective strategy to be commonly used by three of the seven participants.

During the instructional timeframe, the most effective Tier 1 strategy used by all participating teachers to engage students was small group conferencing. As observations occurred, all the teachers used small grouping of students at different points of the year. During that timeframe, the teachers would conference with groups of students to gage questions, completions, and needed supports. Aside from designated group work, teachers also were observed during instructional times pulling small groups for specific work in the content area while others worked independently or with small groups. Without a doubt, small group conferencing was the Tier 1 strategy that had the biggest

impact on student engagement during the instructional timeframe of class. This strategy did not directly transfer into a higher passing rate on assessments or passing the course but did provide the most productive results.

At the end of the instruction timeframe of a class period, teachers often did not engage students. Two of the seven participating teachers used strategies to engage students into the end of the time, but the other five teachers did not use any strategies to further engage learners. The lack of closing activities, summarizers, or engagement practices was a large surprise to see throughout the observation process. As class periods come to an end, teachers allowed students to pack up and participate in leisure activities on their own. There wasn't a conclusive component to the lesson. The three strategies that were used by participating teachers effectively to keep students engaged were positive reinforcement for the work complete into the end of the period, connecting personally with students, and collective repetition of directions going forward. Going forward, the time after instruction needs to be an area of focus to continue engagement and summarize courses.

Conversely, throughout the year, observations showed ineffective strategies to engage students. The collective work as a class in review, modeling, note completion, and redirection, hold the least impact on engaging students throughout the class period. As teachers look to make global comments and work with students, individuals disengage and occupy themselves with phones, other work, and peer interactions. The goal of collectively completions before, during, and after instruction held the least engagement. Additionally, all participating teachers made last minute announcements to students at the end of instruction and they were ignored. When the instructional timeframe ended,

students completely disengaged from teachers resulting in ineffective announcements and request as the end of class.

Overall, there weren't any Tier 1 strategies that had an impact on student passing rates. The impact on student engagement in classes was observed throughout the year, but this did not directly impact passing rates. Each participating teacher was able to effectively engage students during class periods. Going forward, the learning from a class period needs to be used in planning for the following days' instructional plans. If teachers can get students engaged in learning throughout the class, but there isn't a measure of what has been learned at the end of that class period or specific review at the beginning of the next class, there is a lack of knowledge of student learning. For students to be successful on assessments and in the overall class, they need to be able to show their learning progress within lessons to aid in teacher preparation for the following day. When teachers do not evaluate the effectiveness of student learning from a lesson, the next day may not reinforce needed concepts or extend from where the students had learned. There needs to be a conscious effort on evaluating student learning during the process and adjust teaching based on needs. The lack of concluding and summarizing activities showed a lack of student progress from instruction and left uncertainty of student needs going forward. Consistently using strategies assessing student learning at the end of instruction allows for more effective instruction the following day.

At Northern High School, there needs to be a focused effort on effective Tier 1 strategies to engage students. This would couple with a forthright understanding of those Tier 1 strategies that do not engage learners. Additionally, teachers need to be equipped with specific means to evaluate student learning during a class period and how to use the

data to inform instruction going forward. Equipping teachers with effective instructional Tier 1 strategies to engage learners throughout the class period and then evaluate their learning to meet the needs the following day should impact student passing rates in positive ways. Knowing what your students understand and were able to achieve throughout the instructional period allows for specific work for students to continue the learning process.

Financial Implications

Throughout the research process, there were no financial implications for the Northern York County School District. The implementation of a Multi-Tiered System of Supports and the professional development were all completed with resources and personnel within the district. Therefore, the outcome of the research does not directly reflect a financial implication on the district.

Going forward, to better equip teachers with resources and strategies, an outside trainer and supports could leverage an already established system. Teachers have expressed a desire to have further training on instructional strategies that are effective within their content. Using district personnel and resources have been a challenge to meet this need. Going forward with supporting the MTSS structure, bringing in professional development and instructional supports would help teachers more directly in their work to implement Tier 1 supports for student success in their content. Additionally, feedback has been shared that teachers would rather have experts from specific areas come to speak on effective strategies rather than district leadership. The work of an outside agency or support would be well received by teachers to support students.

Reflective Planning

Looking at the implementation of a Multi-Tiered System of Supports framework, there was a dwindling belief and buy-in from staff as the first year progressed. As seen in the teacher interview data, teacher perceptions of effectiveness of supports seemed to dwindle and become student dependent rather than teacher dependent on student engagement and effectiveness of strategies. The district's implementation was driven by student performance and continued needs for support to be able to pass classes and achieve in the classroom setting. Without formal training from a representative or professional that has extensive experience, teachers expressed concern over implementation and effectiveness on impacting students.

Going forward with MTSS at Northern High School, there needs to be a review of the process and actionable results to provide more clarity in expectations and work with referrals of struggling students. Additionally, the Tier 1 supports being implemented in class are varied and based on the research, had varying effective impacts. Therefore, going into the next school year, there needs to be a clear expectation as to instructional supports being implanted in the classroom and the effectiveness documented to support student learning. Working with teachers, the documentation of specific strategies used for a designated amount of time can help collective efficacy among staff and continuity in student experience. With designated department meeting times during the year, the individual teacher data can be reviewed and collective improvements to instruction can be identified within the school. Additionally, the modeling and support from administration is essential for the success of this work if outside representatives cannot be used. Through professional learning and continued collective work, administration need

to have clear expectations, specific look-for strategies in the classroom, and direct feedback to encourage the process and gain positive results. A collective buy-in will be essential to meeting students' needs and seeing the desired impact on student achievement.

Implications for Future Research

Future research on the impacts of Tier 1 supports through an MTSS framework on student achievement should manipulate the number of variables impacting the research. The work in this research had a vast array of Tier 1 supports that could be used and seen through instructional time frames. Additionally, the historical data for teachers were not applicable to all participants due to the inconsistency of schedules each year. The comparative data was minimal due to the lack of teachers that had taught the same class each year. Using teachers with the same course loads annually will allow for better analysis of impacts of supports.

Further research should also focus on specific Tier 1 supports in the classroom to evaluate impacts on engagement and student achievement. The variety of supports being used created inconsistency in the classroom. Students having a consistent strategy used in the classroom daily for a specific time frame, like a month or 6 weeks, can show the effectiveness on student achievement with that specific support during the time frame. Teachers used small group conferencing in effective ways, but it wasn't used consistently. With research showing a positive impact of small grouping, seeing that work used more consistently during a timeframe could show the effectiveness on student engagement and passing rates.

Another area for further research is the alignment of assessments throughout the research. Teachers provided differing numbers of assessments and with one participating teacher not having any summative assessments in the last marking period. If there is a designated number of assessments expected and with a specific format for students, the instructional supports could more effectively be evaluated. One teacher provided an open note test that resulted in higher passing scores than other assessments by the students. Inconsistencies in assessment styles, questioning, and expectations adds another variable to student achievement that impacts the effectiveness of Tier 1 supports being used in the classroom.

Summary

In conclusion, ninth-grade student achievement is an indicator of student success in their high school career. Through the intentional use of Tier 1 supports in the classroom there is hope that students will be more engaged and have better achievement in their classes. With an MTSS framework, the structure and supports are put into place to assist students in their educational experiences. The MTSS framework was put into place with supports in mind for all learners. Throughout the first year of implementation, the use of Tier 1 supports in the ninth-grade core academic classrooms did not impact student passing rates positively or negatively. Also, the different strategies being used by teachers to engage students and involve them in the learning process did not impact student passing rates on summative assessments. The most effective strategies used in the classroom to engage students in their work and content were identified through observational data. Using small grouping and conferencing with students, teachers had a notable increase in student engagement, participation, and work completion.

Additionally, through the observational data, collective requests and expectations throughout the instructional time frame, students are more likely to disengage and not participate in expectations. Teachers' perspectives did not align with the observed results and their beliefs waned as the year went on as to the effectiveness of Tier 1 supports in the classroom. The teacher belief of student passing rates impacted by Tier 1 supports shifted from teacher ownership to students opting not to engage resulting in strategies no longer being effective. To continue the work around Tier 1 supports from an MTSS framework to impact student achievement, there needs to be a narrowed focus on strategies being used, assessment continuity, and effectiveness measured in more than just grades. The use of aligned assessment and measurement tools to evaluate student learning effectiveness will enable further results in the research. All the work being completed is directed toward students passing core courses to continue in their progress towards graduation and opportunities beyond the high school setting.

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Appendix A



Institutional Review Board
250 University Avenue
California, PA 15419
instreviewboard@calu.edu
Melissa Sovak, Ph.D.

Dear Ryan,

Please consider this email as official notification that your proposal titled "IMPACTS OF TIER 1 SUPPORTS THROUGH MULTI-TIERED SYSTEM OF SUPPORTS ON NINTH-GRADE STUDENT ACADEMIC ACHIEVEMENT" (Proposal #PW22-027) has been approved by the Pennsylvania Western University Institutional Review Board as submitted.

The effective date of approval is 10/10/2022 and the expiration date is 10/09/2023. These dates must appear on the consent form.

Please note that Federal Policy requires that you notify the IRB promptly regarding any of the following:

- (1) Any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented)
- (2) Any events that affect the safety or well-being of subjects
- (3) Any modifications of your study or other responses that are necessitated by any events reported in (2).
- (4) To continue your research beyond the approval expiration date of 10/09/2023, you must file additional information to be considered for continuing review. Please contact instreviewboard@calu.edu

Please notify the Board when data collection is complete.

Regards,

Melissa Sovak, PhD.

Chair, Institutional Review Board

Appendix B



Northern High School

Northern York County School District
653 South Baltimore Street
Dillsburg, PA 17019

Telephone (717) 432-8691 Ext. 2000 Fax (717) 432-0375

July 18, 2022

8 Eastgate Drive
Camp Hill PA, 17011

Dear Ryan Edwards:

I am pleased to write a letter in support of your doctoral capstone project entitled, "Impacts of Tier 1 Supports through Multi-Tiered System of Supports on Ninth Grade Student Academic Achievement." The proposed research has significant value as the district looks to implement the MTSS framework at the secondary level while also supporting student achievement.

I have reviewed the project proposal and understand the following related to participation:

- Teacher participation involves completion of interviews during the beginning and end of the year
- Participation will be voluntary, and teachers may withdraw at any time
- Data collected will be kept confidential and kept secure via electronic files
- Potential risks include:
 - Exposure of academic records
 - Data being connected to identifiable persons

Please accept this letter as my formal consent and support of the district's participation in the proposed research project.

Sincerely,

A handwritten signature in black ink that reads "Steve Kirkpatrick".

Steve Kirkpatrick
Superintendent of Schools

Appendix C

Dear Faculty Member,

As a teacher at Northern High School who works with ninth-grade students in the academic core classes that have been de-tracked, you are being asked to participate in a research study. Your participation will be in the form of two interviews regarding perceptions on tier one supports through the multi-tiered system of supports.

What will I be asked to do if I take part in this study?

If you agree to participate in this study, you will be asked to participate in two interviews about your perception of tier one supports through the multi-tiered system of supports. The interviews will be conducted in the first marking period and then again about eight months later to identify any changes in your perception after implementation throughout the academic year. The questions will be the same for each interview. There will not be any audio or video recording of the interview.

Where will this study take place?

The interview will take place in Northern High School's office conference room or school counseling conference room.

How long will the study last?

The study is projected to last throughout the 2022-2023 academic year. The interview will last approximately 15-20 minutes in the first marking period and then again approximately 8 months later for a total time of approximately 30-40 minutes.

What happens if I don't want to participate?

Your participation is voluntary. You may elect to participate in the study or not. There is no penalty if you choose not to participate.

Can I quit before the study ends?

You can withdraw from the study at any point by notifying the researcher. There is no penalty for withdrawing. The researcher will not ask why you opted out.

What are the risks?

There are minimal risks to this study. You will not be asked questions of sensitive nature. Some discomfort may be felt when providing feedback that could be conceived as negative in nature. Participants are reminded that they are not required to answer any questions of which they choose. Also, participants can stop participation at any time.

How will I benefit from participating?

If you participate in the research study, you will assist the researcher in better understanding the teacher perceptions of tier one supports used in the classroom and their efficacy. This may allow for improved strategies to implement tier one supports in the classroom and advancement of the effectiveness of the multi-tiered system of supports.

Will my responses be kept confidential?

If you participate in this study, all responses will be kept confidential. Only the researcher will have access to the responses. No names will be part of the findings. A coding system will be used by the researcher to track results and omit any identifiable information.

Who do I contact if I have questions about this study?

If you have questions about this research project, please contact the primary researcher, Mr. Ryan Edwards (edw2329@pennwest.edu; 724-689-9735) or Dr. Todd Keruskin, faculty advisor (tkeruskin@pennwest.edu; 412-670-7398).

I have read this form. Any questions I have about participating in this study have been answered. I agree to take part in this study and understand that taking part is voluntary. I do not have to take part if I do not wish to do so. I can stop at any time for any reason. If I choose to stop, no one will ask my why.

By signing below, I agree to participate in this study. By doing so, I am indicating that I have read this form and had my questions answered. I understand that it is my choice to participate, and I can stop at any time.

By signing below, you agree to participate in the interview for the purpose of the research study.

Signature

Printed Name

Date

Approved by the PennWest Institutional Review Board. This approval is effective 10/10/2022 and expires 10/09/2023.

Appendix D

Disclosure and Consent for Teacher Participants

I am conducting research investigating the impacts of tier one supports through multi-tiered system of supports on ninth-grade academic course student achievement. With the high-risk concern for ninth-grade students, their success is being monitored with the direct implementation of tier one supports. To gather teacher perception and feedback, an interview is going to be conducted at the beginning of the academic year and again at the end of the academic year by the researcher using the same questions. You will be asked about your perception on the implementation of tier one supports and their effectiveness. I will also ask questions to gather your subject area and average percent of students that pass your course. Additionally, classroom observations will be conducted twice each marking period during the 2022-20223 academic year. The observation will be focused on tier one supports being implemented during the class period and student responses to those supports.

You are invited to participate in the research study because you are a teacher who works with ninth-grade students in the academic core classes that have been de-tracked at Northern York High School. The research will be throughout the 2022-2023 academic year.

The interview will take approximately 15 to 20 minutes to complete and will be conducted in the Northern High School office conference room. There will not be any recording of video or audio during these interviews. There is no harm to participants as this is exploratory research and data will be kept confidential by being in a locked office or results carried by myself. I will be the only one with access to these records.

Observations will occur in your classroom during one of your academic level ninth-grade classes. It will be for the duration of the period. There will be no harm to participants in the observations as it is part of the exploratory research with data being kept confidentially by being locked in an office or carried by myself. I will be the only one with access to these records.

Any unforeseeable risks will be divulged immediately. If there is any harm, please report them to myself or the faculty advisor in order to appropriately handle them.

There are potential benefits to you from participating in the research. Benefits can be both short and long term. A possible benefit is the development of targeted professional development plans.

Privacy is important and all information will be handled by myself and handled in a confidential manner. I will report results of the research in a way that does not identify you. I will be using a coding system to remove all identifiable components. The results will be presented as a published study and potentially in journals or periodicals.

You do not have to be part of the study. If you do not want to participate, please do not sign the next page. If you do agree, you can stop participating at any time. If you wish to withdraw, just tell me. Otherwise, please sign the following page to indicate your participation in the research study through the interview and observations.

If you have questions about this research project, please contact me, the primary researcher, Mr. Ryan Edwards (edw2329@pennwest.edu; 724-689-9735) or Dr. Todd Keruskin, faculty advisor (tkeruskin@pennwest.edu; 412-670-7398).

Approved by the PennWest Institutional Review Board. This approval is effective 10/10/2022 and expires 10/09/2023.

I have read this form. Any questions I have about participating in this study have been answered. I agree to take part in this study and understand that taking part is voluntary. I do not have to take part if I do not wish to do so. I can stop at any time for any reason. If I choose to stop, no one will ask my why.

By signing below, I agree to participate in this study. By doing so, I am indicating that I have read this form and had my questions answered. I understand that it is my choice to participate, and I can stop at any time.

By signing below, you agree to participate in the interview for the purpose of the research study.

Signature	Printed Name	Date

By signing below, you agree to participate in the observations for the purpose of the research study.

Signature	Printed Name	Date

Appendix E

Ninth-Grade Core Teacher Interview Questions

*This interview is for the research being conducted by Ryan R. Edwards (edw2329@pennwest.edu; 717-432-8691) with data being used to analyze perceptions of tier one supports from the beginning and end of the academic year. This research has minimal risk. Identifying information will be removed and participation is voluntary allowing for confidentiality and anonymity. All results will be kept on an external hard drive that is locked up or on the persons of the researcher. If there are concerns over the research process, please reach out to Dr. Todd Kerskin, Faculty Advisor (keruskin@pennwest.edu; 412-670-7398).

11. What subject area do you teach?
 - a. English
 - b. Social Studies
 - c. Mathematics
 - d. Science

12. Approximately what percent of 9th grade students pass your courses?
 - a. 90-100%
 - b. 80-89%
 - c. 70-79%
 - d. 60-69%
 - e. 50-59%
 - f. Below 50%

13. What are your perceptions of MTSS Tier 1 supports in the classroom?

14. What Tier 1 strategies are implemented in your classroom?

15. What is the frequency of specific strategies (daily, weekly, monthly, quarterly, semesterly, one attempt)?

16. What do you believe are the Tier 1 strategies have the strongest impact on student achievement?

17. What do you believe are the Tier 1 strategies have the weakest impact on student achievement?

18. What are reasons that students are academically successful in your classroom?

19. What are reasons that students struggle academically in your classroom?

20. Are there any other additional thoughts you'd want to share?