ABSTRACT

Lisa T. Scott, PROGRAM EVALUATION OF STAR 360: SMALL SCALE PROOF OF CONCEPT OF THE ACCURACY OF THE UNIVERSAL SCREENER (STAR 360) IN PREDICTING STUDENTS AT-RISK OF FAILURE IN READING (Under the direction of Dr. Marjorie Ringler). Department of Educational Leadership, March 2019.

The following was a program evaluation of the STAR 360 program in Moore County Schools at Vass-Lakeview Elementary from southern North Carolina and its impact on predicting students at-risk for failure in reading in First and Third Grade. STAR 360 is a universal screener that is utilized to assess and provide support to increase student reading and math achievement. The STAR 360 program provides valid, reliable screening, progress monitoring, and student growth data to make informed decisions about students.

The results of this study showed that students who received sufficient instructional support as provided from the monitoring process of STAR 360 showed growth toward mastery of state learning standards in reading. The outcomes of the program determined the continued use of the STAR 360 program as a universal screener for the Moore County Schools District would be beneficial for teachers in utilizing the data to inform instruction.

PROGRAM EVALUATION OF STAR 360: SMALL SCALE PROOF OF CONCEPT OF THE ACCURACY OF THE UNIVERSAL SCREENER (STAR 360) IN PREDICTING STUDENTS AT-RISK OF FAILURE IN READING

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Presented to

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Doctor of Education in Educational Leadership

by

Lisa T. Scott

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DEDICATION

Thank you to my family, Scottie, Jordan, Brittni and Kendall for supporting me through this process. With your love and support, I know that I can do anything.

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CHAPTER 1: INTRODUCTION

Geographic and Demographic Context

Moore County is located in the Southeast Region of North Carolina. Moore County is known for the golf courses, pine trees, and educational system. The three large employers for Moore County are the First Health Regional Hospital, the Pinehurst Country Club, and Moore County Schools. Current 2018 population estimates indicate Moore County has 99,112 residents, and projections are that by the year 2035, the county's population will be over 120,000. Moore County is a popular retirement destination because of our temperate climate, the abundance of senior-oriented healthcare services, and our excellent golf courses. Our communities are also seeing an increase in the number of people aged 20 to 45 moving to the area, as more and more people are discovering the business and employment opportunities, safe neighborhoods, good schools, and other amenities here. Moore County is growing, but with its large land area, it maintains a more rural, uncongested feeling. The demographics of Moore County's population based on 2018 estimates are as follows: White 81,978, Black/African American 12,573, Asian 1,524, American Indian 1,022, and 2 or More Races 2,015 (Retrieved from www.moorebuisness.org).

Educational Information

Moore County Schools (MCS) consists of 23 public schools: 14 elementary, 5 middle, 3 high, and 1 alternative. The school district has 10 elementary schools and 2 middle schools identified as Title I as determined by the percentage of Free and Reduced Lunch students based on the Federal requirement. The demographics for Moore County Schools is as follows: White 8,613, African American 2,185, Hispanic 1,800, Asian 129, and American Indian 129. Moore County Schools is known for our sustained positive trends in all student academic achievement

measures and sustained performance above state averages on all measures, including but not limited to: school-wide accountability growth measures; school performance letter grades; four-year graduation rates; Third-grade Read-to-Achieve composite benchmarks; percentage of students who met or exceeded the UNC system ACT benchmark; student attainment of industrial certifications; and student participation in college courses prior to graduation (Retrieved from www.ncmcs.org). Though MCS maintains academic growth and proficiency standards, the work continues on increasing growth and proficiency through academic rigor and excellence. The mission of MCS is to Engage, Inspire, Succeed these words drive the work of the district toward continued improvement.

Background of Study

The Individuals with Disabilities Education Act of 1997 (IDEA) and No Child Left Behind of 2001 (NCLB) were enacted to create a scenario for public schools to better identify students who are struggling in their education. "The intent to improve alignment between NCLB and IDEA is important to understanding how RTI (Response to Intervention) has become a consideration for both general and special education" (Sugai & Horner, 2009, p. 224). The results of these legislations created a demand for a systematic approach to identifying students who are not on grade level and determining the underlying cause of their inability to learn.

The strategy developed by educators was a framework of Response to Intervention (RTI) to determine a student's ability to improve areas of weakness or better define those areas of weakness. RTI is a three-tiered method of research-based intensive intervention to target specific learning areas for students. An effective RTI model should begin with quality core instruction that adequately addresses the needs of most of the students. If more than 20-25% of the students require additional support than what is provided in Tier 1, then the school may not have the

resources necessary to address the needs of those students. Moreover, interventions should be highly and correctly targeted to be effective, but students cannot learn to read and do math if they are not receiving quality balanced instruction in addition to supplemental support. Tier 2 instruction targets the 20% of students not mastering the content in Tier 1. These students receive small group intensive instruction for 20 – 30 minutes per day in the area identified. Tier 3 instruction targets the 5% of students for whom Tier 1 and Tier 2 interventions are having no measureable impact. These students receive explicit instruction to determine learning deficits (Retrieved from www.rtinetwork.org).

Positive Behavior Intervention Support (PBIS) was created to target students with social-emotional behaviors that impede their learning. PBIS is a three-tiered method of research-based interventions to target behaviors that are identified as a problem for the student. PBIS provides a multi-tier, data-base approach to service delivery. Tier 1 is a whole school delivery of appropriate behaviors, Tier 2 provides interventions for students who do not respond to instruction, and Tier 3 provides individual behavior support to students who do not respond to Tier 1 or Tier 2 (Retrieved from www.pbis.org).

An effective PBIS model impacts Tier 1 students which are 80% of students with First time teaching and learning of expected behaviors. Tier 2 addresses the needs of the 20% of students who have not met the behavioral expectations. These students receive small group intervention to reinforce appropriate behaviors. Tier 3 students are the 5% of students who have not responded to the intervention. These students receive intensive intervention ranging from behavior plans to social skill lessons. Both RTI and PBIS created a framework, to address the problems that were causing students to be unsuccessful in the educational setting. These

frameworks helped schools to better identify students' needs; however, students are still struggling to meet the expectations that have been set in the educational system.

Since the 2004 reauthorization of the Individuals with Disabilities Improvement Act (IDEIA), states will no longer use an IQ-achievement discrepancy model to identify students with disabilities. IDEIA encourages the use of Response-to-Intervention (RTI), a scientific, research-based approach to identify students with disabilities. RTI is a practice of high-quality, multi-tier instruction and interventions designed to meet student's needs, provide progress monitoring frequently, and evaluate data to determine student progress or a need for special education. Positive Behavior Intervention and Support (PBIS) is another discrepancy model that has been used. PBIS is a whole school approach to foster a positive school climate. Both RTI and PBIS use the U.S. Public Health Service's multi-tier pyramid model of prevention, which has three Tiers of support. Focusing on the multi-tier system, RTI and PBIS can easily be merged together for a system of support.

The RTI approach addresses academic needs while the PBIS approach addresses behavioral needs to address the barriers to learning that exist for some students. Integration of both RTI and PBIS allows the academic, social, emotional, and behavioral needs of students to be addressed. Together the two approaches create a foundation of a comprehensive Multi-Tiered System of Support (MTSS). MTSS utilizes the principles of RTI and PBIS as well as including system wide resources, strategies, structures, and practices. Several school districts and states have already adopted this framework; such as Florida, Utah, California, and Texas to better meet the needs of all students.

MTSS uses data-informed practices of RTI and PBIS and offers a multi-tier approach. The focus of MTSS is on the school-wide, differentiated core instruction at Tier 1. Tier I has the

majority of students (80%) receiving and mastering the curriculum through First time teaching. Tier 2 and 3 are more intensive and individualized interventions designed to address the needs of the student in order to master the curriculum or identify an underlying issue. MTSS utilizes a universal screener to identify students' needs and a system of progress monitoring to adjust and adapt the needs of the students for success. In order for MTSS to be successful, three stages must be addressed: (a) consensus development, (b) infrastructure building, and (c) implementation.

Statement of the Problem

North Carolina has approved MTSS as the state-wide approach that must be implemented in all districts by 2020. The state has provided the professional development for district teams to implement MTSS. Districts have been able to determine the implementation within their district. North Carolina has developed a MTSS framework for all districts to utilize and implement by 2020. "NC MTSS is a multi-tiered framework, which promotes school improvement through engaging, research-based academic and behavioral practices. NC MTSS employs a systems approach using data-driven problem-solving to maximize growth for all" (Jablonski, Batts, Winter, Miller, Laney, Cloninger, Watkins, Boggs, & Bailey, 2015, p. 1). Each district has begun an implementation plan to have all schools on board with MTSS by 2020. The development of MTSS at each school is determined by the school-based MTSS team. "MTSS decisions are made using a team-based process. MTSS building leadership team is responsible for coordinating and communicating all MTSS implementation efforts for the building. The MTSS building leadership team uses a problem-solving process at both the system and student levels" (Metcalf, 2010, p. 2). MTSS requires teams to identify student's needs and the effectiveness of the core instruction. Each district identifies the universal screener to be used to identify students at-risk of failure.

North Carolina's MTSS Critical Components are as follows: leadership, building the capacity/infrastructure for implementation, communication and collaboration, data-based problem solving, three-tiered instructional/intervention model, and data evaluation (Jablonski et al., 2015). North Carolina has adapted the six critical components from collaboration with Florida's MTSS work and has developed a basic framework for each component. Districts will further choose how they will design and implement MTSS utilizing the framework from the State.

North Carolina's MTSS Critical Components are as follows:

1. Leadership – this is the key to successful implementation. The administrators and school teams are critical in implementation at the school level. They must engage the staff in the professional development for implementing, planning, and modeling of a problem-solving process for school improvement. The building principal must support the implementation by communicating a vision and mission, providing resources for planning and implementing instruction and intervention, and ensuring staff have the data for data-based problem solving.
2. Building the Capacity/Infrastructure for Implementation – this is required in order to implement and sustain MTSS. This includes ongoing professional development and coaching with data-based problem-solving and multi-tiered instruction and intervention, scheduling that allows for planning and implementation of instruction and intervention, and processed and procedures for data-based problem solving.
3. Communication and Collaboration – this is essential for successful implementation of MTSS. Reasons for failure of such implementation are lack of consensus, lack of feedback for continuous improvement, and lack of stakeholder involvement. For

success must include stakeholders in planning and providing continuous feedback, build the infrastructure to communicate and work with families. These factors will increase the likelihood of sustained innovative practices.

4. Data-Based Problem-solving– this is a critical element of MTSS. Data-based problem-solving is used to address student outcomes across content areas, grade levels, and tiers. Problem-solving also addresses the barriers to school improvement. The four-step problem-solving model includes: (1) defining the goals to be achieved, (2) identifying reasons the goals are not being achieved, (3) developing a plan for evidence-based strategies to achieve goals, and (4) evaluating the plan's effectiveness.
5. Three-Tiered Instructional/Intervention Model – this is a typical system for MTSS. Tier 1 is the core instruction that ALL students receive; Tier 2 is intervention provided to students who are not achieving at Tier 1; and Tier 3 is intensive, small group intervention for students having significant difficulty learning the skills. The Tiered-model is for academic and behavioral/social instruction and interventions.
6. Data Evaluation – this is necessary for evaluation of data. The school needs a system that is clear in understanding how to utilize data to determine needs of students for learning. Assessment data and processes for administering assessments allow schools staff to make educational decisions based on the information gathered. Ensuring fidelity of the MTSS implementation allows schools to examine the current practices and make changes to improve MTSS.

These six critical components and the expectation presented within them set the framework for districts to create an effective MTSS implementation for school improvement.

The state framework for MTSS has provided the district with guidelines on ensuring successful implementation. The First phase of implementation is the focus on Core Instruction which impacts ALL students. Four focus areas for schools are creating the (1) environment for learning, (2) helping students develop understanding, (3) helping students extend and apply knowledge, and (4) putting the instructional strategies to use. Schools must First identify which area they feel their school needs to begin their professional development. Stakeholders are asked to participate in training to understand the different components of core instruction and then rate their school's level of success with each area to determine a starting point.

Each school will determine where to begin the professional development for their building by including stakeholders in identifying where they feel they need support. Professional development for creating the environment for learning has three focus areas: (1) setting objectives and providing feedback, (2) reinforcing effort and providing recognition, and (3) cooperative learning. Professional development for helping students develop understanding will be broken into four areas: (1) cues, questions, and advance organizers, (2) nonlinguistic representations, (3) summarizing and note taking, and (4) assigning homework and providing practice. Professional development for helping students extend and apply knowledge will consist of two areas: (1) identifying similarities and differences, and (2) generating and testing hypotheses.

Districts will identify a universal screener to be utilized to determine the current status of students and to monitor student progress throughout the school year. The screener will identify specific areas of need for students to provide teachers with areas for intervention and supplemental instruction. The staff will receive professional development on how to use data to problem solve instructional strategies for students at-risk of failure. The district must identify a

problem-solving model that is used consistently throughout the schools for data discussions. These are necessary steps prior to beginning professional development on instructional practices and processes. All staff must be capable and confident in utilizing these tools so that fidelity of implementation will occur. Selecting a universal screener can be difficult. The screener is used to identify students who may be on a path to failure. Screening is conducted three times per school year, in the fall, winter and spring. The screening measures consist of brief assessments focused on target skill that are predictive of future outcomes.

Moore County Schools chose to implement MTSS in four Cohorts. With the 2020 deadline in place, Moore County Schools participated in Cohort 1 with three schools in 2016-2017 identified by the MTSS district team. Each of the schools had a district team leader to provide professional development and support of the implementation of MTSS. The district identified three schools to participate in Cohort 1(2016-2017), seven schools to participate in Cohort 2 (2017-2018), ten schools to participate in Cohort 3 (2018-2019), and the three high schools would participate in Cohort 4 (2019-2020). The plan for implementation will be defined through a three-year phase in process. Year one had three schools involved in Phase I of MTSS implementation. Phase II will include seven schools, elementary and middle, beginning year one this year. The Third year will include all remaining schools not included in the First two phases of implementation. The implementation phases will be an on-going, developing process. Each school's needs will be different and as identified will be provided the professional development necessary to begin implementation. The district will provide on-going monitoring of the school improvement process through MTSS.

Vass-Lakeview Elementary was one of seven schools selected to participate in Cohort 2 in 2017-2018. The selection was based on an implemented PBIS program and a need for an

increase in student achievement. Vass-Lakeview End of Grade test scores from 2015-2016 indicated a need to increase proficiency in reading in grades 3 – 5. The end of grade overall reading proficiency was 53.5% with an overall school growth index of -0.75. The MTSS process has been implemented in a slow and steady format to ensure the success of better identifying and serving students at-risk for failure. Each school has been assigned a District MTSS Coach to guide them through the initial steps of MTSS. The coach has led the school-based team in completion of the Self-Assessment of MTSS Implementation (SAM) survey and the Belief survey given at each school. The school team determines the steps needed for MTSS implementation based on the survey results. Vass-Lakeview administered the Belief Survey in September 2018. The results from the survey indicated teachers' beliefs about how students respond to instruction. Based on these results, the school-based team agreed that professional development was needed on core instruction (see Table 1).

The Vass-Lakeview school leadership team began by completing the Self-Assessment of MTSS Implementation (SAM) survey on the current state of MTSS (2017-2018). The team reached a consensus on the current ranking in each of the critical components: (a) leadership, (b) building the capacity/infrastructure for implementation, (c) communication and collaboration, (d) data-based problem solving, (e) three-tiered instructional/intervention model, and (f) data evaluation. Utilizing the components of *Classroom Instruction That Works* (Dean, Hubbell, Pitler, & Stone, 2012), Vass-Lakeview developed an implementation program to guide teachers in increasing targeted core instruction to reach at least 80% of students. The school began a book study of *Classroom Instruction That Works* (Dean et al., 2012) in December 2018 with the plan to complete the study by February 2019.

Table 1

End-of-Grade Test Data

	Reading																	
	Third Grade						Fourth Grade						Fifth Grade					
	2016-17			2015-16			2016-17			2015-16			2016-17			2015-16		
	School	MCS	NC	School	MCS	NC	School	MCS	NC	School	MCS	NC	School	MCS	NC	School	MCS	NC
College & Career Ready	47.6	55.7	46.1	45.3	52.0	47.8	42.6	45.2	43.7	44.2	45.8	45.7	46.1	47.4	42.5	40.4	45.8	43.1
Grade Level Proficiency	61.3	66.5	57.8	50.4	62.4	57.7	52.2	57.9	57.7	54.8	58.9	58.0	56.9	60.6	56.6	55.8	58.9	55.4

Research Questions and Methodology

Based on the study design, three questions are pertinent to this research:

1. To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in First Grade?
2. To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in Third Grade?
3. To what extent, if any, did the STAR 360 program provide successful progress monitoring tools for students at-risk of failure in reading?

Summary

The purpose of this study is to complete a program evaluation of the STAR 360 program as a universal screener in determining students at-risk of failure in reading. The program evaluation will determine the accuracy of STAR 360 as compared to mCLASS DIBELs and TRC in First and Third Grade at Vass-Lakeview Elementary. MCS has chosen to use the STAR 360 program to assess students in reading and math. The program provides schools with data regarding the probability the student has the skills necessary to be proficient on end of year assessments.

CHAPTER 2: LITERATURE REVIEW

What is MTSS?

Multi-Tiered System of Support (MTSS) is a framework that was created from the combination of Response to Intervention (RTI) and Positive Behavior Intervention Support (PBIS) systems. All three models are evidence-based models of schooling that use data-based problem-solving to address academic and behavioral instruction and intervention.

Since the 2004 reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA) prohibits states from requiring school districts to use IQ-achievement discrepancy criteria in the identification of students with specific learning disabilities and encourages the use of Response-to-Intervention, a scientific, research-based approach (Mandlawitz, 2007), "doing RTI" has become a veritable catchphrase in schools and classrooms throughout the country (Averill & Rinaldi, 2011). RTI refers to the practice of providing high-quality, multi-tier instruction and interventions matched to students' needs, monitoring student progress frequently, and evaluating data on student progress to determine the need for special education support (Averill & Rinaldi, 2011; Batsche, Elliott, Graden, Grimes, Kovaleski, Prasse, & Tilly, 2005; Fuchs & Fuchs, 2005). Schools and districts have been working toward the goals of RTI since 2004. There has been very little progress toward meeting the requirements to move away from a discrepancy model as MCS continues to use the fifteen-point discrepancy model to qualify students for Exceptional Children eligibility.

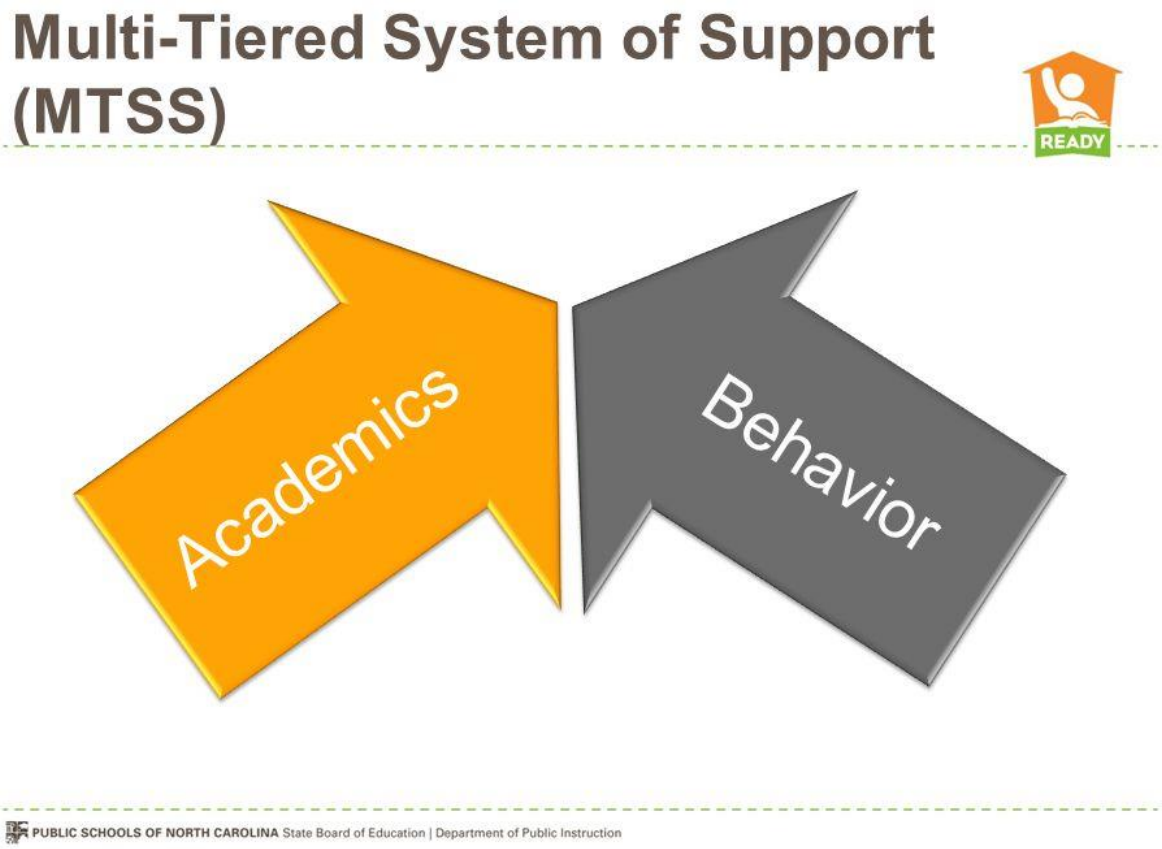
While districts have been trying to determine steps to resolve identification of students using a different approach, the evolution of PBIS was created. PBIS is an approach to address behavioral needs of students who are struggling with the expected behaviors for an educational setting. The Individuals with Disabilities Education Act and No Child Left Behind Law

emphasize the use of scientifically-based research to improve outcomes for students (Sugai & Horner, 2009). The initial purpose of response-to-intervention has expanded from a focus on screening and improved outcomes for students with learning disabilities to a general approach for improving instructional and intervention decision making for all students (Sugai & Horner, 2009). We describe a similar evolution of School-wide Positive Behavior Support (SWPBS), only with a focus on the (a) social culture within the whole school and (b) behavior support for those students with problem behavior (Sugai & Horner, 2009).

The Response to Intervention (RTI) and Positive Behavior Intervention Support (PBIS) become one model known as Multi-Tiered System of Support (MTSS). MTSS is the term used to describe an evidence-based model of approach that uses data-based problem-solving to integrate academic and behavioral instruction and intervention." This represents the foundation of a comprehensive MTSS framework. The MTSS structure is illustrated in Figure 1. MTSS leverages the principles of RTI and PBIS and integrates a continuum of system-wide resources, strategies, structures, and practices" (Averill & Rinaldi, 2011). North Carolina had defined MTSS as a multi-tiered framework, which promotes school improvement through engaging, research-based academic and behavioral practices as seen in Figure 1. NC MTSS employs a system approach using data-driven problem-solving to maximize growth for all (Jablonski et al., 2015).

Three Tiers of Support

Positive Behavior Intervention Support took the same Tiered-model approach that Response to Intervention has in place. The Three-Tiered-model provided a school-wide system of support delivered to the entire school population for academics and behaviors.



Note. Adapted from http://MTSS.ncdpi.wikispaces.net

Figure 1. MTSS academics and behavior.

The First Tier is the Differentiated Core; this tier suggests that core instruction is delivered so that 80% of the student population is achieving mastery of the instruction. Tier 1 is what "ALL" students get in the form of instruction (academic and behavioral) and student support. Tier 1 focuses on the implementation of the district's Core Curriculum and is aligned with the North Carolina Standard Course of Study (NCSCOS). Tier 1 services are based on the needs of the students at the particular school. Some schools will require more time than others on core curriculum areas based on student demographics and student performance levels to ensure that all students reach and/or exceed state proficiency levels. Tier 1 services are provided by the general education teacher.

The second Tier is the Supplemental Support; this tier provides support for 20% of students that Tier 1 is not sufficiently reaching. Tier 2 is what "some" students need in addition to Tier 1 instruction. The purpose of Tier 2 instruction and support is to improve student performance under Tier 1 performance expectations. Effective Tier 2 services occur when 70% of students receiving Tier 2 services and Tier 1 services meet or exceed grade level Tier 1 proficiency levels established by the district. Tier 2 services can be provided by the general education teacher, exceptional children teachers, and/or intervention teachers.

The Third Tier is the Intensive Support; this tier provides support for 5% of students that Tier 1 and Tier 2 services are not sufficiently reaching. Tier 3 is what "few" students receive and is the most intensive service that a school can provide to a student. Tier 3 services are provided to very small groups and/or individual students. The purpose of Tier 3 services is to help students overcome significant barriers to learning and/or behavioral skills required for school success. Tier 3 services are a more focused instruction with increased time to target a narrow set of focused intervention. Tier 3 services require collaboration between general education teacher and

specialized education teachers to provide services to the student. The expectation of Tier 3 services is that the student will achieve Tier 1 proficiency levels. This three-tiered support structure is illustrated in Figure 2.

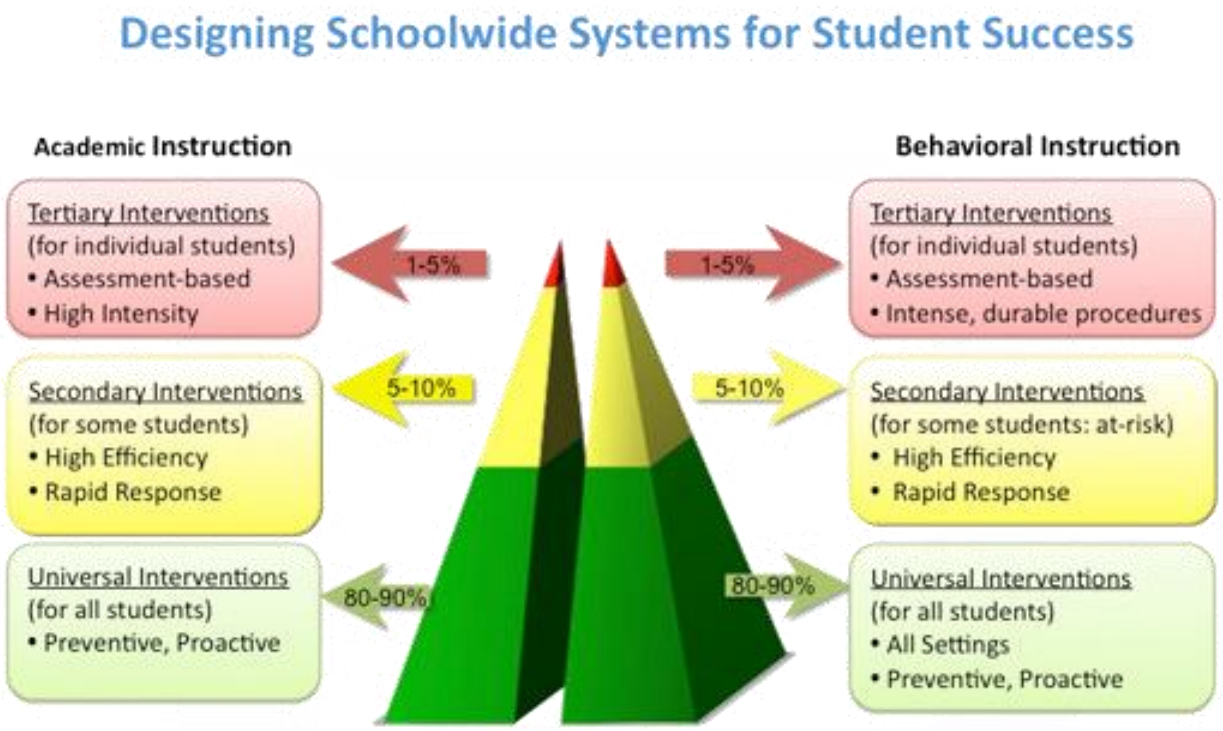
Allocation of Resources

The resources needed to implement each Tier of the MTSS model vary by district. The schools must complete a needs assessment for each tier of instruction. Programs utilized to address varying needs of students must be assessed for responsiveness and effectiveness. Each school has access to different programs to address student's needs in reading and math. The programs available may or may not be effective in assisting students with achieving Tier I proficiency.

Tier I instruction is delivered by the classroom teacher. The delivery of this instruction occurs in the regular classroom setting to all students. Effective Tier I instruction should result in 80% of the students reaching proficiency on the subject matter. The 20% of students not mastering instruction would move on to Tier II instruction.

Tier II instruction is delivered by the classroom teacher or a specialized teacher. This instruction occurs in addition to the regular classroom instruction the student receives. The intervention time must be scheduled into the school day for students. Students may receive this direct instruction from the classroom teacher or a teacher specialized in the subject the student needs instruction.

Tier III instruction is delivered by a specialized teacher. This instruction occurs in an intensive environment; students are intervened every day for at least 45 minutes of targeted instruction. This instruction is often provided by an interventionist during the school day. This three-tiered intervention structure is illustrated in Figure 2.



Note. Adapted from http://www.pbis.org

Figure 2. Academic (RTI) and Behavioral (PBIS) Tiers of Intervention.

What is a Universal Screener

A universal screener is an assessment of a student to aid in identifying the students who are at-risk for failure in reading and math. This is the First step in the Multi-Tiered System of Support (MTSS) process when targeting students who struggle to learn with research-based interventions. A universal screener should assess all students the same way so that results are valid. Students should be assessed three times a year with a universal screener. All students are screened in one or more of these academic areas and those identified as at-risk for learning or behavior difficulties are provided evidence-based interventions in the at-risk area (Hughes & Dexter, 2007, p. 1).

Beginning readers who are struggling need to receive assistance as early as possible. Students who are struggling often do not receive assistance until grade 2 or 3 or after being diagnosed with a learning disability or fallen significantly below their peers. MTSS provides for a framework to identify students early for learning difficulties. Screening all students and providing on-going progress monitoring allows for early detection of at-risk students. Assessing all students provides the assurance of not overlooking any students who are at-risk for learning difficulties. Utilizing a universal screener provides an objective determination regarding a student's skills. Universal screening is the crucial First step in determining the scope of support a student needs. Teacher observation and judgement are valuable, however assessing the skills of the student must be objective and universal.

Why a Universal Screener

MTSS is a process designed to prevent students from falling further behind in their learning. Therefore, screening all students to identify those who may be on a path to failure. Identifying these students soon and often provides opportunity for them to receive instructional

intervention to address the learning difficulties that have been identified. Students who receive targeted research-based intervention are more likely to make improved progress or require further intensive intervention. Some students who are unable to make significant progress often are identified with learning disabilities.

The purpose of a universal screener is to predict outcomes for a student months or years in advance. A screener should define a future outcome the screen seeks to predict, identify early indicators of later reading outcomes, and determine a cut-point on the screener that identifies students at-risk for failing a future test. The important point is that satisfactory and unsatisfactory reading outcomes are dichotomous (defined by a cut-point on a reading test given later in the students' career). Where this cut-point is set (e.g., the 10^{th} or 40^{th} percentile) and the specific criterion reading test used to define reading failure (e.g., a state test or SAT 10) greatly affects which students a screen seeks to identify (Jenkins & Johnson, 2007, p. 2).

When implementing a universal screening process, schools must consider the over- and/or under identifying of students as at-risk. Ideally, students who score below a cut-point on a screener are labeled as at-risk for failure and students who score above a cut-point on a screener are considered not at-risk of failure. Screeners can provide "true positives" and "false positives". Screens (assessment of student current level of performance) can be correct (or true) in two ways: (a) "True positives" are individuals who fail the screening measure (the predictor) and the later outcome measure (the criterion); (b) "true negatives" are individuals who pass both the screen and the later criterion measure. Screens can also be incorrect (or false) in two ways: (a) "False positives" are individuals who fail the screen but pass the later criterion measure; (b) "false negatives" are individuals who pass the screen but fail the later criterion measure (Jenkins & Johnson, 2017, p. 3).

Screenings should take place at least twice a year – at the beginning of the school year and again in the middle of the school year. Most screeners or assessments occur three times in a school year – beginning, middle, and end. The midyear screening is likely to provide the most accurate picture of a student's skills. Factors that must be considered when determining a screener are ensuring the appropriate skills are being measured and how accurately the measure predicts the risk.

Screening is the beginning of the process. Progress monitoring ensures that students continue to receive appropriate interventions at a level of intensity that matches their developing needs. As students begin to make progress, the interventions must be changed to ensure student success.

CHAPTER 3: METHODOLOGY

Research Purpose

The purpose of the study was to determine the effectiveness of the STAR 360 program as a universal screener used at Vass-Lakeview Elementary in the Moore County Schools in North Carolina with regard to identifying at-risk students in reading. With the implementation of Multi-Tiered System of Support, the state has determined a need for a universal screener as a predictor of students' at-risk for developing learning and/or behavioral difficulties (Jablonski et al., 2015). Moore County Schools has chosen STAR 360 as the universal screener for MTSS identification of at-risk students. The screener was purchased by the district for three years (2016-2019) for use by the schools in Cohort I and Cohort 2 of MTSS implementation. The district has purchased the program for Cohort 3 to utilize as a screener for the next school year (2018-2019). Due to the significant cost associated with this program, it was important to determine if the program was an accurate predictor of students developing learning and/or behavioral difficulties and if the district should continue to purchase this program as a universal screener.

Vass-Lakeview Elementary began utilizing the STAR 360 program in 2017-2018 and assessed students twice during this school year, once in December and once in May. The purchase of the program occurred late and the school was only able to assess twice in order to allow time in between assessments. Vass-Lakeview received school-based training from an Instructional Coach and received additional training via webinar in October 2018.

Statement of Problem of Practice

North Carolina has approved MTSS as the state-wide approach that must be implemented in all districts by 2020. The state has provided the professional development for district teams to implement MTSS. Districts have been able to determine the implementation within their district.

North Carolina has developed a MTSS framework for all districts to utilize and implement by 2020. “NC MTSS is a multi-tiered framework, which promotes school improvement through engaging, research-based academic and behavioral practices. NC MTSS employs a systems approach using data-driven problem-solving to maximize growth for all” (Jablonski et al., 2015, p. 1). Each district has begun an implementation plan to have all schools on board with MTSS by 2020. The development of MTSS at each school is determined by the school-based MTSS team. “MTSS decisions are made using a team-based process. MTSS building leadership team is responsible for coordinating and communicating all MTSS implementation efforts for the building. The MTSS building leadership team uses a problem-solving process at both the system and student levels” (Metcalf, 2010, p. 2). MTSS requires teams to identify student’s needs and the effectiveness of the core instruction. Each district identifies the universal screener to be used to identify students at-risk of failure.

North Carolina’s MTSS Critical Components are leadership, building the capacity/infrastructure for implementation, communication and collaboration, data-based problem solving, three-tiered instructional/intervention model, and data evaluation (Jablonski et al., 2015). North Carolina has adapted the six critical components from collaboration with Florida’s MTSS work and has developed a basic framework for each component. Districts will further choose how they will design and implement MTSS utilizing the framework from the State.

North Carolina’s MTSS Critical Components are as follows:

1. Leadership – this is the key to successful implementation. The administrators and school teams are critical in implementation at the school level. They must engage the staff in the professional development for implementing, planning, and modeling of a

problem-solving process for school improvement. The building principal must support the implementation by communicating a vision and mission, providing resources for planning and implementing instruction and intervention, and ensuring staff have the data for data-based problem solving.

2. Building the Capacity/Infrastructure for Implementation – this is required in order to implement and sustain MTSS. This includes ongoing professional development and coaching with data-based problem-solving and multi-tiered instruction and intervention, scheduling that allows for planning and implementation of instruction and intervention, and processed and procedures for data-based problem solving.
3. Communication and Collaboration – this is essential for successful implementation of MTSS. Reasons for failure of such implementation are lack of consensus, lack of feedback for continuous improvement, and lack of stakeholder involvement. For success must include stakeholders in planning and providing continuous feedback, build the infrastructure to communicate and work with families. These factors will increase the likelihood of sustained innovative practices.
4. Data-Based Problem-solving– this is a critical element of MTSS. Data-based problem-solving is used to address student outcomes across content areas, grade levels, and tiers. Problem-solving also addresses the barriers to school improvement. The four-step problem-solving model includes: (1) defining the goals to be achieved, (2) identifying reasons the goals are not being achieved, (3) developing a plan for evidence-based strategies to achieve goals, and (4) evaluating the plan's effectiveness.

5. Three-Tiered Instructional/Intervention Model – this is a typical system for MTSS. Tier 1 is the core instruction that ALL students receive; Tier 2 is intervention provided to students who are not achieving at Tier 1; and Tier 3 is intensive, small group intervention for students having significant difficulty learning the skills. The Tiered-model is for academic and behavioral/social instruction and interventions.
6. Data Evaluation – this is necessary for evaluation of data. The school needs a system that is clear in understanding how to utilize data to determine needs of students for learning. Assessment data and processes for administering assessments allow schools staff to make educational decisions based on the information gathered. Ensuring fidelity of the MTSS implementation allows schools to examine the current practices and make changes to improve MTSS.

These six critical components and the expectation presented within them sets the framework for districts to create an effective MTSS implementation for school improvement.

The state framework for MTSS has provided the district with guidelines on ensuring successful implementation. The First phase of implementation is the focus on Core Instruction which impacts ALL students. Four focus areas for schools are creating the (1) environment for learning, (2) helping students develop understanding, (3) helping students extend and apply knowledge, and (4) putting the instructional strategies to use. Schools must First identify which area they feel their school needs to begin their professional development. Stakeholders are asked to participate in training to understand the different components of core instruction and then rate their school's level of success with each area to determine a starting point.

Each school will determine where to begin the professional development for their building by including stakeholders in identifying where they feel they need support. Professional

development for creating the environment for learning has three focus areas: (1) setting objectives and providing feedback, (2) reinforcing effort and providing recognition, and (3) cooperative learning. Professional development for helping students develop understanding will be broken into four areas: (1) cues, questions, and advance organizers, (2) nonlinguistic representations, (3) summarizing and note taking, and (4) assigning homework and providing practice. Professional development for helping students extend and apply knowledge will consist of two areas: (1) identifying similarities and differences, and (2) generating and testing hypotheses.

Districts will identify a universal screener to be utilized to determine the current status of students and to monitor student progress throughout the school year. The screener will identify specific areas of need for students to provide teachers with areas for intervention and supplemental instruction. The staff will receive professional development on how to use data to problem solve instructional strategies for students at-risk of failure. The district must identify a problem-solving model that is used consistently throughout the schools for data discussions. These are necessary steps prior to beginning professional development on instructional practices and processes. All staff must be capable and confident in utilizing these tools so that fidelity of implementation will occur. Selecting a universal screener can be difficult. The screener is used to identify students who may be on a path to failure. Screening is conducted three times per school year, in the fall, winter and spring. The screening measures consist of brief assessments focused on target skill that are predictive of future outcomes.

Moore County Schools chose to implement MTSS in four Cohorts. With the 2020 deadline in place, Moore County Schools participated in Cohort 1 with three schools in 2016-2017 identified by the MTSS district team. Each of the schools had a district team leader to

provide professional development and support of the implementation of MTSS. The district identified three schools to participate in Cohort 1 (2016-2017), seven schools to participate in Cohort 2 (2017-2018), ten schools to participate in Cohort 3 (2018-2019), and the three high schools would participate in Cohort 4 (2019-2020). The plan for implementation will be defined through a three-year phase in process. Year one had three schools involved in Phase I of MTSS implementation. Phase II will include seven schools, elementary and middle, beginning year one this year. The Third year will include all remaining schools not included in the First two phases of implementation. The implementation phases will be an on-going, developing process. Each school's needs will be different and as identified will be provided the professional development necessary to begin implementation. The district will provide on-going monitoring of the school improvement process through MTSS.

Vass-Lakeview Elementary was one of seven schools selected to participate in Cohort 2 in 2017-2018. The selection was based on an implemented PBIS program and a need for an increase in student achievement. Vass-Lakeview End of Grade test scores from 2015-2016 indicated a need to increase proficiency in reading in grades 3 – 5. The end of grade overall reading proficiency was 53.5% with an overall school growth index of -0.75. The MTSS process has been implemented in a slow and steady format to ensure the success of better identifying and serving students at-risk for failure. Each school has been assigned a District MTSS Coach to guide them through the initial steps of MTSS. The coach has led the school-based team in completion of the Self-Assessment of MTSS Implementation (SAM) survey and the Belief survey given at each school. The school team determines the steps needed for MTSS implementation based on the survey results. Vass-Lakeview administered the Belief Survey in September 2018. The results from the survey indicated teachers' beliefs about how students

respond to instruction. Based on these results, the school-based team agreed that professional development was needed on core instruction.

The Vass-Lakeview school leadership team began by completing the Self-Assessment of MTSS Implementation (SAM) survey on the current state of MTSS (2017-2018). The team reached a consensus on the current ranking in each of the critical components: (a) leadership, (b) building the capacity/infrastructure for implementation, (c) communication and collaboration, (d) data-based problem solving, (e) three-tiered instructional/intervention model, and (f) data evaluation. Utilizing the components of *Classroom Instruction That Works* (Dean et al., 2012), Vass-Lakeview developed an implementation program to guide teachers in increasing targeted core instruction to reach at least 80% of students. The school began a book study of *Classroom Instruction That Works* (Dean et al., 2012) in December 2018 with the plan to complete the study by February 2019.

Research Questions and Methodology

Based on the study design, three questions are pertinent to this research:

1. To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in First Grade?
2. To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in Third Grade?
3. To what extent, if any, did the STAR 360 program provide successful progress monitoring tools for students at-risk of failure in reading?

Data Collection

Study Question 1: To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in First Grade?

Data was collected during the 2018-2019 school year, classroom teachers in First Grade conduct MCLASS assessments on their students at the beginning of the school year during the assessment window that occurred in September. Teachers assessed students one-on-one utilizing the iPad to conduct the DIBELS portion of the assessment. The students read the letter sounds, word, and blends to complete the portions of the assessment to comprise the DIBELS score. The TRC (Text Reading Comprehension) portion of the assessment is conducted one-on-one with the teacher. Students select one of three books at a certain level (A-U). Students read the book aloud and then respond to oral questions. The teacher documents the students reading and response to the questions. The oral questions are scored on a rubric to determine if the student is proficient at the book level they completed. If the student is not successful on that level, then another book is chosen at a lower level until the student can respond proficiently to the oral questions. The middle of the year data was collected during the assessment window that occurred in January. During this assessment window, the classroom teacher did not assess their own students, but assessed students from another First Grade class. The same process was followed to administer the assessment as was previously stated above.

STAR 360 data was collected during the September and January assessment window by the classroom teacher. Students completed the assessment on a laptop as the assessment is online. Each student completes the assessment individually. The program asks the student questions as the student responds the program adjusts the level of the next question. When the student has completed the assessment, the program develops a Lexile score and percentage for

the student. Based on the results, the student is rated as Above Grade Level, On Grade Level, Below Grade Level, or Significantly Below Grade Level.

To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in Third Grade?

Data was collected during the 2018-2019 school year, classroom teachers in Third Grade conduct MCLASS assessments on their students at the beginning of the school year during the assessment window that occurred in September. Teachers assessed students one-on-one utilizing the iPad to conduct the DIBELS portion of the assessment. The students read the letter sounds, word, and blends to complete the portions of the assessment to comprise the DIBELS score. The TRC (Text Reading Comprehension) portion of the assessment is conducted one-on-one with the teacher. Students select one of three books at a certain level (A-U). Students read the book aloud and then respond to oral questions. The teacher documents the students reading and response to the questions. The oral questions are scored on a rubric to determine if the student is proficient at the book level they completed. If the student is not successful on that level, then another book is chosen at a lower level until the student can respond proficiently to the oral questions. The middle of the year data was collected during the assessment window that occurred in January. During this assessment window, the classroom teacher did not assess their own students, but assessed students from another Third Grade class. The same process was followed to administer the assessment as was previously stated above.

STAR 360 data was collected during the September and January assessment window by the classroom teacher. Students completed the assessment on a laptop as the assessment is online. Each student completes the assessment individually. The program asks the student questions as the student responds the program adjusts the level of the next question. When the

student has completed the assessment, the program develops a Lexile score and percentage for the student. Based on the results, the student is rated as Above Grade Level, On Grade Level, Below Grade Level, or Significantly Below Grade Level.

To what extent, if any, did the STAR 360 program provide successful progress monitoring tools for students at-risk of failure in reading?

Data was collected during the 2018-2019 school year, using classroom observations and small group instruction. During the time between assessment windows in September and January, anecdotal notes were taken when observing small group instruction of students at-risk for failure. Teachers delivered instruction to students at-risk in small groups during the reading and intervention scheduled times. The students were identified using the assessment data in September from the STAR 360 universal screener. Teachers delivered instruction based on the student's area of need.

Design of Study

This study will provide a formative assessment of the implementation of the STAR 360 universal screener utilized at Vass-Lakeview. A program evaluation is a systematic method for collecting, analyzing, and using information to answer questions about projects, policies, and programs (Stufflebeam & Zhang, 2017, p. 22). In both the public and private sectors, stakeholders want to know whether the programs for which they are funding, implementing, voting, or supporting are producing the intended effect and/or results.

Though formal evaluations of educational programs are still increasing, many advances have been made in the collection of data with the use of technology. Program evaluation in education has been around since the 1800s. During the 1800s, dissatisfaction with educational and social programs in Great Britain generated reform movements in which government-

appointed royal commissions heard testimony and used other less formal methods to evaluate the respective institutions (Fitzpatrick, Sanders, & Worthen, 2011). The emergence of modern program evaluation in the United States occurred during the administration of President Lyndon Johnson. Conditions were right for accelerated conceptual and methodological development in evaluation, and the catalyst was found in the War on Poverty and the Great Society, the legislative centerpieces of the administration of U.S. President Lyndon Johnson (Fitzpatrick et al., 2011).

The passage of the Elementary and Secondary Education Act (ESEA) of 1965 created the increased necessity for program evaluation. The allocation of federal funding required a system of evaluation to determine effectiveness of programs purchased with these funds. Legislatures needed oversight on the spending of such large amounts of Title I money. Assurance was needed by the legislatures that evaluations of spending and programs would be monitored so that their actual impact on educational improvements was justified.

The evaluation approach to study the STAR 360 program follows a design developed by Daniel Stufflebeam called Context-Input-Process-Product (CIPP). Stufflebeam has been an influential proponent of a decision-oriented evaluation structured to help administrators make good decisions (Fitzpatrick et al., 2011). The CIPP model has changed since its inception, from a focus on managers as primary stakeholders to involving many stakeholders with a focus on decisions. The CIPP model was developed by Stufflebeam with a focus on its uses in the educational setting. Stufflebeam's model provides a framework to evaluate the STAR 360 program accuracy. The CIPP model provides an effective framework for a program evaluation of the *STAR 360* program. Stufflebeam defined evaluation as: the process of delineating, obtaining, reporting, and applying descriptive and judgmental information about some object's value – for

example, its quality, worth, probity, equity, feasibility, cost, efficiency, safety, or significance (Stufflebeam & Zhang, 2017, p. 22). The purpose of evaluating this program is to provide pertinent information about the program to stakeholders.

The CIPP model has maintained endurance over other models throughout the years. The model's primary orientation is to foster and assist program improvement through continuous, proactive, decision-oriented assessments (Stufflebeam & Zhang, 2017, p. 21). The CIPP model has been primarily used for targeted program improvement. A fundamental tenet of the CIPP model is that *the evaluation's purpose is not only to prove, but also-and most importantly-to improve* (Stufflebeam & Zhang, 2017, p. 35).

The CIPP model has served as an organized approach to the evaluation profession's standards as defined by the Joint Committee on Standards for Educational Evaluation (1981, 1994, 2011). The STAR 360 program evaluation will focus on the product evaluation component of the CIPP model. The product evaluation component, as stated by Stufflebeam and Zhang (2017), is to identify and assess costs and outcomes-intended and unintended, short team and long term. These evaluations provide feedback during a program's implementation on the extent that program goals are being addressed and achieved (Stufflbeam & Zhang, 2017, p. 23). The information gathered may be used to determine the continued use of the STAR 360 program as a universal screener.

CIPP Product Evaluation

The goal of product evaluation is to report all program outcomes: positive and negative, anticipated and unanticipated (Stufflebeam & Zhang, 2017, p. 50). The purpose of the evaluation is to measure, interpret, and judge the outcomes. The information obtained through this evaluation will help district stakeholders to determine the continuation of use of this program for

the purposes of a universal screener. The CIPP model provides a framework for evaluating the context, input, and process of a program. The product evaluation is the best approach to determining the full range of the program's outcomes. The district team want to know more about the product of the program. The team seeks information regarding whether or not the program is a valid, accurate, and reliable predictor of students at-risk for failure in reading and/or math.

The STAR 360 program evaluation will consist of three steps to determine the program effectiveness. The First step in the process is delineating (Stufflebeam & Zhang, 2017, p. 50), which will involve the assessment of intended outcomes. The intended expectation is an accurate prediction of students at-risk for failure in reading.

The next step will be obtaining results through both initial and interim measures of data from students in First and Third Grade at Vass-Lakeview Elementary in Moore County and by analyzing responses of teachers to questions regarding the program. The initial data occurred at the beginning of the school year (September 2018) and the interim data occurred at the middle of the school year (January 2019). The results were provided to stakeholders.

The last step in the evaluation process is *providing* (Stufflebeam & Zhang, 2017, p. 50). The information and data gathered from the STAR 360 program evaluation was provided to the Curriculum and Instruction team and the District MTSS team.

Research Setting

The research was conducted at Vass-Lakeview Elementary in the Moore County Schools district in North Carolina. The Local Education Agency (LEA) is located 60 miles south of Raleigh, North Carolina in the rural Sandhills region. In 2017, Moore County Schools had a student population of 12,856 students in 23 schools. There were 5,740 elementary school

students, 2,963 middle school students, and 4,153 high school students enrolled. The demographic makeup of students in the district were 63% White, 16% African American, 14% Hispanic, and 7% Other races. The percentage of students qualifying for free and reduced lunch was 42%.

The evaluation explored the accuracy of the STAR 360 program on identifying students at-risk of failure in reading at Vass-Lakeview Elementary in 2018-2019. The study involved 204 students and nine teachers in grades First and Third at Vass-Lakeview Elementary. This school was selected based on the work that has been completed with MTSS and PBIS through support from the District MTSS team and coaches.

Study Participants

Teachers participated in this study. The teachers participating have implemented the program at Vass-Lakeview. The data from students was gathered as part of the school-based team implementation of STAR 360. The student data was provided by the district from the 2018-2019 school year by students who participated in the STAR 360 program and who had at least two data points along with mCLASS data to determine accuracy of the program. No student names will be used and students will not be identifiable by the data.

Students at Vass-Lakeview Elementary were selected in grades First and Third based on the availability of mCLASS data that is collected in these grade levels throughout the year. STAR 360 assessments were given at the middle and end of the school 2017-2018 year at Vass-Lakeview Elementary and this was the First year of these assessments. Students at Vass-Lakeview were assessed in September 2018 (BOY), January 2019 (MOY), and May 2019 (EOY) for the 2018-2019 school year. Data was used from the BOY (September 2018) and MOY (January 2019) assessments as compared with the BOY (September 2018) and MOY (January

2019) mCLASS performance data. Based on the results from these assessments, students were either above, at, below, or very below grade-level based on the skills assessed. Students were progress monitored in mCLASS every ten to twenty days based on their performance level.

School Demographics

Moore County Schools (MCS) in North Carolina is a school system of 12,856 students (2017 data), is located approximately 60 miles southeast of Raleigh in the Sandhills region of North Carolina. The school system consists of 23 schools, serving students in grades Pre-K through 12. The 23 schools are comprised of 14 elementary schools with a population of 5,740 students, five middle schools with a population of 2,963 students, three high schools and one alternative school with a combined population of 4,153 students. Of these 12,856 students, 63% are White, 16% are African American, 14% Hispanic, and 7% Other races. Forty-two percent of students in the system (2017) qualified for free or reduced lunch. The MCS system employs 1,023 certified staff with 46.7% holding master's degrees or higher (Moore County Schools, 2017).

Vass-Lakeview Elementary which is included in this study is located in Vass, North Carolina. In 2017, there were 641 students enrolled at Vass-Lakeview Elementary in grades K-5. The demographic population at Vass-Lakeview Elementary was 66.9% White, 9.4% African American, 17.1% Hispanic, and 5.3% Other races. The percentage of students who qualified for free and reduced lunch was identified as 53%. Free and reduced lunch status in schools is the determining factor in schools designated as Title I by the United States Department of Education so designated Title I schools receive additional federal funds that can be used for instructional purposes. Vass-Lakeview Elementary was classified as a Title I school by Moore County

Schools based on the percentage of free and reduced lunch students enrolled in the school, so Title I funds could be used for supplemental personnel and/or programs.

Data Collection

Assessment data was collected from the 2018-2019 school year for the First and Third Grade students at Vass-Lakeview Elementary. These students had been assessed by the *STAR 360* program two or three times during the school year. These students were also assessed by teachers utilizing mCLASS measures to determine proficiency three times during the school year. The data collected was reviewed from the STAR 360 program and compared with the data collected from mCLASS to determine the accuracy of the STAR 360 predictability of students at-risk for failure in reading. As required by Moore County Schools Internal Review Board, all student data remained confidential.

The research setting was Vass-Lakeview Elementary within the Moore County Schools public school system. There was minimal risk to participants and no foreseeable harm to participants. Student data sets were used and student participants were not questioned or interviewed.

The researcher used student achievement data that was not identifiable by individual student names. All data collected was housed within the secure district program that will be accessible only to the researcher, the district and the Dissertation Chair. Names of participants were not used during any phase of the research. Individual students were not identified, interviewed, or questioned by the researcher. Data was kept for the term of the research and disposed of at the end of the period.

Data Analysis

The assessment data was analyzed with regard to progress by beginning of year (BOY) and middle of year (MOY) in the STAR 360 reading portion of the program. mCLASS data from BOY and MOY was utilized to compare the accuracy of the STAR 360 prediction data for students at-risk of failure in reading. Data from the 2018-2019 school year was utilized in evaluation the program.

The factors considered were grade level, reading level, and teacher attitude and experience. Other factors considered were teacher training in the STAR 360 and mCLASS tools.

Summary

In summary, the purpose of the program evaluation was to determine the accuracy of the STAR 360 program at Vass-Lakeview Elementary. This study sought to determine if the predictability of students at-risk of failure in reading was defined with accuracy in this program with comparison to the mCLASS assessment data that determine students on grade level for reading. Students in First Grade were assessed utilizing the DIBELs and TRC portion of the mCLASS assessment. Students in Third Grade were assessed utilizing the DIBELs and TRC portion of the mCLASS assessment. The data utilized was from the 2018-2019 school year from Vass-Lakeview Elementary. Vass-Lakeview Elementary utilized the STAR 360 program as a universal screener for the 2018-2019 school year defined. The purpose of a universal screener was to determine the predictability of student's at-risk for failure in reading. The district selected this program as the universal screener for students in grades K-8. The goal of this evaluation was to determine if the STAR 360 program was accurate in predicting students at-risk of failure in reading.

The program evaluation model selected was appropriate for this evaluation. The evaluation followed the research design by Daniel Stufflebeam called Context-Input-Process-Product (CIPP), which focuses on program improvement. The design of the model was intended for educational institutions to assess and guide programs for future use of the STAR 360 program.

CHAPTER 4: RESULTS

Chapter 4 presents the findings of the program evaluation of STAR 360 as an accurate predictor of students at-risk of failure in grades one and three. As previously stated, the purpose of the program evaluation is to assess the accuracy of STAR 360 universal screener in identifying students at-risk of failure in reading. Multiple data were collected and analyzed in determining the accuracy of the program. The goal of this study was to address three specific study questions. These study questions were as follows:

1. To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in First Grade?
2. To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in Third Grade?
3. To what extent, if any, did the STAR 360 program provide successful progress monitoring tools for students at-risk of failure in reading?

In order to begin the process of these study questions, the school had to begin the MTSS process.

MTSS

Multi-Tiered System of Support (MTSS) is a framework that was created from the combination of Response to Intervention (RTI) and Positive Behavior Intervention Support (PBIS) systems. All three models are evidence-based models of schooling that use data-based problem-solving to address academic and behavioral instruction and intervention.

The Response to Intervention (RTI) and Positive Behavior Intervention Support (PBIS) become one model known as Multi-Tiered System of Support (MTSS). MTSS is the term used to describe an evidence-based model of approach that uses data-based problem-solving to integrate academic and behavioral instruction and intervention." This represents the foundation of a

comprehensive MTSS framework. The MTSS structure is illustrated in Figure 1. MTSS leverages the principles of RTI and PBIS and integrates a continuum of system-wide resources, strategies, structures, and practices" (Averill & Rinaldi, 2011). North Carolina had defined MTSS as a multi-tiered framework, which promotes school improvement through engaging, research-based academic and behavioral practices as seen in Figure 1. NC MTSS employs a system approach using data-driven problem-solving to maximize growth for all (Jablonski et al., 2015).

Vass-Lakeview Elementary began as an MTSS school in the second Cohort for the local LEA (Moore County Schools) in the Fall of 2017. As a part of the MTSS implementation, staff at Vass-Lakeview Elementary completed a Belief Survey in the Fall of 2017 regarding the teachers' perceptions to student learning. The staff participated in an overview of MTSS in the Fall of 2017.

Beginning in the Fall of 2018, staff participated in the belief survey in September. The results from 2017-2018 and 2018-2019 were compared and shared with the staff (see Table 2). Upon review of the results with the School Improvement Team, the team determined a review of *Classroom Instruction that Works* would be a good place to start with staff in renewing understanding of best practices for student learning. The staff participated in professional learning communities in December 2018 and conducted a review of Chapters 1, 2 and 3 in *Classroom Instruction that Works.* The professional development was presented by the principal, Lisa Scott, based on a professional development previously provided by the MCS Curriculum and Instruction Department. The chapters were focused on student setting, environment, and effort. The professional development reminded staff of the importance of setting and maintaining relationships with students while creating a positive and inclusive classroom environment.

Table 2

Belief Survey Comparison Data

	17-18 Data		18-19 Data	
Questions	Agree	Disagree /Neutral	Agree	Disagree /Neutral
I believe that all subgroups can reach proficiency with the current standards.	67.4%	32.6%	79.2%	20.9%
Tier One or Core Instruction should be effective enough to result in at least 80% of students achieving benchmarks in Reading with Tier One alone.	69.6%	23.9%	70.8%	29.2%
Tier One of Core Instruction should be effective enough to result in at least 80% of students achieving benchmarks in Math with Tier One alone.	66%	34%	72.9%	27.1%
Universal instruction in behavioral expectations and social skills is the responsibility of the public schools.	28.9%	71.2%	43.7%	52.1%
The primary function of Tier Two or supplemental instruction/intervention is to ensure students achieve grade level benchmarks.	65.3%	34.8%	68.8%	31.3%
The majority of students with Specific Learning Disabilities can achieve grade level benchmarks in Reading.	23.4%	76.6%	37.5%	62.5%
The majority of students with behavioral problems can achieve grade level benchmarks in Reading and Math.	53.2%	46.8%	64.6%	35.4%
Additional staff support would enable regular education teachers to implement more differentiated instruction to meet the needs of all students.	91.5%	8.5%	93.8%	6.3%
Prevention and early intervention results in fewer referrals to Special Education.	83%	17%	68.1%	31.9%

Table 2 (continued)

Questions	17-18 Data Agree	17-18 Data Disagree /Neutral	18-19 Data Agree	18-19 Data Disagree /Neutral
Some students currently identified as having a Specific Learning Disability do not have a true disability but rather did not receive instruction and intervention of adequate intensity to close the gap in their skill levels.	34.7%	65.3%	27.6%	72.3%
Additional time and resources should be allocated First to students not reaching benchmarks	48.9%	51.1%	66.7%	33.4%
Graphing student data makes it easier for educators to make decisions about student performance and needed interventions.	46.8%	53.2%	62.5%	37.5%
A student's family should be involved in problem solving.	95.7%	4.3%	91.7%	8.3%
When students do not respond to instruction and/or intervention, the following should be examined: a. The intervention was implemented with fidelity. b. The intervention was delivered with sufficient intensity. c. A different intervention is needed.	76.6%	23.4%	91.5%	8.5%
When students do not respond to instruction and/or intervention, teams should insure that the problem was thoroughly analyzed through diagnostic assessments/processes to find the root cause of the skill gap.	74.5%	25.5%	89.6%	10.4%

Belief Survey Summary

The School Improvement Team (SIT) at Vass-Lakeview reviewed the results of the Belief Survey from Year 1 (2017-2018) and Year 2 (2018-2019). The team determined that staff had some preconceived ideals regarding student learning. The survey indicated that 43.7% of teachers did not believe that behavioral expectations and social skills were the responsibility of public schools. The concern with these results are that PBIS is designed to teach students the behavioral expectations and social skills that are appropriate for the school environment. The survey indicated that 37.5% of teachers believed that the majority of students with Specific Learning Disabilities in Reading and 39.6% of teachers believed that the majority of students with Specific Learning Disabilities in Math can achieve grade level benchmarks. The discussion regarding these two areas determined that most teachers believe that students with a Specific Learning Disability are not able of achieving grade level. These results led the team to determine there is some work to be done regarding teacher beliefs and the abilities of our students with Specific Learning Disabilities.

Universal Screener

The purpose of a universal screener is to predict outcomes for a student months or years in advance. A screener should define a future outcome the screen seeks to predict, identify early indicators of later reading outcomes, and determine a cut-point on the screener that identifies students at-risk for failing a future test. The important point is that satisfactory and unsatisfactory reading outcomes are dichotomous (defined by a cut-point on a reading test given later in the students' career). Where this cut-point is set (e.g., the 10^{th} or 40^{th} percentile) and the specific criterion reading test used to define reading failure (e.g., a state test or SAT 10) greatly affects which students a screen seeks to identify (Jenkins & Johnson, 2007, p. 2).

When implementing a universal screening process, schools must consider the over- and/or under identifying of students as at-risk. Ideally, students who score below a cut-point on a screener are labeled as at-risk for failure and students who score above a cut-point on a screener are considered not at-risk of failure. Screeners can provide "true positives" and "false positives". Screens (assessment of student current level of performance) can be correct (or true) in two ways: (a) "True positives" are individuals who fail the screening measure (the predictor) and the later outcome measure (the criterion); (b) "true negatives" are individuals who pass both the screen and the later criterion measure. Screens can also be incorrect (or false) in two ways: (a) "False positives" are individuals who fail the screen but pass the later criterion measure; (b) "false negatives" are individuals who pass the screen but fail the later criterion measure (Jenkins & Johnson, 2017, p. 3).

mCLASS

The mCLASS assessment tool was provided to teachers by the North Carolina Department of Instruction to assess students in grades Kindergarten through Fifth Grade on basic reading skills and comprehension. The program was developed by AMPLIFY as a tool to identify a student's literacy needs, whether they are advanced or at-risk. The program was designed to assess students in Dynamic Indicators of Basic Literacy Skills (DIBELS) and Text Reading and Comprehension (TRC). The DIBELS assessment is comprised of the five domains of literacy (Phonemic Awareness, Phonics, Fluency, Vocabulary, and Comprehension). The TRC assessment is comprised of Reading fluency, accuracy and comprehension, Concepts about print, Reading Behaviors, Oral Comprehension, and Written Comprehension. The program was designed to assist teachers with determining the needs of the learner in reading and how to intervene so that students can build the skills for reading on grade level. The program provides

information to teachers, but is also used an assessment tool of teacher's performance based on student performance within the assessment. "*DIBELS 8th Edition* is focused on foundational reading skills and comprehension through short, one-minute measures. *Text Reading and Comprehension* drills deep into how students make meaning from text, utilizes an authentic text library, and helps determine reading levels" (Retrieved from https://www.amplify.com/programs/mCLASS/mCLASS-program-details/).

Moore County Schools has used the mCLASS assessment tool since 2009. The tool was used to assess students in Kindergarten through Fifth Grade. The district determined several years ago to discontinue the assessment of Fourth and Fifth grade students utilizing this tool. Teachers used an iPad along with provided resources to assess students in DIBELS. Teachers assessed students utilizing mCLASS in September 2018 at the Beginning of the Year (BOY) and in January 2019 at the Middle of the Year (MOY). At BOY, students were assessed individually in mCLASS by the classroom teacher. At MOY, students were assessed by a different teacher (alternate assessor). This assessment determines at what level students are performing with basic reading skills and comprehension.

STAR 360

North Carolina expected school districts to select a universal screener to be utilized to determine the current status of students and to monitor student progress throughout the school year. The screener will identify specific areas of need for students to provide teachers with areas for intervention and supplemental instruction. The staff will receive professional development on how to use data to problem solve instructional strategies for students at-risk of failure. The district must identify a problem-solving model that is used consistently throughout the schools for data discussions. These are necessary steps prior to beginning professional development on

instructional practices and processes. All staff must be capable and confident in utilizing these tools so that fidelity of implementation will occur. Selecting a universal screener can be difficult. The screener is used to identify students who may be on a path to failure. Screening is conducted three times per school year, in the fall, winter and spring. The screening measures consist of brief assessments focused on target skill that are predictive of future outcomes.

Moore County Schools selected the STAR 360 program offered by Renaissance. The program provided assessments for students in early literacy, reading, and math. The Renaissance program is offered via an online platform. Students are assessed on a computer. The program provided data-based on North Carolina standards the mastery of skills that students have achieved in reading and math. The program provided lessons for teachers to utilize in assisting students in achieving mastery of skills that have been identified as not mastered through the assessment. The assessment adjusts the level of difficulty based on student's answers. The program provided predictive data of student performance on end-of-grade assessments (Retrieved from https://www.renaissance.com).

Vass-Lakeview teachers assessed students on the STAR 360 universal screener for reading. Students complete this assessment individually through an online platform. The program increased difficulty and adjusted for understanding based on how the students answered each of the questions. The assessment provided students with a proficiency rating based on the percent of questions answered correctly. The students were ranked with a scale score based on data from national norms.

The STAR 360 assessment was administered twice in 2017-2018, once in the fall and again in the spring. The data was shared with teachers with minimal analysis or professional development regarding the STAR 360 program. Teachers participated in professional

development with the STAR 360 universal screener in October 2018. The professional development was conducted via webinar with a trainer from the STAR 360 program. The trainer reviewed the types of reports and how to interpret the data from those reports with the teachers. Teachers were able to ask questions and receive clarification and understanding of the information provided in the various reports.

The STAR 360 assessment was administered September 2018 (BOY) and in January 2019 (MOY) to students in grades Kindergarten through Third Grade to students at Vass-Lakeview Elementary. The STAR 360 reading data for First and Third Grades was utilized for review for the purpose of this study.

Data Collection

Teachers administered the mCLASS and STAR 360 assessments in September 2018 (BOY). Teachers reviewed the data from mCLASS and STAR 360 to determine how to address the learning needs of their students. The mCLASS program required teachers to progress monitor all students that were not proficient in DIBELs or TRC throughout the time from September to January.

In January 2019, teachers conducted the middle of the year (MOY) assessment of students in mCLASS and STAR 360. These assessments are required by the state and district. The students were assessed in mCLASS by an alternate assessor per state guidelines one-on-one. The progress mark for students increases at MOY and the number of students proficient tends to decrease during MOY. Teachers assessed student's in STAR 360 in whole and small group with no guidelines the same at BOY and MOY.

Qualitative Results: mCLASS and STAR 360

Study questions one and two were addressed specifically through the analysis of qualitative data related to mCLASS assessments that were given during BOY in September 2018 and MOY in January 2019. The mCLASS assessments are required by the state for assessment of students in grades Kindergarten through Third Grade. The results are based on one-on-one assessment of students in basic reading skills and comprehension as assessed by classroom teachers. The proficiency of students in mCLASS require a green or blue designation based on the reading level the student completed for comprehension and on a composite score compiled through multiple assessments in DIBELs.

Students were assessed in STAR 360 during BOY in September 2018 and MOY in January 2019. STAR 360 provided a scale score and percentile rank for students upon completion of the assessment. The STAR 360 assessments are required by the district as part of the MTSS process. The assessment provided a proficiency rating for the student based on their performance. Students were identified as proficient if they received a green or blue ranking with their scale score and percentile rank.

There were four teachers in First Grade and five teachers in Third Grade during the 2018-2019 school year. These teachers assessed their students in mCLASS and STAR360 during BOY in September 2018 and MOY in January 2019 per state and district guidelines. The data from these assessments was analyzed by the teachers to determine students at-risk for failure in reading. The students received progress monitoring and strategies to increase their proficiencies in reading.

Beginning of Year (BOY) Data

The BOY data in mCLASS and STAR 360 has been summarized by proficiencies per class and grade level. The proficiencies show the students as based on the assessment tool that are considered to be on or above grade level at that point in the school year. As the year goes along the goal for proficiencies increase based on the student acquiring new information and therefore increasing their knowledge in that grade level at that point in the school year. In September 2018, students in grades one and three demonstrated their preparedness for that grade level based on where the student should be performing.

The mCLASS DIBELS data in First Grade indicated that overall 75% of students had the grade level basic reading skills needed at that time of year. The mCLASS TRC data indicated of those same students only 63% were proficient in their grade level comprehension skills. The data showed that 31 First-Grade students were not on grade level for comprehension skills (see Table 3).

The STAR 360 data in First Grade indicated that overall 82.1% of students had grade level reading skills at that time of year. The data showed that 15 students were at-risk for failure in reading at First Grade. The data predicts that those 15 students will not reach grade level proficiency without some support or intervention into their reading skills. The program provided teachers with lesson and strategies to utilize with those students to build their skills in reading (see Table 4).

The mCLASS DIBELS data in Third Grade indicated that overall 74.2% of students had the grade level basic reading skills needed at that time of year. The mCLASS TRC data indicated of those same students only 51.4% were proficient in their grade level comprehension skills. The

Table 3

BOY (Beginning of Year) mCLASS Data First Grade

Teacher First Grade	DIBELs Proficient (Blue and Green)	TRC (Comprehension) Proficient (Blue and Green)
Teacher 1	90% (18/20)	65% (13/20)
Teacher 2	68.1% (15/22)	59% (13/22)
Teacher 3	61.9% (13/21)	52.3% (11/21)
Teacher 4	80.9% (17/21)	76% (16/21)
Grade Level Totals	75% (63/84)	63% (53/84)

Table 4

STAR 360 BOY Data First Grade

Teacher First Grade	Proficient (Green and Blue)
Teacher 1	85.7% (18/21)
Teacher 2	71.4% (15/21)
Teacher 3	78% (17/23)
Teacher 4	90.4% (19/21)
Grade Level Total	82.1% (69/84)

data showed that 49 Third Grade students were not on grade level for comprehension skills (see Table 5).

The STAR 360 data in Third Grade indicated that overall 70.2% of students had grade level reading skills at that time of year. The data showed that 30 students were at-risk for failure in reading at Third Grade. The data predicts that those 30 students will not reach grade level proficiency without some support or intervention into their reading skills. The program provided teachers with lessons and strategies to utilize with those students to build their skills in reading (see Table 6).

The data provided from both assessments has limitations based on the manner in which each assessment was provided to the students. The mCLASS DIBELS assessment is subjective to teacher review as the teacher assesses the student one-on-one and follows guidelines for corrections and number of errors to mark a student proficient. The mCLASS TRC has students to read a book and answer oral comprehension questions. If the student does not successfully answer the questions, the teach must have them select another book from next level below and try again. This process continues until the student successfully answers the oral comprehension questions with accuracy. As for STAR 360, the assessment is given to the student on a computerized device and the student must read and answer questions on their own. This type of assessment is the First time that the student may be taking an assessment on a device. There are factors that may contribute to an inflated or decreased score for a student. The student may not read all items and thus just click through the assessment. The student may also spend too long on an item and therefore miss answering a question. The factors of the assessments provide information for a student at one point in time.

Table 5

BOY (Beginning of Year) mCLASS Data Third Grade

Teacher Third Grade	DIBELs Proficient (Blue and Green)	TRC (Comprehension) Proficient (Blue and Green)
Teacher 1	80.9% (17/21)	76.1% (16/21)
Teacher 2	85% (17/20)	50% (10/20)
Teacher 3	57.8% (11/19)	31.5% (6/19)
Teacher 4	70% (14/20)	50% (10/20)
Teacher 5	76.2% (16/21)	47/6% (10/21)
Grade Level Totals	74.2% (75/101)	51.4% (52/101)

Table 6

STAR 360 BOY Data Third Grade

Teacher Third Grade	Proficient (Green and Blue)
Teacher 1	76.1% (16/21)
Teacher 2	80% (16/20)
Teacher 3	52.6% (10/19)
Teacher 4	70% (14/20)
Teacher 5	71.4% (15/21)
Grade Level Total	70.2% (71/101)

Middle of Year (MOY) Data

The MOY data in mCLASS and STAR 360 has been summarized by proficiencies per class and grade level. The proficiencies show the students as based on the assessment tool that are considered to be on or above grade level at that point in the school year. As the year goes along the goal for proficiencies increase based on the student acquiring new information and therefore increasing their knowledge in that grade level at that point in the school year. In January 2019, students in grades one and three demonstrated their preparedness for that grade level at middle of the year based on where the student should be performing.

The mCLASS DIBELS data in First Grade indicated that overall 83% of students had the grade level basic reading skills needed at that time of year. The mCLASS TRC data indicated of those same students only 65% were proficient in their grade level comprehension skills. The data showed that 29 First Grade students were not on grade level for comprehension skills (see Table 7).

The STAR 360 data in First Grade indicated that overall 85.7% of students had grade level reading skills at that time of year. The data showed that 12 students were at-risk for failure in reading at First Grade. The data predicts that those 12 students will not reach grade level proficiency by the end of the year without some support or intervention into their reading skills. The program provided teachers with lesson and strategies to utilize with those students to build their skills in reading (see Table 8).

The mCLASS DIBELS data in Third Grade indicated that overall 62.3% of students had the grade level basic reading skills needed at that time of year. The mCLASS TRC data indicated of those same students only 35.6% were proficient in their grade level comprehension skills. The

Table 7

MOY (Middle of Year) mCLASS Data First Grade

Teacher First Grade	DIBELs Proficient (Blue and Green)	TRC (Comprehension) Proficient (Blue and Green)
Teacher 1	100% (20/20)	70% (14/20)
Teacher 2	77% (17/22)	68% (15/22)
Teacher 3	66.6% (14/21)	52% (11/21)
Teacher 4	90% (19/21)	71% (15/21)
Grade Level Totals	83% (70/84)	65% (55/84)

Table 8

STAR 360 MOY Data First Grade

Teacher First Grade	Proficient (Green and Blue)
Teacher 1	90% (18/20)
Teacher 2	86% (19/22)
Teacher 3	86% (18/21)
Teacher 4	81% (17/21)
Grade Level Total	85.7% (72/84)

data showed that 65 Third-Grade students were not on grade level for comprehension skills (see Table 9).

The STAR 360 data in Third Grade indicated that overall 77.2% of students had grade level reading skills at that time of year. The data showed that 23 students were at-risk for failure in reading at Third Grade. The data predicts that those 23 students will not reach grade level proficiency by the end of the year without some support or intervention into their reading skills. The program provided teachers with lessons and strategies to utilize with those students to build their skills in reading (see Table 10).

The data provided from both assessments has limitations based on the manner in which each assessment was provided to the students. The mCLASS assessment is subjective to teacher review as the teacher assesses the student one-on-one and follows guidelines for corrections and number of errors to mark a student proficient. For the MOY mCLASS assessment, teachers do not assess their students. Teachers must assess each other's students; this allows for possible errors based on teacher subjectivity. Teachers do not know these students and must make determinations based on the performance of the student. As for STAR 360, the assessment is given to the student on a computerized device and the student must read and answer questions on their own. There are factors that may contribute to an inflated or decreased score for a student. The student may not read all items and thus just click through the assessment. The student may also spend too long on an item and therefore miss answering a question. The factors of the assessments provide information for a student at one point in time.

Summary: Study Question One

Study question one, "To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in First Grade?" was answered through analysis of the data and will

Table 9

MOY (Middle of Year) mCLASS Data Third Grade

Teacher Third Grade	DIBELs Proficient (Blue and Green)	TRC (Comprehension) Proficient (Blue and Green)
Teacher 1	81% (17/21)	52.3% (11/21)
Teacher 2	60% (12/20)	45% (9/20)
Teacher 3	36.8% (7/19)	10.5% (2/19)
Teacher 4	65% (13/20)	45% (9/20)
Teacher 5	66.6% (14/21)	24% (5/21)
Grade Level Totals	62.3% (63/101)	35.6% (36/101)

Table 10

STAR 360 MOY Data Third Grade

Teacher Third Grade	Proficient (Green and Blue)
Teacher 1	81% (17/21)
Teacher 2	80% (16/20)
Teacher 3	63.2% (12/19)
Teacher 4	85% (17/20)
Teacher 5	76% (16/21)
Grade Level Total	77.2% (78/101)

be discussed. Based on the limitations of these assessments, as previously stated, the STAR 360 assessment indicated that more students, 82.1% at BOY and 85.7% at MOY have the skills needed to achieve First Grade level proficiency than the mCLASS DIBELS assessment, 75% at BOY and 83% at MOY, indicated have basic reading skills. Some students show they are proficient in STAR 360 and are not considered to be grade level proficient based on their mCLASS DIBELS assessment.

Summary: Study Question Two

Study question two, "To what extent, if any, did the STAR 360 program predict students at-risk of failure in reading in Third Grade?" was answered through analysis of the data and will be discussed. Based on the limitations of these assessments, as previously stated, the STAR 360 assessment indicated that less students, 70.2% at BOY, and more students, 77.2% at MOY, have the skills needed to achieve Third Grade level proficiency than the mCLASS DIBELS assessment, 74.2% at BOY and 62.3% at MOY, indicated have basic reading skills. Some students show they are proficient in STAR 360 and are not considered to be grade level proficient based on their mCLASS DIBELS assessment.

Summary: Study Question Three

Study question three, "To what extent, if any, did the STAR 360 program provide successful progress monitoring tools for students at-risk of failure in reading?" was answered through analysis of the data and will be discussed. Based on anecdotal observations, teachers are providing reading interventions for students to address the basic reading skill deficits. The teachers are not utilizing the progress monitoring tool of STAR 360 but are using the progress monitoring of MCLASS to monitor student progress toward grade level proficiency. The strategies provided in the STAR 360 program to address individual student need have not been

utilized to address these needs. Without consistent implementation of the strategies, determining the success of these tools in assisting students is unable to be answered at this time. The intervention tools that teachers are selecting to use with students are not consistent and therefore unable to determine their effectiveness on closing gaps for students in reading.

CHAPTER 5: SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

The purpose of the study was to determine the effectiveness of the STAR 360 program as a universal screener used at Vass-Lakeview Elementary in the Moore County Schools in North Carolina with regard to identifying at-risk students in reading. With the implementation of Multi-Tiered System of Support, the state has determined a need for a universal screener as a predictor of students' at-risk for developing learning and/or behavioral difficulties (Jablonski et al., 2015). Moore County Schools has chosen STAR 360 as the universal screener for MTSS identification of at-risk students. The screener was purchased by the district for three years (2016-2019) for use by the schools in Cohort I and Cohort 2 of MTSS implementation. The district has purchased the program for Cohort 3 to utilize as a screener for the next school year (2018-2019). Due to the significant cost associated with this program, it was important to determine if the program was an accurate predictor of students developing learning and/or behavioral difficulties and if the district should continue to purchase this program as a universal screener.

Summary of Findings

Study Question 1: To What Extent Did the STAR 360 Program Predict Students At-Risk of Failure in Reading in First Grade?

Study question 1 was addressed through the analysis of the MCLASS and STAR 360 data collected at BOY and MOY of the 2018-2019 school year. These data indicated that students in First Grade had the basic reading skills needed to reach grade level proficiency by the end of the school year. The data however to determine grade level proficiency did not agree with the same number of students as did the screener. The subjectivity of the MCLASS assessment as indicated in Chapter 4 may have resulted in the inconsistences of the number of students considered to be proficient in reading at First Grade. It is possible that the oral comprehension questions used in

the mCLASS assessment created difficulty for students when recalling information from material. The assessments indicated that students may have been able to read the words but did not comprehend at the appropriate level to achieve proficiency.

Comparing the end of year data of STAR 360 and mCLASS with these same students might provide a better rationalization of the accuracy of the STAR 360 program. Further discussion may be needed to determine if utilization of the resources provided within the program impact the success of students in First Grade achieving grade level proficiency.

Other factors to consider should be the re-norming of the mCLASS assessment by the Department of Public Instruction at the beginning of this school year. The assessment based on anecdotal observations indicated students that previously would have achieved proficiency now are performing about two levels below previous assessment standards.

Study Question 2: To What Extent Did the STAR 360 Program Predict Students At-Risk of Failure in Reading in Third Grade?

Study question 2 was addressed through the analysis of the MCLASS and STAR 360 data collected at BOY and MOY of the 2018-2019 school year. These data indicated that students in Third Grade had the basic reading skills needed to reach grade level proficiency by the end of the school year. The data however to determine grade level proficiency did not agree with the same number of students as did the screener. The subjectivity of the MCLASS assessment as indicated in Chapter 4 may have resulted in the inconsistences of the number of students considered to be proficient in reading at Third Grade. It is possible that the oral comprehension questions used in the mCLASS assessment created difficulty for students when recalling information from material. The assessments indicated that students may have been able to read the words but did not comprehend at the appropriate level to achieve proficiency.

Comparing the end of year data of STAR 360 and mCLASS with these same students might provide a better rationalization of the accuracy of the STAR 360 program. Further discussion may be needed to determine if utilization of the resources provided within the program impact the success of students in First Grade achieving grade level proficiency.

Other factors to consider should be the re-norming of the mCLASS assessment by the Department of Public Instruction at the beginning of this school year. The assessment based on anecdotal observations indicated students that previously would have achieved proficiency now are performing about two levels below previous assessment standards.

Study Question 3: To What Extent Did the STAR 360 Program Provide Successful Progress Monitoring Tools for Students At-Risk of Failure in Reading?

Study question 3 was addressed through analysis of anecdotal observations of interventions provided to students in both First Grade and three. The STAR 360 program provided resources to teachers to address the individual needs of the students, however, teachers did not utilize these resources when intervening on students at-risk in reading. Teachers selected interventions that may have addressed the needs of the students but not chosen necessarily based on the data provided.

In order to determine the effectiveness of the tools provided in the STAR 360 program, consistent implementation of the tools in a controlled study would be better indicators. Though the program has resources available to teachers, the resources were not used during the course of this study to provide definitive decisions regarding their effectiveness.

Recommendations

As the result of this study, recommendations were made in two categories: recommendations for practice and recommendations for future study.

Recommendations for Practice

In the area of practice, the following recommendations were made: (1) implement professional development for teachers designed to build their capacity to provide targeted interventions to students at-risk of failure in reading; (2) implement district expectations regarding the resources available within the program of STAR 360; (3) build the capacity of teachers on the impact of interventions and small group instruction within the literacy framework.

The importance and impact of a universal screener must be considered when a district is implementing MTSS. The purpose of a universal screener is to predict outcomes for a student months or years in advance. A screener should define a future outcome the screen seeks to predict, identify early indicators of later reading outcomes, and determine a cut-point on the screener that identifies students at-risk for failing a future test. The important point is that satisfactory and unsatisfactory reading outcomes are dichotomous (defined by a cut-point on a reading test given later in the students' career). Where this cut-point is set (e.g., the 10^{th} or 40^{th} percentile) and the specific criterion reading test used to define reading failure (e.g., a state test or SAT 10) greatly affects which students a screen seeks to identify (Jenkins & Johnson, 2007, p. 2).

When implementing a universal screening process, schools must consider the over- and/or under identifying of students as at-risk. Ideally, students who score below a cut-point on a screener are labeled as at-risk for failure and students who score above a cut-point on a screener are considered not at-risk of failure. Screeners can provide "true positives" and "false positives". Screens (assessment of student current level of performance) can be correct (or true) in two ways: (a) "True positives" are individuals who fail the screening measure (the predictor) and the

later outcome measure (the criterion); (b) “true negatives” are individuals who pass both the screen and the later criterion measure. Screens can also be incorrect (or false) in two ways: (a) “False positives” are individuals who fail the screen but pass the later criterion measure; (b) “false negatives” are individuals who pass the screen but fail the later criterion measure (Jenkins & Johnson, 2017, p. 3).

For an effective MTSS program, the screener must be considered when making educational decisions regarding students. Teachers need to understand and implement the tools necessary to intervene on behalf of students in order to close the gaps so that fewer students fail in reading.

Recommendations for Future Research

In the area of future research, the following recommendations were made: (1) research regarding the intervention tools provided within the STAR 360 program and their impact on students in elementary school; (2) research regarding the intervention tools provided within the STAR 360 program and their impact on students in middle school; and (3) research regarding the overall effectiveness of MTSS in students after Third Grade.

Research indicates that students not on grade level by the end of Third Grade, will continue to struggle in school and may not achieve proficiency. “The research is clear: if children cannot read proficiently by the end of Third Grade, they face daunting hurdles to success in school and beyond. Third Grade marks a pivot point in reading. In fourth grade, students begin encountering a wider variety of texts. By then, able readers have learned to extract and analyze new information and expand their vocabularies by reading (O’Brien, 2008). But struggling readers rarely catch up with their peers academically and are four times more likely to drop out

of high school, lowering their earning power as adults and possibly costing society in welfare and other support" (Hernandez, 2011) (Center for Public Education, 2015).

Conclusion

Mandated by the federal government and spurred by research showing the connections of not reading on grade level by Third Grade, school districts are seeking ways to reduce the number of students falling behind. MTSS is designed to identify those students at-risk for failure and provide support and intervention to close the learning gaps. Students who do not respond to intervention should be assessed for possible learning difficulties and provided more intensive intervention. Intervening on students in Kindergarten through Third Grade, provide the possibility of successful students as they continue toward graduation. Failure to identify and intervene with those students, will continue to provide failure to students on being successful and able to complete their education. The responsibility of public education in North Carolina is to provide a sound, basic education to all students. Recognizing the needs of our students at an early age will allow for students to need less support as they continue through middle and high school. Increasing the opportunity for learning at the preschool level would ensure more students access to learning sooner rather than later. Access to learning is not provided to all children as environmental factors keep some children from accessing learning at an early age. Although universal screeners assist with identifying students once they are in school, providing equal access to all children earlier would decrease the number of students requiring interventions once in school. Perhaps targeting children and families sooner rather than later would benefit our system of public instruction.

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APPENDIX A: INSTITTUTIONAL REVIEW BOARD APPROVAL

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
4N-64 Brody Medical Sciences Building· Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** ·
www.ecu.edu/ORIC/irb

Not Human Subject Research Certification

From: Social/Behavioral IRB
To: Lisa Scott
CC: Marjorie Ringler
Date: 12/19/2018
Re: UMCIRB 18-001573
Social/Behavioral IRB

On 12/19/18, the IRB Staff reviewed your proposed research and determined that it does not meet the federal definitions of research involving human participants, as applied by East Carolina University.

Therefore, it is with this determination that you may proceed with your research activity and no further action will be required. However, if you should want to modify your research activity, you must submit notification to the IRB before amending or altering this research activity to ensure that the proposed changes do not require additional UMCIRB review.

The UMCIRB appreciates your dedication to the ethical conduct of research. It is your responsibility to ensure that this research is being conducted in accordance with University policies and procedures, the ethical principles set forth in the Belmont Report, and the ethical standards of your profession. If you have questions or require additional information, please feel free to contact the UMCIRB office at 252-744-2914.