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**Adaptation of the Brockton High School literacy initiative to elementary schools in Jackson County, West Virginia**

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**ADAPTATION OF THE BROCKTON HIGH SCHOOL LITERACY INITIATIVE TO  
ELEMENTARY SCHOOLS IN JACKSON COUNTY, WEST VIRGINIA**

A dissertation submitted to  
the Graduate College of  
Marshall University  
In partial fulfillment of  
the requirements for the degree of  
Doctor of Education

In  
Curriculum and Instruction

by

Sonya Jane White

Approved by

Dr. Edna Meisel, Committee Chairperson

Dr. Keith Burdette

Dr. Elizabeth Campbell

Marshall University

July, 2021

## APPROVAL OF DISSERTATION

We, the faculty supervising the work of Sonya Jane White, affirm that the dissertation, *Adaptation of the Brockton High School Literacy Initiative to Elementary Schools in Jackson County, West Virginia*, meets the high academic standards for original scholarship and creative work established by the Ed.D. Curriculum and Instruction Program and the College of Education and Professional Development. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication.

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Date: Jul 12, 2021

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## **DEDICATION**

I would like to thank my family, especially my husband Robert, for their support and patience during this journey. They were there to encourage me to keep going when I wanted to quit and give me space when I needed to write, research, and think. Robert has always been there to support me through many academic journeys, from Bachelors, Masters, National Board Certification, Education Specialist, and finally a Doctoral degree. His patience, kindness, and belief in me over the last 36 years made this day possible. I would like to thank my parents for a home that provided love, encouraged wonder and curiosity, and supplied us with bookshelves full of books on every topic imaginable.

## ACKNOWLEDGMENTS

Dr. Edna Meisel, my committee chair, cheerleader, and fellow mathematician has spent many hours helping me ensure the research, data, and conclusions were communicated effectively and properly formatted in this document. Her expertise in helping students take a vague idea of something to study and transform it into a fully developed research project is remarkable. She served as a mentor and expert on all things related to writing a dissertation. Her encouragement and support near the completion of the dissertation was the push I needed to cross the finish line.

I also want to thank two other members of my doctoral committee, Dr. Elizabeth Campbell, and Dr. Keith Burdette. Their willingness to stay on this journey and see it to the end has been both encouraging and kind. Dr. Campbell, during the doctoral coursework, consistently pushed me out of my comfort zone as a writer and helped me have confidence in writing despite my desire to work with numbers. Dr. Burdette exemplifies calm and grace under pressure, something sorely needed for anyone working toward a doctoral degree. As both transition to new adventures, I wish them well and know that the kindness, inspiration, and encouragement demonstrated to me will continue toward others as they assume their new roles in education.

Finally, I would like to thank my two work families at the West Virginia Department of Education and Jackson County Schools. Over the last 23 years, the wonderful people in these organizations have provided me with the skills and opportunities to achieve my dreams. I thank you for believing in me and challenging me to be better. It is my hope that I can do the same for others.

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## ABSTRACT

Implementing organizational change related to student achievement is a daunting task that requires buy-in, planning and support structures to ensure fidelity of implementation in the classroom over many years. Brockton High School's Literacy Model demonstrated such a change is possible and sustainable. Elementary schools in Jackson County, West Virginia were given a mandate from their superintendent to implement the Brockton High School Literacy Model in the kindergarten through fifth grade classrooms in their schools. The immediate concern was how to successfully modify or adapt a high school model to be appropriate for students who were still learning to read and write. Leadership teams in the elementary schools in Jackson County, with support from the principal and county office, formulated plans for implementing the Brockton High Model to kindergarten through fifth grade classrooms. Barriers were the magnitude of the task and teacher buy-in to the process. Interviews of principals identified common elements and unique approaches to ensuring the process was developmentally appropriate for students. Examination of school implementation plans and documents used with students to implement the Brockton Model in the elementary classroom provided insight into the approaches used by schools to implement the initiative. Summative assessment English Language Arts scale scores for the year prior to and the first two years of implementation had statistical differences for all elementary schools in the study, however no statistical significance was observed for changes in Performance Levels. Implications included the successful implementation of a change model required participation of all staff members in the planning, implementation, and monitoring of the initiative. Further study could focus on examining the model's impact as students transition from elementary to middle to high school and sustainability when there are significant changes in leadership or teachers at a school.

## CHAPTER 1

### INTRODUCTION TO THE STUDY

Education professionals in most states are required to complete annual professional development or continuing education hours to fulfill requirements for continued employment or certification (Teach Tomorrow, 2016). Schools or districts that did not achieve adequate yearly progress (AYP), as defined by the Elementary and Secondary Education Act (ESEA) and its 2002 reauthorization, labeled No Child Left Behind (NCLB), are required to provide professional development for teachers (USED, 2016). The content, delivery, follow-up, or duration are not specified in NCLB and are left to the discretion of the local education agency. In some cases, a certain percentage of federal funds, such as Title I, are required to be allocated for educator professional development in poor performing schools. Districts must provide quality professional development to educators that will focus on issues related to student achievement. With the reauthorization of ESEA (2015), the guidelines and requirements changed slightly but still require low-performing schools to provide support and training to teachers to improve student achievement (USED, 2016).

Organizations such as Learning Forward ([learningforward.org](http://learningforward.org), 2016) have developed standards for professional learning that outline the characteristics for effective professional development for educators. Learning Forward's model contains seven components that make up the standards: learning communities, leadership, resources, data, learning designs, implementation, and outcomes. The presence or absence of all or some of these components should be considered when determining if a professional development program is appropriate for the needs of a school or district. In general, all educator professional development programs should achieve two goals: improve the quality of instruction provided by teachers, and improve

student achievement. Unfortunately, research regarding teacher professional development and teacher professional learning activities indicates that professional development programs are often ineffective (Hanushek, 2005; Sykes, 1996).

Opfer and Peddler (2011) conducted a literature review of professional development research studies and examined them from a complexity theory perspective. Three systems emerged as key to professional learning: the individual teacher, the school, and the activity. The culture of a school and teacher experiences were identified as important to the design and duration of the professional learning activity. Guskey (2000) concluded that professional development activities that involve a significant number of contact hours over a long period are generally more effective than other forms.

Given the findings of Opfer and Peddler, the current methods used to provide professional development for teachers need to change. Instead of topic-specific, short-term conference or training activities that are less likely to promote change (Hawley & Valli, 1999), professional development directors need to find methods that promote positive change in classrooms and provide the time, materials, and ability to adjust the professional development to meet the needs of the individual school.

## **Background**

In 1998, Brockton High School in Brockton, Massachusetts, had the unfortunate label as one of the worst schools in the state. The school population consisted of 4,200 students, 73% minority, 72% free and reduced lunch, 35% ESL, and 10% special education. The school is in an urban area outside of Boston. Brockton's results from the first year of the Massachusetts Comprehensive Assessment System (MCAS) reported 44% of Brockton's students failed English Language Arts and only 22% reached proficiency. In mathematics, the scores were worse with a

76% failure rate and a 7% proficient rate (Ferguson, Hackman, Hanna, & Ballantine, 2010). The administration and faculty at Brockton realized the urgency of the situation and spent the next few years trying anything to help raise the scores and improve student achievement. Their first approach was to examine the released items from the MCAS and incorporate the topics from the items into the curriculum. Szachowicz, (2013) teacher and eventually principal at Brockton, stated that using item analysis to design instructional components was a dismal failure. In particular, she describes a curriculum emphasis on Shakespeare after an item analysis of the previous year's test indicated that most items were based on his works. The school incorporated plays, history, and literature of the period so the students would "understand Shakespeare" only to find the test that year did not contain one question regarding Shakespeare (Szachowicz, 2013). It was through this abysmal failure that the staff at Brockton realized that they needed to address broader issues in curriculum, not just specific topics (Szachowicz, 2013).

Brockton High School planned to target a component students would need in all disciplines to be successful both at school and in the workforce. This component was literacy. The school focused on literacy in four core areas: reading, writing, speaking, and reasoning. Through sustained professional development training for teachers, implementing the literacy initiative in all classrooms regardless of the discipline, and consistent monitoring of the implementation of the initiative in classrooms by the administration, Brockton High School was able to improve their scores on the MCAS dramatically. In the 10-year period from 1999 to 2009, Brockton High School raised their passing rate on the MCAS from 56% to 94% in ELA and from 24% to 85% in mathematics (Daggett, 2010).

In June 2015, the Jackson County School district in West Virginia sent a team of administrators and teachers to the Model Schools Conference in Nashville, Tennessee. During

the conference, the team attended a presentation by Dr. Sue Szachowicz regarding the Brockton Model and their ten-year journey to improve student literacy and achievement. In the months following the conference, Jackson County Schools contracted with the International Center for Excellence in Education to bring Dr. Szachowicz to the district to help implement their own literacy initiative for all students in Grades K – 12 (JCBOE, 2015).

In July 2016, West Virginia Board of Education (WVBE) Policy 5500 went into effect for all school districts in the state of West Virginia. Policy 5500 outlines the requirements for professional development for PK – 12 educators. In this policy, each school district must have a professional development council and an annual professional development plan. The revised policy has additional requirements regarding professional development embedded within the workday for teachers (WVDE, 2016). The schools in Jackson County agreed to provide professional development to their teachers to implement the literacy strategies used by Brockton High.

The long-term success of Brockton High school’s literacy initiative, the acceptable, yet stagnant, reading achievement test scores for Jackson County Schools (WVDE, 2015), and an impending state mandate for increased professional development for teachers converged to move Jackson County toward implementing a district-wide literacy initiative with the goal to improve student achievement.

This study will examine how Jackson County Schools adapted the Brockton High School Model to elementary schools and how this affected student achievement. The study will further examine how embedding professional development into the workday impacts the elementary school culture by providing sustained and targeted professional development experiences

throughout the school year with the goal of improving instruction, student achievement, and school climate.

### **Statement of the Problem**

In late May, in schools all over the country, teachers scramble to document the number of professional development hours they have attained during the year. Teachers check their calendars, examine files, and collaborate with their colleagues to ensure that they have not left a conference, seminar, or meeting off the list. During this annual event, do teachers ever reflect on the list and determine which, if any, of the professional development offerings they participated in changed what happened in their classroom and create a positive impact for students academically, socially, or emotionally? Are professional development logs simply another example of paper compliance that currently riddles our education system? Administrators at both the school and district level choose, fund, and send educators to professional development sessions. Do they examine the lists submitted by the teachers and contemplate whether the hours of training had any positive outcome in the classroom? Did the administrator actively monitor the implementation of the concepts presented to teachers in professional development sessions in classrooms? When comparing the amount of money spent on professional development activities for educators to the gains in student achievement, are districts getting their money's worth? Annual professional development is provided to every educator with the hopes of positively affecting student achievement as measured by standardized tests. However, the educational community has seen very little improvement in student achievement after over a decade of NCLB mandated professional development for schools (NCES, 2016).

An examination of the implementation of professional development concepts by an organization and, more importantly, the monitoring process in place during the implementation,

must be present if there is to be any means to measure the impact of the professional development on organizational change and improvement (Yoon, Duncan, Lee 2007). The practice of providing professional development opportunities for educators without the expectation of compliance and a monitoring plan versus a comprehensive plan for implementation and monitoring may show significant differences in teacher practice and student achievement. An organization that actively provides professional development, monitors for compliance, and examines data on a regular basis may produce the desired outcome of improved student achievement.

### **Purpose of the Study**

The purpose of the study is to analyze the adaptation of the Brockton High School Literacy Model in elementary schools in Jackson County, West Virginia. All the materials presented to the administrators and lead teachers in Jackson County by the team from Brockton High School were designed for use in high school classrooms. Elementary teachers and administrators of Jackson County knew modifications would be necessary to allow younger students access to the Brockton Literacy Model. Uncertain to the elementary administrators and staff were the types of modifications that would be needed. The Superintendent of Jackson County Schools, Blaine Hess, required schools to use the Brockton High School Literacy Model in all subject areas for at least the next four years. The schools submitted a series of 20-day plans outlining the implementation of the Brockton Model throughout the school term (Hess, 2015).

Jackson County Schools chose the Brockton Model due to its decade long success. Brockton High School partnered with the International Center for Leadership Education (ICLE) founded by Dr. Bill Daggett. ICLE recognized Brockton's approach encompassed many of the core values of their organization, especially the concept of "culture trumps strategy" (Daggett,



2017). In addition, Brockton High School's Literacy Model was recognized by The Achievement Gap Initiative at Harvard University as an example of how high schools become exemplary (AGI, 2009). In this conference report, key components of the Brockton Model were outlined. These included identification of key learning skills, literacy charts in every classroom, focus on open response writing, fostering student engagement, and sustained professional development with supervision, feedback, and support. The effective components identified by the Achievement Gap Initiative serve as a roadmap to compare the Brockton Model to Jackson County's elementary schools' adaptation and implementation of the model for younger students.

This study examined how the elementary schools in Jackson County adapted the Brockton High School Literacy Model to be developmentally appropriate for elementary students. Additionally, the study explored how the educators at each school approached the training, implementation, and monitoring of the literacy initiative compared to their peers in other schools. Finally, the study investigated the impact, if any, the Literacy Initiative had on student achievement.

### **Research Questions**

The intention of the study is to investigate the following research questions.

1. What were the processes used by Jackson County elementary schools to transform the Brockton High School Literacy Model into the Jackson County Literacy Initiative?
2. What effect, if any, did the implementation of the Jackson County Literacy Initiative have on student English Language Arts achievement over the 2015-2016 and 2016-2017 academic years in Jackson County elementary schools?
3. How did the implementation of the literacy initiative differ in elementary schools that were already high achieving compared to those that were not?

## **Operational Definitions**

The following operational definitions were developed for use in this study:

**Jackson County Literacy Initiative** – the designation of the process developed by Jackson County schools to implement improvement of literacy in the county school system. This includes the process of creating a set of standards for monitoring at the county, school, and classroom level and communicating the expectations of county and school administrators to teachers and students regarding the implementation of the literacy initiative to the classroom. Jackson County Schools’ literacy initiative was built upon the premises outlined in the book, *Transforming Brockton High School: High Standards, High Expectations, No Excuses*.

**Brockton Model** – the framework that Brockton High School used to develop its successful school improvement campaign. It is based on four key components: empower a team, focus on literacy with no exceptions of any staff member, implement the plan with fidelity, and monitor the process extensively (Szachowicz, 2013).

**English Language Arts student achievement** – results from 2015, 2016, and 2017 West Virginia General Summative Assessment (WVGSA) developed in conjunction with the Smarter Balanced Assessment Consortium (SBAC) to determine pre- and post-implementation achievement differences.

## **Significance of the Study**

Schools in West Virginia are spending a great deal of time and money to prepare students for the future. The content standards adopted by the state require students to read information and be able to develop well-written, evidence-based responses to open ended questions. The added requirement of accountability on summative assessments makes student literacy a high priority for all teachers in Grades K – 12. The challenge for Jackson County Schools was the

application and adaptation of a high school model for literacy to an elementary school setting. Challenges included designing a program that was developmentally appropriate, aligned to content standards, incorporated learning progressions, and was applicable to all academic content areas.

There is limited research and information regarding the adaptation of the Brockton Literacy Model to elementary schools anywhere in the state of West Virginia or country. The information gathered from this study could facilitate the adaptation of this literacy model to other school districts in a manner that best suits the culture and climate of the school and district.

### **Limitations and Delimitations**

The study was limited to only elementary schools in Jackson County, West Virginia. Although the Literacy Initiative may have an impact on student achievement, many other variables influence student achievement and must be considered. The study was limited to what was reported by administrators and examination of documents and interviews of the principal at each school. Since the researcher was a principal at one of the elementary schools during the time frame of the study, the inclusion of interviews and data from the researcher's school may prove to be a limitation. Information available from student performance on standardized assessments may or may not indicate a true improvement in literacy and writing.

## CHAPTER 2

### LITERATURE REVIEW

#### Definitions and Historical perspective of Literacy

Throughout the 18<sup>th</sup> century in the United States, literacy included mastering the tasks of reading and writing. Students were expected to learn to read so they could understand the Bible and the moral code presented in the Bible (Gutek, 2012). As the country moved into the 19<sup>th</sup> century, the view of literacy changed little in schools. Learning to read was viewed as an avenue to cultivate productive citizens. Writing instruction was limited to topics such as correspondence, reporting information, or for conducting business. Writing to communicate understanding or opinions on an issue were not components of the instruction given in school (Finklestein, 1970).

Interestingly, during the early 19<sup>th</sup> century, the spelling method was a popular means to teach reading. Webster's *American Spelling Book* emphasized spelling as a method for learning to read and students did not read sentences until page 101 in the text (Webster, 1821). Another approach, developed later in the 19<sup>th</sup> century, relied on using letter sounds and blends to teach children how to read. This approach was popularized in texts such as McGuffey's *Eclectic First Reader for Children*. The differences in approaches to teaching reading found in Webster's *American Spelling Book* and McGuffey's *Eclectic First Reader for Children's* were in opposition to each other in much the same way as the word recognition and phonics are today (Shannon, 1989). Although McGuffey and Webster's approaches to reading mastery varied, both were taught in a similar fashion. Students recited passages, spelled words, copied texts, and had little discussion of what they read and how it applied to their lives. Students were expected to perform, and teachers were expected to progress through the texts and maintain strict order. The focus of

literacy development was centered on mastering the tasks of reading and writing (Shannon, 1989).

Later in the 19th century, then superintendent of Massachusetts schools, Horace Mann, in his second annual report on education, expressed his concerns regarding the instruction of students in reading. He asked two questions during his visits to schools: one regarded the degree and pervasiveness of spelling instruction in schools, and the other if students understood what they were reading (Mann, 1872). Mann felt the teaching of letters (sounds), referred to as phonics today, was a disservice to students because it produced poor spellers. Specifically, letters of the alphabet have different pronunciations when combined with other letters to form words. Mann felt a phonetical approach to reading created readers who were fluent instead of intelligent (Mann, 1872). Mann advocated for the word method – students memorized and used sight words prior to learning letters – to create meaning and understanding of the reading material (Mann, 1872). Coupled with the word method were oral discussions of the reading material (Harris, 1896). The word method and oral discussion to ensure understanding of reading material was not popular at first because the role of the teacher deviated from the traditional drillmaster of instruction to interpreters of culture (Finklestein, 1970).

During the 1860's and 1870's Oswego movement in education, Edward Sheldon, building on the work of Swiss educator Pestalozzi, used the word method and oral discussion combined with object teaching, which used teaching aids and illustrations in lessons with students (Shannon, 1989). The Oswego Movement not only introduced new teaching methods but created consistent training for teachers in pedagogy. Sheldon's pedagogical training for teachers at the Oswego Teachers Training School provided graduates with offers to teach across the United States ensuring the teaching techniques taught there were embedded in the fiber of

American education (Ruddy, 2000). The use of phonics, sight words, spelling, and comprehension during the latter part of the 19<sup>th</sup> century created the foundation for multiple, and sometimes conflicting, theories regarding reading instruction and literacy during the 20<sup>th</sup> century.

In the 20<sup>th</sup> century, all aspects of public K – 12 education saw a significant increase in the research and study of areas such as instructional practice, educational psychology, instructional materials including technology, and assessment. Instructional design began during World War II as educators and psychologists including Robert Gagne and Robert B. Miller developed training materials for the military requiring detailed task analysis (Reiser, 2001). During the 1950's and 60's, B.F. Skinner, Robert Mager, Ralph Tyler, and Benjamin Bloom provided educators with prescriptive indicators of student learning. These included programmed instruction, developing, and using behavioral objectives to define learning outcomes, and identifying the cognitive domain of an objective (Reiser, 2001). Defining learning outcomes with clearly defined objectives paved the way for the design of criterion-referenced assessments (Glaser, 1963). The introduction of computers and the internet into classrooms ushered in an evolution of instructional design as well as an examination of constructivist approaches in education during the last four decades of the 20<sup>th</sup> century (Reiser, 2001, Driscoll, 2000). At the same time instructional, psychological, assessment, and technological factors were changing education, there was an increase in the percentage of children ages 6 – 18 attending school. Student attendance nearly doubled from 51% in 1900 to 93% in 1991 (Thomas, 1993). The demographic makeup of classrooms was altered and now included more students with disabilities and from low socioeconomic status than before. This led to state and federal legislative initiatives to serve the growing and diverse population of students.

As the educational system in the United States continued to include all students, the establishment of the Elementary and Secondary Education ACT (ESEA) in 1965 expanded the role of the federal government in education and provided monies for school improvement through components such as Title I. Title I funds were earmarked to assist districts in the education of economically disadvantaged students, particularly in reading and literacy instruction. Beginning in 1998, ESEA included the No Child Left Behind (NCLB) component which added testing requirements and regulations regarding school effectiveness (Klein, 2015). In December 2015, congress reauthorized ESEA as Every Student Succeeds Act (ESSA), which shifted some of the control back to the states regarding standards, assessments, and accountability as well as providing funds through Title IV for school climate, discipline, and family engagement. For over 50 years, ESEA and its subsequent revisions had an impact either directly or indirectly on the evolution of literacy instruction in the United States (Paul, 2016). With each reauthorization of ESEA, the political climate often dictated the components needed for effective reading instruction, without considering current research. For example, the *Report of the National Reading Panel* (National Reading Panel, 2000) promoted phonics as the primary method to teach reading despite research that indicated otherwise (Meyer, 2013).

Merriam-Webster (2018) defines literate as the ability to read and write and literacy as the state of being literate. These definitions, though accurate, do not encompass the evolution of literacy beyond the ability to read and write. During the late 18<sup>th</sup> and most of the 19<sup>th</sup> centuries in the United States, learning to read and write was limited to spelling, oral and silent reading, penmanship, correspondence, and copying text (Finklestein, 1970). It was not until the latter part of the 19<sup>th</sup> century and early 20<sup>th</sup> century that the definition of literacy expanded to include reading comprehension (Resnick & Resnick, 1977). The development and use of standardized

group intelligence testing for military recruits helped precipitate change to the definition of literacy to include reading comprehension (Resnick & Resnick, 1977).

Modern definitions of literacy include the ability to possess a general understanding of a topic and the ability to communicate that understanding to others through numerous and varied delivery systems. Barton (2007) describes the ecology of literacy as

... a set of practices which people use in literacy events: that it is necessary to talk in terms of there being different literacies; that literacy practices are situated in broader social relations; that literacy is a symbolic system used both for communicating with others and for representing the world to ourselves; that attitudes and awareness are important aspects of literacy; that issues of power are important; and that current literacy events and practices are created out of the past (Barton, 2007, p.7).

An internet search for the word literacy yields a myriad of literacy “types.” One can be computer literate, technology literate, mathematically literate and/or environmentally literate. Students today need to be able to demonstrate the classical definition of literacy as well as incorporate the nuances of the modern definition of literacy (Luke & Elkins, 1998).

The changing definition of literacy evolved from having the ability to read and write to that of comprehension, communicating understanding, forming an opinion based upon stated facts, or an analysis of someone else’s work (CCSS, 2014). Information is no longer presented solely in a text-rich printed format. Information is available through images, audio, video, and graphic representations to communicate meaning. The operational definition of literacy has changed over the last century, and with those changes, literacy instruction in schools adapted to address the multifaceted modern definition of literacy.



## **Literacy Initiatives in the last 50 years – Political, Social, and Cultural Implications**

Literacy education in the United States during the last half of the 20<sup>th</sup> century had a primary purpose: to ensure all children were able to read and write. The onset of the civil rights movement in the 1950's and 1960's brought to the forefront the inequity in education for citizens of color. From the civil rights movement, other groups who felt marginalized based on gender, ethnicity, and sexuality joined in the struggle for their voices to be heard (Shannon, 2000). Marginalized groups desired participation in determining the options and practices available in literacy programs (Levine, 1996). Political ideologies and the struggle for recognition of marginalized groups either clashed or worked together to bring change to literacy instruction in the United States (Shannon, 2000). From the conservatives' interpretation of education to continue to use traditional methods of teaching literacy in isolation of societal issues, to the liberal viewpoint of ensuring educational equality for all social groups through legislation such as ESEA, both have influenced education and literacy over the last 70 years. From William Bennett's moral literacy policies (Bennett, 1988) to the development of national curricular standards (NCEST, 1992) following the release of *A Nation at Risk* (1983), political forces have played a role in the development of literacy policy and instructional practice. An awareness of the political factors influencing policies regarding literacy in public schools is necessary when examining literacy programs over the last half of the 20<sup>th</sup> century.

In 1965, ESEA included language regarding aiding students from low-income families in reading and mathematics under the Title I section. Title I outlined the provisions for districts with poor populations to be provided with additional funding for personnel and materials to improve reading and mathematics achievement. In the 56 years since its implementation and

subsequent revisions, Title I has shown marginal improvement in student achievement for students from low socioeconomic backgrounds (McDill & Natriello, 1998; Kieffer 2011).

In recent years, an emphasis on early childhood educational research has brought to the forefront many factors regarding poverty impacting student learning and success. The Early Childhood Longitudinal Study – Kindergarten (ECLS-K) cohort data was examined to determine the extent of the relationship between socioeconomic status (SES) and reading growth for students between kindergarten and eighth grade (Kieffer, 2011). The findings from Kieffer’s research indicated students with lower SES backgrounds that begin behind their peers in reading achievement make rapid growth from kindergarten to third grade. In Grades 3 – 8, low SES students demonstrate less growth as their peers not identified as low SES. In addition, students in schools with high concentrations of low SES students have lower growth in Grades 3 – 8 (Kieffer, 2011). Kieffer’s study alluded the widening gap in Grades 3 – 8 could be attributed to the transition from “learning to read” to “reading to learn” which requires a broader knowledge of vocabulary and the ability to comprehend what is being read (Kieffer, 2011).

Studies regarding emergent literacy skills, language, print knowledge, letter name, and sound knowledge indicate that students from low SES households are often lacking in these skills as they enter kindergarten (Strang & Piasta, 2016). Early childhood development research regarding exposure to language and pre-reading skills indicates that children from low SES households are behind their age peers regarding what they know and can do related to academic and social-emotional skills (Shonkoff & Phillips, 2000).

The number of school-age English Learners (ELs) has increased from 8.1% or 3.8 million students in 2000, to 9.5% or 4.8 million students in 2015 (McFarland, et al., 2019). Literacy for these students has multiple components that are blended from their development of phonemic

awareness, letter recognition, and vocabulary from two different languages. In 2009, the National Literacy Panel published *Developing Literacy in Second Language Learners* (August, Shanahan, & Escamilla, 2009). The purpose of the publication was to “synthesize research on the education of language-minority children and youth with respect to their attainment of literacy, and to produce a comprehensive report evaluating and synthesizing this literature” (p. xiv). In this report, there were several findings of interest regarding literacy attainment related to EL students. For example, decoding and spelling skills of English learners had a higher likelihood of being at levels equal to their English-speaking peers, while text level skills such as reading comprehension and writing were consistently below those of their English-speaking classmates (August, Shanahan, & Escamilla, 2009). The percentage of poor readers among second language students and their monolingual peers were similar, indicating there are other factors outside of language affecting reading achievement (August, Shanahan, & Escamilla, 2009).

Socioeconomic status and the cultural importance placed on literacy and learning in general in the home have an impact on ELs in much the same manner as they do on English-speaking students (Li, 2013; Reyes & Esteban-Guitart, 2013). Students who had an early exposure to literacy in their first language generally were more likely to achieve success in the acquisition of English, and bilingual instruction for these students was beneficial compared to English only reading instruction (August, Shanahan & Escamilla, 2009). In addition, other studies have confirmed that learning to read in the native language improves achievement in English (Genesee et al., 2006; Green, 1997, Slavin & Cheung, 2005).

Literacy, as with other academic disciplines, does not exist in a vacuum. The political, social, and cultural forces that drive policies, practices, and success deserve consideration when examining or designing a system-wide process for improving student achievement and success.

## **Literacy Issues in West Virginia - Changing Standards**

West Virginia over the last 20 years has adopted five different sets of academic standards for students in English Language Arts and Mathematics. In 1998, West Virginia used the Instructional Goals and Objectives (IGOs) for core content areas. After the passage of No Child Left Behind in 2001, West Virginia revised content standards to the West Virginia Content Standards and Objectives (WVCSOs) to prepare for the creation of the first customized statewide assessment, WESTEST. In 2007, Senate Bill 657 revised West Virginia Code §18-2E-5 to allow for the revision of WVCSOs to reflect the rigor needed for the 21<sup>st</sup> Century (WVDE, 2011). The revision of the WVCSOs in 2007, led to the revision of the statewide accountability assessment as well from WESTEST to WESTEST2 (WV Legislature, 2007). In response to President Obama's 2009 Race to the Top grant plan, many states, including West Virginia, adopted a state-specific version of the Common Core State Standards (CCSS) to meet one of the requirements of the grant (USED, 2010). On May 12, 2010, West Virginia Board of Education adopted the West Virginia Next Generation Content Standards (WV NxG), which were adapted from the Common Core State Standards (WVBE, 2010).

WVDE conducted multiple meetings prior to the adoption of the Next Generation Standards. Content-specific educators at all programmatic levels as well as representatives from state colleges and universities participated in the meetings. These meetings, 11 in total, had the purpose of comparing the CCSS standards to WVCSOs and adjusting as suggested by the committee of educators. The group produced a crosswalk document linking the WVCSOs to the proposed WV NxG standards (WVDE, 2010). In January 2011, WVBE adopted a rollout schedule of the West Virginia Next Generation Content Standards for English Language Arts

and Mathematics in anticipation for the first administration of the Smarter Balanced Assessment in the spring of 2015 (WVBE, 2011).

In the summer of 2015, WVDE began the process to revise the standards a fourth time. WVDE conducted numerous meetings across the state in conjunction with West Virginia University, called the Academic Spotlight. Over 240,000 comments regarding the current ELA and Mathematics standards were collected from over 5,000 individuals, 84% whom were educators (WVDE, 2015). The comments were reviewed by a committee of educators from K – 12 and higher education, and based on the comments, the committee revised the standards. The revised standards, now called the West Virginia College- and Career-Readiness Standards (WVCCR), were adopted by WVBE in November 2015 (WVBE, 2015) with an effective date of July 1, 2016. WVCCR standards represent the fifth set of standards used in West Virginia during the last twenty years.

### **Assessments – National and International**

Public schools in West Virginia administer several assessments that are state or federally mandated. The United States Department of Education (USED) requires states to participate in the National Assessment for Educational Progress (NAEP) every two years (NCES, 2019). Schools in the United States also participate in international assessments. The international assessments that measure student achievement are the Program for International Student Assessment (PISA), Progress in International Reading Literacy Skills (PIRLS), and Trends in International Math and Science Study (TIMSS). PISA is given every three years to assess the abilities of 15-year-old students. PIRLS assesses fourth grade students on a five-year cycle that began in 2001. The United States began participating in this assessment in 2011. TIMSS assesses students in fourth and eighth grades. Participation in NAEP, PISA, PIRLS, and TIMMS is

determined through a sampling process. NAEP includes all states in its sample; however, the international assessments generally do not include all states in their sample (NCES, 2019).

### **NAEP Assessment**

A sample of West Virginia students participate in the NAEP assessment every two years. The NAEP assessment examines reading and mathematics achievement for students in Grades 4 and 8. Data from these samples are disaggregated at the state level for West Virginia (NCES, 2019). West Virginia's NAEP results for reading in fourth and eighth grade have remained virtually unchanged since 1998. In 1998, West Virginia's fourth grade reading score was 216, which was slightly above the national average of 213 and considered statistically significant (NCES, 2019). In 2005, West Virginia's fourth grade NAEP scores fell below the national average and have remained there since. The 2019 fourth grade NAEP reading score was 213, six points lower than the national average of 219 (NCES, 2019). For West Virginia, 2019 fourth grade reading achievement gaps continued to exist between white and black students (14 Points) and students who are economically disadvantaged (20 Points) (Nation's Report Card, 2019).

West Virginia's NAEP results for reading in Grade 8 reflect similar trends as the Grade 4 data. In 1998, West Virginia students in Grade 8 had a score of 262, comparable to the nation's score of 261. In 2003, Grade 8 reading scores for West Virginia fell below the national average and have remained below the national average over the past 18 years. In 2019, the NAEP Grade 8 reading score for West Virginia was 256, which is six points lower than the 2019 national average. In addition, the 2019 Grade 8 reading score is six points lower than West Virginia's 1998 NAEP score. For West Virginia, the 2019 NAEP Grade 8 reading scores indicated similar achievement gaps were evident for white and black students (18 points), and economically disadvantaged students (15 Points) (Nation's Report Card, 2019).

## **State Administered Assessments**

West Virginia administered the Smarter Balanced Assessment for three years during the spring of 2015-2017. Due to legislative mandates to revise reading and mathematics standards, a new assessment, the West Virginia General Summative Assessment, was developed and administered for the first time in the Spring of 2018 and was set for its third administration in the spring of 2020, however due to COVID-19, all state assessments were cancelled. Both the Smarter Balanced Assessment and the West Virginia General Summative Assessment use the same test delivery platform developed by American Institute for Research (AIR) (WVDE, 2019). The Smarter Balanced Assessment and West Virginia General Summative Assessment use a computer adaptive design. Computer adaptive assessments use an algorithm to choose test items based on students' answers to previous questions as well as fixed parameters of the test blueprint (Smarter Balanced, 2019; WVDE, 2019). This allows for customization of the assessment to the students' abilities as well as ensuring adequate coverage of the content standards. West Virginia maintains a website accessible to the public that includes proficiency rates for the state, counties, and schools called ZoomWV. The website also includes demographic information about districts and schools in West Virginia. In general, West Virginia's student proficiency rates in English Language Arts over the last five years have only changed slightly (ZoomWV, 2019).

## **Literacy Initiatives in West Virginia**

In 1992 and 2003, the National Assessment of Adult Literacy (NAAL) sponsored by the Center for Education Statistics conducted two research studies regarding adult Literacy in the United States (NCEST, 1992). The studies measured prose literacy, document literacy, and quantitative literacy. In 1992, the prose literacy rate of adults aged 16 and older in West Virginia was 83% with the National Average at 86%. West Virginia ranked 38<sup>th</sup> out of the fifty states and

the District of Columbia. In 2003, West Virginia's prose literacy rate rose to 87%, one percent higher than the national average and 35<sup>th</sup> in the nation (NCES, 2019). After 2003, the National Center for Education Statistics joined an international literacy study and discontinued the NAAL study. The new study did not disaggregate data at the state level and 2003 is the last data set for this study (NCES, 2019).

In the fall of 2009, the West Virginia Board of Education approved Policy 2512: Instructional Supports for Third and Eighth Grade Students to Achieve Critical Skills (WVSOS, 2009). This policy was developed to address actions by the West Virginia Legislature via Senate Bill 1001, which added a new section to West Virginia State Code (§18-2E-10). The bill recognized the need to ensure students were on grade level, especially after third and eighth grade and provided financial assistance for local school districts to establish critical skills programs that could occur before or after school or during the summer. Additionally, the WVBE was to provide an annual report to the Legislative Oversight Commission on Education Accountability, the Joint Committee on Government and Finance and the Governor (WV Legislature, 2009). The 2009 version of Policy 2512 addressed all content areas including literacy. In a 2013 report prepared by the West Virginia Department of Education, \$6.2 million dollars were appropriated for the 2009-10 school term, \$6.152 million for 2010-11, and \$6.2 million for 2012 – 13 to support the critical intervention skills program. For the 2011-12 term, the West Virginia State Legislature did not allocate funds specifically to critical skills. WVDE revised the grant awards so the districts could use carryover funds and the West Virginia State Legislature encouraged districts to utilize Federal ARRA funding to support student intervention. (WV Legislature, 2013). WVDE established a dedicated website to manage the grant applications and serve as a warehouse for technical assistance materials. The 2013 report found



that most districts provided assistance before, during, or after school and all districts in the state offered summer learning options for students. For the 2013-14 school term, based upon grant application data, 7,148 students were identified for intervention in Grade 3 reading, 7,291 in Grade 8 reading, 6,973 in Grade 3 mathematics and 7,644 in Grade 8 mathematics. The total number of students enrolled in Grades 3 or 8 was near 20,000 in 2013-14 (ZoomWV, 2019). Approximately 35 – 38% of the students enrolled in each grade received intervention in reading and/or mathematics during the 2013-14 term.

The legislative report concluded with an analysis of assessment proficiency rates from 2010 – 2013 WESTEST2 results. The report indicated a slight decrease in reading proficiency for Grade 3 students during 2010-13 (0.33%) and an 8.44% increase for Grade 8 students in reading. When the differences were averaged over a four-year period, the proficiency levels showed less than a 2% change annually. Additionally, the four-year cohort data for students from Grades 3 through 6 and 8 through 11 respectively found increases that were less than 2% annually from 2010-2013 (WV Legislature, 2013). During the same period, the National Assessment of Educational Progress (NAEP) results for West Virginia Students in Grades 4 and 8 showed nominal changes as well (Nation’s Report Card, 2019).

The 2014 West Virginia Legislative session passed House Bill 4618 and revised West Virginia Code §18-2E-10 to move the focus from Grades 3 and 8 to early learning for Pre-K through Grade 3 (WV Legislature, 2014). The legislation required WVDE to develop a comprehensive and systematic approach to close the reading gap by Grade 3 through school readiness, attendance, summer learning loss, and an intervention framework. WVDE revised Policy 2512 in October 2014 to reflect the change in West Virginia Code (WVSOS, 2014). To provide an implementation framework, WVDE formed the West Virginia Leaders of Literacy

Campaign for Grade-Level Reading to assist districts in closing the literacy gap by the end of third grade. The campaign targeted four areas: school readiness, attendance, extended day and extended year learning, and high-quality classroom instruction (WVDE, 2018). In addition, WVDE collaborated with over 20 other groups such as Read Aloud West Virginia, The Education Alliance, and West Virginia Birth to Three to ensure involvement of all students and their families (WVDE, 2018). WVDE has commissioned a longitudinal study of the initiative mandated by HB 4618 to measure the effectiveness of the Campaign for Grade-Level Reading program. The study, conducted by the National Institute for Early Education Research in collaboration with Marshall University, measured the impact of high-quality early programming on third grade literacy proficiency (WVDE, 2018). Third grade students in 2018-19 had a proficiency rate on the state assessment of 44.01% (ZoomWV, 2019). These students were in kindergarten when the West Virginia Leaders of Literacy Campaign for Grade-Level Literacy began. In subsequent years, the effectiveness of the campaign will be determined through the results of the longitudinal study, state assessment proficiency rates, attendance rates, and access to early learning programs (WVDE, 2018).

### **Professional Development**

In 2009, shortly after his inauguration, President Obama launched his vision for public education in the United States. A key component of President Obama's plan was teacher quality (Klein, 2009). The *Journal of Teacher Education* published a compilation of research regarding promising Professional Development Models and Practices. A summary of the research indicated that key components of professional development programs be "situated in practice, focused on student learning, embedded in professional communities, sustainable and scalable, and both supported and accompanied by carefully designed research" (Whitcomb, Borko, & Liston, 2009,

p208). The 2009 report from the National Staff Development Council found that “effective professional development is intensive, ongoing, and connected to practice; focuses on the teaching and learning of specific academic content; is connected to other school initiatives and builds strong working relationships among teachers” (Darling-Hammond, et al., 2009, p 9). In 2017, Darling-Hammond and others published an updated report in collaboration with the Learning Policy Institute regarding components of effective professional development. The research found effective professional development is content focused, incorporates active learning utilizing adult learning theory, supports collaboration, typically in job-embedded contexts, uses models and modeling of effective practice, provides coaching and expert support, offers opportunities for feedback and reflection, and is of sustained duration (Darling-Hammond, Hyler & Gardner, 2017). Each of these publications defined similar components of effective professional development. The Darling-Hammond document from 2017 expanded the scope of some of the broadly defined areas from 2009. For example, the category “embedded in professional communities” (Whitcomb, Borko & Liston, 2009) would now serve as a large umbrella that includes building relationships, supporting collaboration, modeling, coaching, feedback, and reflection. In the subsequent years since the 2009 and 2017 publications, models that incorporate some or most of these attributes into educator professional development were implemented across the nation (Darling-Hammond, et al., 2009), (Darling-Hammond, Hyler & Gardner, 2017).

### **Professional Learning Communities**

The concept of a Professional Learning Community (PLC) was borne out of the failed attempts at improving student achievement that occurred in the latter part of the 20<sup>th</sup> century via the Excellence Movement, which used a top-down approach for standardization, and the

Restructuring Movement, which combined local control with national goals. Both initiatives failed miserably (DuFour & Eaker, 1998). Darling-Hammond and McLaughlin (1995) state, “The vision of practice that underlies the nation’s reform agenda requires most teachers to rethink their own practice, to construct new classroom roles and expectations about student outcomes, and to teach in ways they have never taught before” (p. 597). Professional learning communities are a vehicle to assist schools and teachers to rethink and reflect on the art and science of teaching.

Dufour and Eaker (1998), through their work in schools, created a concise definition of professional learning communities and their purpose. Professional learning communities need to have a shared vision, mission and values, collective inquiry, collaborative teams, action orientation and experimentation, continuous improvement, and have a results-oriented mindset (DuFour & Eaker, 1998). The professional learning community framework, combined with the research regarding the components of effective professional development, appear to complement and support each other. In the two decades since the publishing of *Professional Learning Communities at Work* (Dufour & Eaker, 1998), PLCs are commonplace in schools across the United States. In 2004, Dufour expressed concern regarding PLCs saying, “The term has been used so ubiquitously that it is in danger of losing all meaning” (DuFour, 2004, p. 6). It is incumbent upon school districts to ensure the implementation of PLCs contain the components outlined by DuFour and do not become a new name for the traditional staff meeting.

Graham (2007) found that a strong positive relationship existed between professional learning communities and teacher improvement. However, the relationship was complex and dependent upon multiple factors at multiple levels. The Graham study focused on the implementation of PLCs in a newly opened middle school. The degrees of effectiveness of the

PLCs in this school were directly related to external factors such as common planning time, requirements by the administration, and organizational support. Additional factors beyond structure and time that further enhanced the process included integrating active learning components and right sizing the PLC teams to avoid the teams being too large or too small. These components helped the PLC engage in substantive conversations around teaching and learning as well as address conflicts regarding curricular and instructional practices (Graham, 2007). Comments from teachers in the study indicated that there was a change in mindset from working in isolation to full collaboration and shared expectations.

A research review of professional learning communities that focused on teacher practice and student learning found that PLCs had a positive impact on teaching practice, school culture, and student achievement (Vescio, Ross, & Adams, 2008). The 11 research studies reviewed in this article indicated that teachers who participated in PLCs that focused on teaching and learning helped teachers move to a flexible student-centered approach. This allowed them to accommodate multiple student levels, authentic pedagogy to support higher order thinking, and the development of stronger instructional norms for content and pedagogy. The effect on school culture showed that PLCs had the power to improve collaboration, focus on student learning, support teacher authority, and facilitate continuous teacher learning. Student achievement improved significantly over three-year periods in schools with strong PLCs. In fact, the research studies indicated that the stronger the PLC in the school, the higher the student achievement gains (Vescio, Ross, & Adams, 2008).

### **Job-Embedded Professional Development**

Situated in practice (Whitcomb, Borko, & Liston, 2009) combined with additional terms such as job-embedded and active learning that is connected to practice (Darling-Hammond,

Hylar, & Gardner, 2017) brings clarity to the type of professional learning experiences that are effective. Job-embedded professional development is prominent in federal regulations such as Every Student Succeeds Act (ESSA) reauthorized in 2015. ESSA section 8101 Section 42-part b (USED, 2019) states professional development practices, “are sustained (not stand-alone, 1-day, or short-term workshops), intensive, collaborative, job-embedded, data-driven, and classroom-focused” (p.401). Embedding professional development within the classroom and school provides teachers with opportunities to create new or adapt existing materials to meet the required academic standards and the needs of students while providing opportunities for collaboration and relationship building among educators in both online and face-to-face formats (Voogt, et al., 2015).

Furthermore, job-embedded professional development that is situated in schools can fall along a range of experiences from real-time in the classroom with students, to shortly before or after instruction, where focus is on actual teacher practice (Croft, et al., 2010). The continuum can incorporate a variety of professional development strategies to analyze and improve instructional practice. The National Comprehensive Center for Teacher Quality identified three conditions necessary for high quality professional development: teacher opportunity to learn, professional learning in and as a community, and a skilled facilitator (Croft, et al., 2010). Opportunity to learn, PLCs, and a skilled facilitator, along with support from the state, district and school level administration can promote increased student learning (Croft, et al., 2010). Using job-embedded professional development that focused on the individual classrooms as living laboratories allows teachers to study their own work, clarify strengths and weaknesses, and plan for improvement (Tomlinson, 2014).

## **Sustainability and Scalability**

In addition to providing optimal conditions for effective professional development, the content, sustained length, and design of professional development opportunities plays an equally important role in improving student achievement and teacher practice. Early studies such as Bond and Dystra's (1967) first-grade studies found improving reading instruction meant, "it is necessary to train better teachers of reading rather than to expect a panacea in the form of methods and materials" (p. 123). A large research synthesis conducted forty years later in 2007 by the American Institutes for Research in collaboration with the Region Education Laboratory-Southwest and funded by the United States Department of Education found that the relationship between professional development and student learning was difficult to quantify. Of the potential 1,300 studies available, only nine of these studies met the standards set by the What Works Clearinghouse (Guskey & Yoon, 2009). The implications of the study were directed toward those who select, plan, and choose professional development. To make sound decisions regarding professional development, the study encouraged districts and schools to analyze and assess the effectiveness of what they are doing, demand strong evidence from vendors regarding a program's effectiveness, implement new strategies in small-scale environments before large-scale implementation, and complete rigorous studies of the effectiveness of professional development programs (Guskey & Yoon, 2009).

Fisher, Frey, and Nelson (2012) presented findings of a multi-year initiative in the Chula Vista School District in Southern California. In 2002, the district had only two of its 44 elementary schools scoring at a proficient level on the California Academic Performance Index. The district purchased a new reading program and provided teachers with 120 hours of professional development in how to use the materials. In the next two years, small improvements

in student achievement were noted, but not systematic. In 2005, the superintendent led the district to create a system-wide structure for literacy instruction. In this initiative, the building principals and coaches would lead the work in developing and implementing the model. The decision to have principals and coaches lead this work was supported by research. The group examined the adopted curriculum and listened to teachers' concerns about the lack of flexibility for teachers to make decisions about individual student needs within the curriculum. The group developed a gradual release of responsibility framework for literacy instruction. The model included five components: establish a purpose for instruction for the students, teacher modeling of the skills needed, guided instruction, engagement of students in productive group work, and independent work by students.

The implementation of the Chula Vista framework was a gradual process over several years. The first year served as an overview for teachers to examine the model and design lessons using the model. Instructional leadership teams - which included the principal - from each school were provided additional training throughout the year with the expectation to use the information within the local school and customize as needed for their school. In subsequent years, the coaches and administrators focused on the remaining components of the framework with particular emphasis on productive group work. Through examination of data via principal walkthroughs, the degree of implementation of the framework could be determined. This helped the district to investigate root causes of roadblocks to implementation and work with teachers to address these issues, which included training in the effective use of instructional routines and critiquing videos of instructional practices in action (Fisher, Frey, & Nelson, 2012). This decade-long journey produced steady improvement in the district with 41 of the 44 schools surpassing the proficiency benchmark on the California Achievement Performance Index in 2011. Fisher,



Frey, and Nelson concluded that the framework was successful because it provided, “A structure that increases interaction, consistency, and the metacognition of learners that has the potential to increase student achievement and improve teacher knowledge (Fisher, Frey, & Nelson, 2012, p. 563).

### **West Virginia’s Professional Development Policy**

In November 2018, West Virginia Board of Education (WVBE) revised Policy 5500 to provide guidance for professional learning for educators to include funding allocations (WVSOS, 2019). Unchanged from the 2016 version of Policy 5500 are the requirements for professional development for PK – 12 educators. The purpose of the original and current policy is to assist “the coordination, development, and evaluation of high-quality professional learning programs for West Virginia educators” (WVSOS, 2019). Specific roles and responsibilities for the WVDE and individual counties are defined in Policy 5500, including the appropriation of funding for professional learning. In this policy, WVDE developed guidance to assist counties with the development of the professional learning systems, evaluate the results, provide assistance, and offer online and personalized learning courses for state educators (WVSOS, 2019). Each county district must have a professional development council and an annual professional development plan. The revised policy has additional requirements regarding professional development embedded within the workday for teachers via flexible scheduling and teacher collaboration (WVSOS, 2019).

WVDE developed a guidance document to assist county school districts with the implementation of Policy 5500. The document *Professional Learning Reimagined, A West Virginia Framework*, provides county school districts with guidelines for professional learning that is comprehensive, data driven, and provides customization for teachers along the continuum

of experience (WVDE, 2019). This document also contains a repository of professional learning opportunities offered by the West Virginia Department of Education. Due to the organic nature of the repository, WVDE plans to create an online version of the repository in the near future (WVDE, 2019).

In summary, professional development opportunities for educators need to reflect the student achievement goals of the school and district, should be selected or created by representatives from all stakeholder groups, implemented with purpose and fidelity, monitored regularly, and evaluated on a regular basis to ensure effectiveness and continued success beyond the initial implementation phase. Once the professional development content is selected, there are multiple methods of delivery available. Job-embedded and after hours approaches that include coaching, mentoring and professional learning communities have proven effective. The characteristics of effective professional development described in this section may be components found in the Brockton High School Literacy Model.

### **The Brockton High School Literacy Model**

Brockton high school is in an urban area near Boston, Massachusetts. In 2018, according to the Massachusetts Department of Elementary and Secondary Education's (MDESE) website, the school has approximately 4,100 students made up of 63% African American, 13% Hispanic, 18% White, 2% Asian and 4% multi-race or non-Hispanic. Additionally, nearly half of the student population at Brockton High School is considered economically disadvantaged and 12% receive special education services (MDESE, 2018). The graduation rate for 2017 was 91% (MDESE, 2018). In 2018, the state assessment results for students in 10<sup>th</sup> grade at Brockton were 82% proficient in English/Language arts, 56% proficient in mathematics and 56% proficient in science (MDESE, 2018). These results are markedly improved from 1998, the year Brockton

High School's administration and staff decided to implement change through a comprehensive literacy initiative (Szachowicz, 2013).

In 1998, Brockton High School had the lowest passage rate on the Massachusetts Comprehensive Assessment System (MCAS). The students at Brockton had a 44% failure rate in English/Language Arts and a 75% failure rate in mathematics. A year later, the news was worse as the *Boston Globe* reported that Brockton was one of the worst performing schools in Massachusetts (Szachowicz, 2013). Faced with the worst test scores in the state, Brockton set out to change their trajectory. Their journey involved a system-wide change that centered around four major steps: empower a team, focus on literacy with no exceptions, implement with fidelity according to a detailed plan, and monitor extensively (Szachowicz, 2013). This model, forged from the reality that students were not achieving, is what drove the administration and staff at Brockton High school to change their trajectory. Ten years later and beyond, Brockton ranks near the top for passing rates on the state assessment, graduation, and college attendance in Massachusetts.

In 2009, the Achievement Gap Initiative at Harvard University published a report from the *How High Schools Become Exemplary* conference. This report featured Brockton High School along with other high schools across the country. Brockton's model was described in terms of key leadership groups, the literacy initiative components, fostering student engagement, the professional development model, focusing teacher evaluation on instruction, and building a culture of trust between teachers and administrators (Ferguson, Hackman, Hanna, & Ballantine, 2010).

Brockton High school's first step was to form key leadership groups within the school of over 700 teachers. These four groups each had a specific role within the school to support

improving student achievement. A restructuring committee, an administrative leadership team, a data analysis team, and curriculum steering committees each had unique and collaborative roles in the process (Ferguson, Hackman, Hanna & Ballantine, 2010). The restructuring committee was the first to form. This group established the school slogan and a mission statement: Improve students' academic achievement and personalize the education experience for every student (Szachowicz, 2013). This committee developed the plan for the work and subsequently added the remaining three leadership groups later in the process. These smaller committees could focus upon curriculum implementation through monitoring classroom instruction. This reinforced the importance of the initiative to be included in all classrooms at Brockton High (Szachowicz, 2013).

After the initial attempt of examining MCAS assessment items and implementing a “teach to the test” initiative that was a failure, the teams began to examine the data not based on content but upon larger skills students needed. The identification of these broader skills became the basis for the start of the literacy initiative at Brockton High School. (Ferguson, Hackman, Hanna, & Ballantine, 2010). The teams identified four literacy core components: reading, writing, reasoning, and speaking. These four components aligned with Barton's literacy definition (Barton, 2007). Teachers in all disciplines were expected to incorporate these components into their daily routine for students to adequately develop these skills (Ferguson, Hackman, Hanna, & Ballantine, 2010). Teachers were provided with literacy posters for their classrooms as a reminder of the key components of the initiative. Brockton chose to focus on one or two of the core learning skills each year. The first piece they chose to address was writing, responding to open-ended questions. Students received instruction in how to read and cite

support documents, frame a written response that addressed all components of the question, and use a rubric to assess the quality of their writing (ICLE, 2018, Szachowicz, 2013).

For the students to receive consistent instruction in open-response writing, the faculty of Brockton High School needed instruction in the methodology developed by the leadership team to address literacy. The team had to work within the parameters of teachers' contractual requirements and included input on the design of materials for both teachers and students to use (Szachowicz, 2013). The restructuring committee created interdisciplinary teams within the school and began the work of defining the essential elements for each of the literacy areas of reading, writing, speaking, and reasoning. Figure 1 provides an example of the literacy chart for writing.

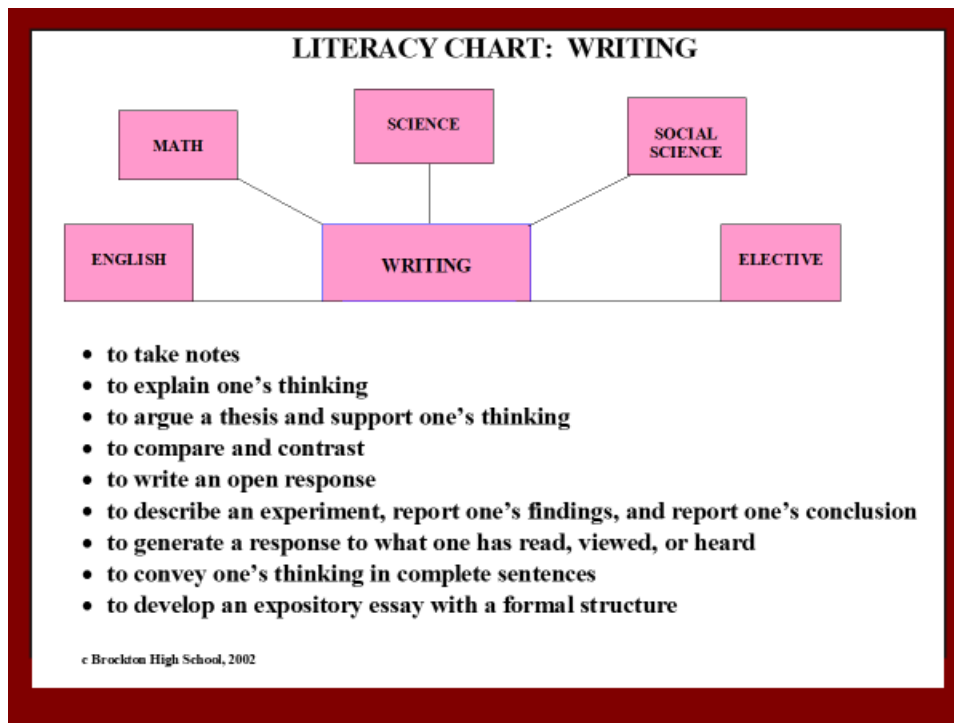


Figure 1: The Writing Component of the Brockton Literacy Model (Szachowicz, 2015)

The committee sought input for these four areas from the interdisciplinary teams by asking the teams three questions. In each of the four areas, have we included what is required for

our students to be successful in your class/your content area? Is the literacy skill stated clearly so that all teachers and students can understand it? Are the skills listed applicable to your content area? To all content areas? (Szachowicz, 2013, p. 31)

After the group defined the components of the four areas of literacy, the committee then began the work of creating materials for the literacy workshops for teachers. The committee developed training scripts for each of the literacy components (See Figure 2). The training scripts were concise and delivered in a consistent manner by the restructuring committee to the teachers (Szachowicz, 2013). In turn, the expectation was for teachers to deliver the instruction in the same consistent manner to students (Daggett, 2015).

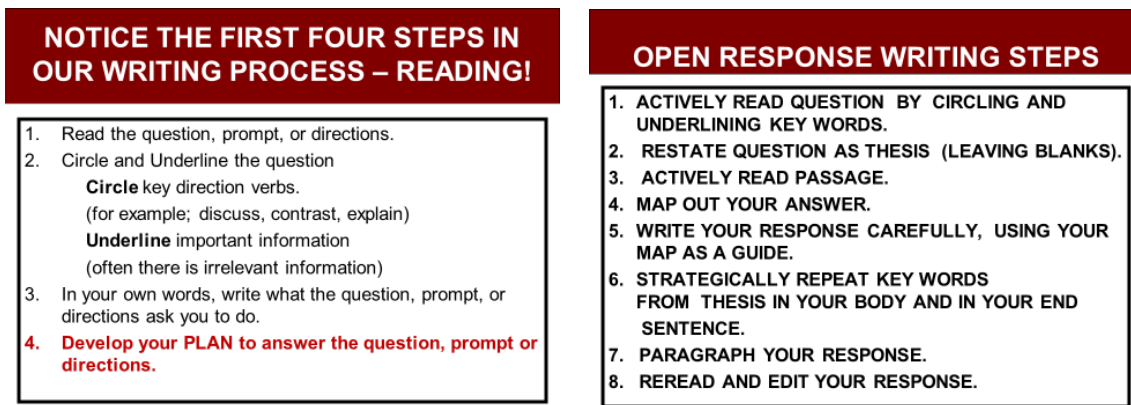


Figure 2: Steps to Respond to Open-ended Writing Prompts Connected to Reading Passages (Szachowicz, 2015)

Once teachers received instruction in how to use the literacy scripts, the expectation was that each teacher, regardless of their content area, was to implement the literacy strategy with fidelity in their classroom using passages and open-ended response questions that reflected their content area (Schmoker, 2011). For example, music teachers could use written articles about styles of music as reference material for students to respond to an open-ended question comparing the styles of music. Students supported their assertions with details from the reading

prompts. Teachers were given time to find appropriate materials for the lessons (Szachowicz, 2013).

To make the task manageable and ensure consistency, the teams at Brockton High School created schedules for implementation and monitoring of the writing initiative. An administrator or department head observed all teachers during the presentation of the literacy lesson to the students in their classrooms. Each department at the school had a window of time in which to implement the literacy lessons in their classrooms. The establishment of a schedule allowed for the administration to observe and monitor the implementation of the strategy in all classrooms over the course of a year. Students received consistent instruction regarding writing essays in all their subject level classes during the school year. The observation and monitoring process ensured consistency in implementation (Jonas, 2011).

In addition to examining teacher implementation of the initiative with fidelity, the teams at Brockton High School examined student work to ensure consistency in scoring and calibration of teachers' expectations. Department heads collected samples of students work from each teacher, read the responses, and gave feedback to each teacher. Administrators at Brockton collected samples of student work from the department head, read the samples, and provided feedback to them as well (Ferguson, Hackman, Hanna, & Ballantine, 2010). This continuous feedback loop ensured consistency in expectations and fidelity in implementation of the process.

The Brockton High School literacy initiative is a proven method for improving student achievement in high school concerning reading, writing, speaking, and reasoning (Ferguson, Hackman, Hanna, & Ballantine, 2010). In 2015, middle schools that fed into Brockton High School as well as others around the country were implementing the literacy initiative with similar success (Szachowicz, 2015).

## Discussion of the Literacy Components used by Brockton High and how they differ at K-5

Brockton High School’s Literacy Model is based upon their delineation of literacy into four specific groups: reading, writing, speaking, and reasoning (critical thinking) (Szachowicz, 2013). For each of these groups, the Restructuring Committee at Brockton High School worked to define the skills needed to be proficient in each area. The skills needed to master reading, writing, speaking, and reasoning were communicated to the staff, students, and community to ensure understanding and application to all content areas including elective courses. The Restructuring Committee created literacy charts for each group that included the skills necessary for each domain (Figure 3).

<p style="text-align: center;"><b>Reading</b></p> <ul style="list-style-type: none"> <li>• for content (both literal and inferential)</li> <li>• to apply pre-reading, during reading, and post-reading strategies to all reading assignments, including determining purpose and pre-learning vocabulary</li> <li>• to research a topic</li> <li>• to gather information</li> <li>• to comprehend an argument</li> <li>• to determine the main idea of a passage</li> <li>• to understand a concept and construct meaning</li> <li>• to expand one’s experiences</li> </ul>	<p style="text-align: center;"><b>Writing</b></p> <ul style="list-style-type: none"> <li>• to take notes</li> <li>• to explain one’s thinking</li> <li>• to argue a thesis and support one’s thinking</li> <li>• to compare and contrast</li> <li>• to write an open response</li> <li>• to describe an experiment, report one’s findings, and report one’s conclusions</li> <li>• to generate a response to what one has heard, viewed, or read</li> <li>• to convey one’s thinking in complete sentences</li> <li>• to develop an expository essay with a formal structure</li> </ul>
<p style="text-align: center;"><b>Speaking</b></p> <ul style="list-style-type: none"> <li>• to convey one’s thinking in complete sentences</li> <li>• to interpret a passage orally</li> <li>• to debate an issue</li> <li>• to participate in class discussion or a public forum</li> <li>• to make an oral presentation to one’s class, one’s peers, one’s community</li> <li>• to present one’s portfolio</li> <li>• to respond to what one has read, viewed, or heard</li> <li>• to communicate in a manner that allow one to be both heard and understood</li> </ul>	<p style="text-align: center;"><b>Reasoning</b></p> <ul style="list-style-type: none"> <li>• to create, interpret, and explain a table, chart, or graph</li> <li>• to compute, interpret, and explain numbers</li> <li>• to read, break down, and solve a word problem</li> <li>• to interpret and present statistics that support an argument or hypothesis</li> <li>• to identify a pattern, explain a pattern, and/or make a prediction based on a pattern</li> <li>• to detect the fallacy in an argument or a proof</li> <li>• to explain the logic of an argument or solution</li> <li>• to use analogies and/or evidence to support one’s thinking</li> <li>• to explain and/or interpret relationships of space and time</li> </ul>

Figure 3: Committee Created Literacy Charts  
(Szachowicz, 2013 pp. 27 - 29)



These final lists were approved after multiple meetings and revisions based upon input from the faculty and staff at Brockton High School. The faculty realized that the reading and writing components needed to be taught together to make the connections for students. As the Restructuring Committee moved from concept to implementation, they developed a 10-step writing process that every student would follow (Figure 4).

**Brockton High School: Open Response Writing Steps**

1. Read question carefully.
2. Circle or underline key words.
3. Restate question as thesis (leaving blanks).
4. Read passage carefully.
5. Take notes that respond to the question.
6. Complete your thesis.
7. Write your response carefully, using your map as a guide.
8. Strategically repeat key words from your thesis in your body and in your end sentence.
9. Paragraph your response.
10. Reread and edit your response.

Figure 4: Open Response Writing Steps  
(Szachowicz, 2013, p. 37)

As indicated in the list above, the assumption is that most high school students can read an open-response question and determine the key components, read a passage, take notes regarding the passage, and write a multi-paragraph response to the question.

In 2015, the Jackson County West Virginia school district implemented the Brockton Literacy Model in all its schools K – 12. The implementation of the model at the K – 5 level was a new venue for the Brockton Literacy Model and would require some adjustments to be effective with students in elementary grades (Hess, 2015). Students in early primary grades, kindergarten through second, are learning the foundational skills needed to read and write. The West Virginia College- and Career-readiness standards for kindergarten state that students are to begin their literacy journey by understanding key ideas and details, craft and structure, integration of knowledge and ideas, range of reading and text complexity, projection and

distribution of writing, and research to build and present knowledge (WVDE, 2016). Learners are expected to demonstrate these skills via prompting and support from the teacher and through drawings or dictation. Phonological awareness, letter and word recognition and mastering the printing of upper and lowercase letters are taught in tandem with the pre-reading skills. By the end of the kindergarten year, students are expected to read emergent-reader texts with purpose and understanding, using sight words and simple consonant-vowel-consonant (CVC) words. As learners progress through first and second grade, their skills in phonological awareness are expanded to assist in the development and use of skills to independently read informational and literary texts on grade level and begin to understand conventions of standard English such as grammar and punctuation. By the end of second grade, students are expected to be able to identify key components of a reading passage including identification of informative and narrative text and their purpose, and writing an opinion. In general, by the conclusion of Grade 2, students should be able to read fluently and write at least a one-paragraph response that includes an introduction, details, and a concluding statement (WVDE, 2016).

In Grades 3 – 5, the transitions for reading shifts from the mechanics of learning to read to the application of reading to learn. West Virginia’s College- and Career-readiness standards use phrases like “with prompting and support, ask and answer, and recount” in Grades K – 2 regarding the interpretation of informational and literary texts. In Grades 3 – 5, the verbiage changes to “determine, describe and explain, draw inferences, and support with details, and provide reasons to support inferences.” These phrases indicate that the expectations are for students to not only read with fluency, but to interpret what they are reading and justify those interpretations by referring to the text (WVDE, 2016). In general, by the time students exit Grade

5, the expectation is that they can write an organized, multi-paragraph essay that has a logical flow, includes details, and inferences to support the point of view expressed in the essay.

Several reliable indicators of literacy success in later grades include the skills taught in early elementary grades. Those include phonological awareness, alphabet knowledge, and early writing (National Early Literacy Panel, 2008). Korth, et al. (2016) examined writing instruction in K – 2 classrooms and found that sharing and modeling writing with students using practices such as students drawing and storyboarding their ideas improved writing; however, teachers often struggled with using non-conventional writing practices such as these and returned to explicit instruction. Additionally, the teachers in this study incorporated writing across content areas such as science where they combined illustrations with written annotation to provide students experiences in writing outside of English Language Arts class. The findings from Korth’s (2016) study indicate that pre-service and in-service elementary education teachers need additional training in incorporating pre-writing and writing activities in their instructional practice. A second study (Billen, et al., 2011) regarding instruction and physical environments for writing in elementary classrooms indicated that teachers are not spending enough time teaching writing and the writing activities mostly include mechanics and grammar. Revising and editing of written work did not receive adequate attention in the classrooms observed.

The debate regarding “learning to read” and “reading to learn” is a by-product of phonics, leveled readers, whole language, and how students’ experiences affect their ability to read and understand what they have read (Eakle, 2012). Chall’s (1983) work *Stages of Reading Development* identified six stages of reading, beginning as early as six months of age to adulthood. The first three stages – zero, one, and two – describe those things associated with pre-reading skills and letter-sound understanding and are typical through eight years of age. The

latter stages – three, four, and five – are described in terms of reading for learning, multiple viewpoints, and construction-reconstruction. Chall’s work would then be used to create an incorrect assumption that decoding and comprehension are mutually exclusive (Eakle, 2012).

Chall (1983) made it clear that comprehension should be practiced in all stages of reading. West Virginia’s College- and Career-readiness standards for kindergarten through Grade 5 include standards in the early grades for comprehension and phonological awareness. Conversely, standards in Grades 3 – 5 continue to support phonics and word decoding skills while expanding the depth of reading comprehension to include analysis and point of view supported by details and inferences from the text (WVDE, 2016).

### **Justification for the Study**

Students in kindergarten through fifth grade are expected to master letter and sound recognition, phonics, reading for understanding, writing skills from words, to sentences, to paragraphs, and, finally essays in the span of six years. Based on the knowledge students must acquire and master in elementary grades, is evident that the format and content of the Brockton High School Literacy Model would need to be modified to be developmentally appropriate for students in kindergarten through Grade 5.

This study intends to examine the planning and processes used to modify the Brockton Model by eight elementary schools in Jackson County, West Virginia, the content, and frequency of professional development training provided to teachers as part of the process, and the products developed for teachers to use in the classroom. To determine the potential effectiveness of the process, an examination of the academic achievement of students based on summative assessment data will be used to determine what, if any, effect the Brockton Model had on student achievement in the elementary schools of Jackson County, West Virginia. If a positive

correlation is determined to be evident, the process used in Jackson County may be beneficial to other districts or content areas.

## CHAPTER 3

### METHODS AND DATA ANALYSIS

This study incorporated the use of both qualitative and quantitative data to address the research questions. Qualitative data included meeting agendas at the county and school levels, training materials for teachers, implementation plans, and updates submitted by principals to the central office, activities used with students to train and use the model in the classroom and interviews with administration and faculty. The questions dealt with the implementation process at each school and any modifications made to the Brockton Model to adapt it to the climate, culture, and clientele at each location. Additional questions regarding training, support, staff involvement and feedback helped to identify the focus of the professional development at each school. Information regarding teachers' successes and challenges of the implementation of the Literacy Initiative was collected as well. To compare approaches at each school, an examination of documents related to the Literacy Initiative was conducted. These included 20 – day plan submissions from each school, professional development handouts, school-wide materials found in classrooms and samples of student work.

One of the primary purposes of the literacy initiative was to improve student achievement on interim and summative assessments. A quantitative analysis of assessment data was conducted prior to the implementation of the Literacy Initiative from the 2015 West Virginia General Summative Assessment (Smarter Balanced) to the 2016 and 2017 West Virginia General Summative Assessment (Smarter Balanced) that occurred after the implementation of the initiative. The analysis of the data from both qualitative and quantitative sources provided insight to the successes of the initiative as well as areas that needed additional support.

## **Introduction**

The purpose of this study was to examine the process and impact of the adaptation of the Brockton High School, Brockton, Massachusetts Literacy Model to elementary schools in Jackson County, West Virginia. Brockton's model has four skill areas defined in their literacy initiative: reading, writing, speaking, and reasoning. This model, designed for students in high school, uses methods that assume students have mastered to some degree reading, writing, and grammar. In adapting this model to students in kindergarten through Grade 5, it was necessary to consider that students in elementary school are simultaneously acquiring phonemic awareness, letter formation, sentence structure and print awareness while applying them to comprehend what they were reading and to provide either written or verbal interpretation of what they have read. This added layer of learning occurring in addition to the literacy model component proposed by Brockton High School required an adaptation for elementary schools in Jackson County. This study examines how elementary schools in Jackson County modified Brockton's framework, collaborating with teachers and school administrators, to create an age-appropriate model for elementary-aged students. The study examines the documents created by the schools to understand this adapting process as well as the impact of the initiative on student achievement in literacy through the examination of summative assessments for the year prior to implementation and the first two years of the literacy initiative's implementation.

## **Research Design**

The research design was a case study that employed a mixed methods approach using both qualitative and quantitative data sources to provide a complete picture of not only the data collected regarding student achievement, but the processes and practices that occurred during the implementation of the Jackson County Literacy Initiative (JCLI) (Creswell & Plano-Clark,

2007). This case study examined how the eight elementary schools in Jackson County West Virginia adapted the Brockton High School Literacy Model to Kindergarten through Grade 5 classrooms over a two-year period and the effect, if any, on the academic achievement of students. Although the county superintendent (Hess, 2015) required all elementary, middle, and high schools in Jackson County to implement the Brockton Model, the purpose of choosing only the elementary schools for this study was to determine how the Brockton Model was adapted to meet the needs of students who were simultaneously learning the mechanics of reading and writing while developing skills related to the Brockton Literacy Model.

The quantitative portion of the mixed methods approach of this study uses a pre- and post-design (Creswell, 2009). The year prior to the implementation of the literacy initiative, students in Jackson County participated in their first year of state mandated summative assessments. The same instrument measured student achievement during the first two years of the implementation of JCLI. The pre- post design allows the examination of data prior to the implementation of the literacy initiative and during the implementation to examine the effect, if any, on student achievement in English Language Arts.

The Brockton High School literacy program uses a concise and scripted approach to train teachers in the initial implementation of the strategies in classrooms with students (Szachowicz, 2013). The directive to the principals at the eight elementary schools in Jackson County was to implement the Brockton Model and provide an outline of the plan prior to the start of the school term, with updates and progress reports provided every 20 to 30 days (Hess, 2015). The size, demographics, and grade bands for the eight elementary schools varied slightly. Therefore, each principal worked within the basic parameters of the Brockton Model to elicit faculty buy-in, create, and provide professional development for implementation of the model including finding



or creating grade appropriate materials for students to use during instruction of the literacy initiative strategies. The qualitative examination of artifacts from each elementary school regarding planning, training, implementation, and data analysis provided an additional dimension to the quantitative data accompanying this research. It is the intention of this study to use concurrent triangulation mixed-methods approach (Cresswell, 2009) to provide evidence of best practices for the training and implementation of the Brockton High School Literacy Model in elementary schools. It is also the intention of this study to examine the correlation between common school or classroom practices related to success, if any, of the Jackson County Literacy Initiative that may be applicable to other academic subjects such as mathematics or science.

### **Population and Participants**

Jackson County, West Virginia has a population of 28,576 according to the US Census Bureau. The population is 97.6% white, with percentages of 1% or less for African American, Hispanic, Asian, and multi-racial. Approximately 21% of the population is under the age of 18 and the poverty rate is 16.7 percent (USCB, 2020). Jackson County Schools has an enrollment of 4,481 students with 42% identified as low socioeconomic status and 18% receiving special education services. The Pre-K through Grade 5 population is 2,150 among eight elementary schools. Three of the eight schools are located within two small towns in the county with the remaining six in rural communities. The schools range in size from 139 students to 603 students (WVDE, 2020). Figure 5 provides enrollment, percentage of low socioeconomic status and special education students by school. The special education percentages include students who only receive speech language services.

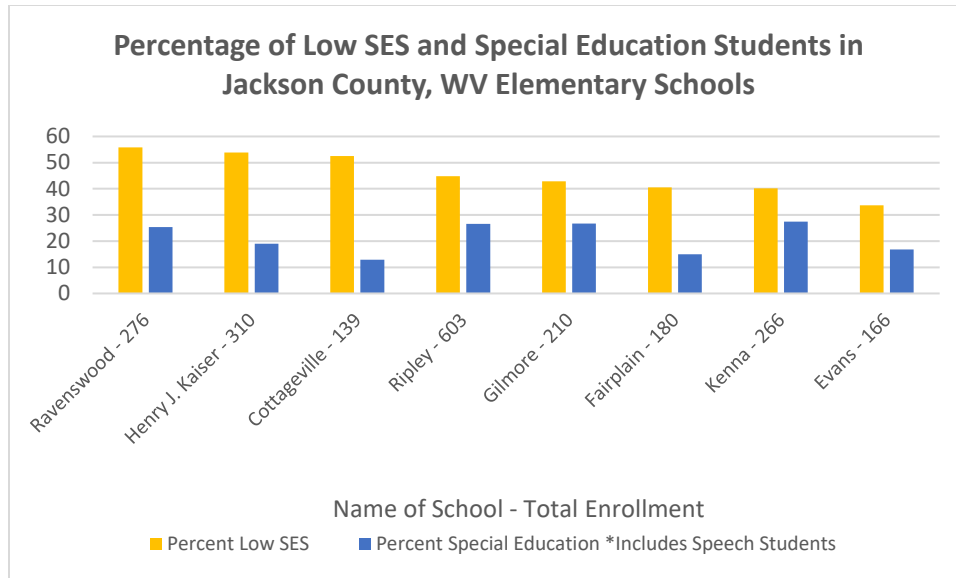


Figure 5: SES and Special Education Students, Jackson County, WV (from ZoomWV Data 2020)

For the classrooms in Jackson County Schools, 93.4% have fully certified teachers. Six percent of the teachers in the elementary schools have less than three years' experience. At the time of the research study, all eight schools had principals that were fully certified; three had less than five years' experience as a principal. All the principals and most of the teachers at the eight elementary schools received classroom management training when hired or sometime during their tenure in the county.

### Research Questions

1. What were the processes used by Jackson County elementary schools to transform the Brockton High School Literacy Model into the Jackson County Literacy Initiative?
2. What effect, if any, did the implementation of the Jackson County Literacy Initiative have on student English Language Arts achievement over the 2015-2016 and 2016-2017 academic years in Jackson County elementary schools?
3. How did the implementation of the literacy initiative differ in elementary schools that were already high achieving compared to those that were not?

## **Instrumentation**

The data used for the quantitative portion of the study is from the state summative English Language Arts assessment spanning three years. The summative assessment, the West Virginia General Summative Assessment – Smarter Balanced, is a multi-state computer adaptive test given to students in Grades 3 – 11 that assesses students in English Language Arts, Mathematics, and Science. It was developed by a consortium of states as part of a federal grant (SBAC, 2020) and underwent rigorous field-testing prior to use by the member states as required by the United States Department of Education. West Virginia schools administered the assessment for three years beginning in the spring of 2015.

Jackson County Schools purchased a benchmark assessment tool, STAR, to assess student achievement at the beginning, middle and end of the school year. This assessment, given to students in Grades 3 – 8, is a computer-adaptive assessment that provides information regarding student achievement. In addition to its use as a benchmark assessment, the STAR assessments were used as a progress-monitoring tool for students receiving tiered intervention. A linking study between the Smarter Balanced and STAR assessments was conducted by STAR's parent company Renaissance Learning (2015). The predictive correlation between the STAR assessments and the Smarter Balanced Assessments ranged from 0.82 to 0.86. The linkage study used data from states other than West Virginia (Renaissance, 2015).

Data for this study was collected from the Smarter Balanced assessment data for the three years it was administered to elementary school students in Jackson County, West Virginia. The data was aggregated at the student and school level to examine trends in scale scores over the three years of use of the Smarter Balanced assessment. The English Language Arts scores and subscores will be used for the study.

The qualitative portion of this mixed-methods study examined the content of presentations and materials provided at meetings with elementary principals and central office staff about the Brockton Literacy Model, each individual school's literacy plans, training documents, and materials given to students used to implement the Brockton Model in individual schools. The study examined patterns in implementation and the impact, if any, on student achievement. An additional component examined the degree of implementation variances between high or low performing schools in the district.

The request to collect and use data was submitted to the Marshall University Institutional Review Board (IRB) on October 26, 2020, with approval granted on November 18, 2020. The IRB approval letter is found in Appendix A.

### **Data Collection**

A request was made to the Jackson County Schools Superintendent to collect student summative assessment data from the eight elementary schools in Jackson County from 2014 – 2017. The student level data collected contained the student WVEIS ID number, gender, school attended, and all English Language Arts scores and subscores including scores for the online writing assessment that is part of the Smarter Balanced assessment. Upon approval from Jackson County Schools, an application to the West Virginia Department of Education Data Management Office's Institutional Review Board was submitted to obtain a file of the Smarter Balanced Assessment Data for Jackson County Schools Grades 3 – 5 for the 2015 – 2017 test windows. The application was submitted in December 2020, with approval from WVDE's IRB in January of 2021.

Included in the request to Jackson County Schools was to obtain documents related to the training, implementation, and monitoring that occurred with administrators and teachers related

to the Brockton Literacy Model. Administrators were required to submit plans to the superintendent and director of elementary education at the beginning of each school term with updates every 20 – 30 days. Professional development sign in sheets and presentations were included in the request. The information from these documents were compared and a list of similarities and unique components were composed and compared to the quantitative data for correlations if any.

### **Analysis of Data by Research Question**

*Research Question 1: What were the processes used by Jackson County elementary schools to transform the Brockton High School Literacy Model into the Jackson County Literacy Initiative?*

Qualitative data was collected from the eight elementary schools as the primary resource for analysis of Research Question 1. This study examined several components related to the Jackson County Schools Literacy Initiative as identified in the provided documents. These elements included: facilitated training of teachers, implementation practices, administrator observations of implementation, and post observation follow-up. The data from these items were coded to determine teacher input for implementation, time spent training teachers, implementation schedules, consistency of materials provided to students, number of times students in classrooms were provided lessons around the literacy initiative, observations by principals, and post implementation follow-up. This analysis provided a means to determine common practices among the schools as well as search for best practices that were indicated by the subsequent analysis of the assessment data of each school.

*Research Question 2: What effect, if any, did the implementation of the Jackson County Literacy Initiative have on student English Language Arts achievement over the 2015-2016 and 2016-2017 academic years in Jackson County elementary schools?*

The summative assessment data from the 2014-15 school year was prior to the implementation of the literacy initiative in Jackson County Schools. This allowed for a pre- and post-analysis with t-test for dependent groups. The summative assessment data made it possible to match individual student scores over the three-year period.

*Research Question 3: How did the implementation of the literacy initiative differ in elementary schools that were already high achieving compared to those that were not?*

Two elementary schools in Jackson County consistently score within the top 25% of elementary schools in West Virginia, with one scoring in the top five (ZoomWV, 2020). A separate analysis of the data from these two schools compared to the remaining six schools may indicate differences in implementation, student achievement or both. The data analysis used for questions one and two will be the basis of analysis for the third question.

## CHAPTER 4

### DATA ANALYSIS AND FINDINGS

#### **Introduction**

The research questions for this study examined both the process used to implement the Jackson County Literacy Initiative and the impact, if any, of the initiative on student achievement measured by summative assessments. The data collected consisted of interviews of school principals, school plans for implementation of the literacy initiative, artifacts of materials used with students, and summative assessment data for the year prior to implementation and for the first two years of the literacy initiative. The interviews were coded based on common responses to the questions. The content of the school plans was examined for elements required by the superintendent and schedules of classroom observations. Additional materials submitted with the plans were compared to the Brockton Model materials to record any adaptations of the original Brockton materials made for Grades 3 – 5.

#### **Participants**

The principals at six of the eight elementary schools who implemented the literacy initiative participated in online interviews during November and December 2020. The six principals responded to seven interview questions approved by Marshall University's Institutional Review Board (IRB) and are found in Appendix E. Two of the principals were male, four were female. Four of the six had served as a principal for less than five years. Five of the six principals had more than twenty years of experience as educators. The sixth had between 10 to 15 years of educational experience. In addition to the interview responses, the literacy plans submitted by the six interviewed principals and their two colleagues who were not interviewed were examined for information regarding the implementation of the literacy model. Included in

the literacy plans were documents used in the schools with students and teachers for training and instruction in the literacy model. The superintendent and director of elementary education for Jackson County Schools provided access to the literacy plans, documents used with students, and teacher training materials for the eight elementary schools. In addition, access to summative assessment data for English Language Arts for the year prior and two years during the literacy initiative was provided by the superintendent as part of the study.

### **Qualitative Data Analysis**

The responses from the principal interviews were recorded, transcribed, and analyzed for common phrases and ideas. A summary of the responses was recorded in a chart with common elements identified. The literacy plans were summarized and coded to determine if the required elements as outlined by the superintendent were present as well as evidence of plans for classroom observations. A comparison between the materials developed for use in the elementary schools to those developed by the Brockton High School looked for adaptations to the materials to be developmentally appropriate for students in Grades 3 – 5, in particular the ten steps used for reading and writing a response. The analysis of these qualitative pieces will help to answer Research Questions 1 and 3.

*Research Question 1: What were the processes used by Jackson County elementary schools to transform the Brockton High School Literacy Model into the Jackson County Literacy Initiative?*

*Research Question 3: How did the implementation of the literacy initiative differ in elementary schools that were already high achieving compared to those that were not?*



## **Principal Interviews**

Interviews were carried out during the months of November and December 2020. Five of the eight individuals serving as elementary school principals from 2014 – 2017 in Jackson County, West Virginia, agreed to an interview. Two of the principals were contacted multiple times and did not respond to the e-mail requests for an interview. The researcher was the eighth principal and provided written responses to the questions.

The interview questions and participant responses to each question are recorded in Tables 1 through 7. Each principal and school are designated by a letter to maintain confidentiality of their responses. The principal interviews were used to partially address Research Question 1: *What were the processes used by Jackson County elementary schools to transform the Brockton High School Literacy Model into the Jackson County Literacy Initiative?*

Table 1

*Jackson County Schools Principals' Responses to Interview Question 1*

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What were your initial thoughts after attending the presentation by Dr. Sue Szachowicz regarding implementing the Brockton High School Literacy Model at your school?

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**Response Principal A:** My first response was to automatically think about the size of the undertaking. This type of program was nonexistent in our school and the logistics, expectations and creating a process to carry out the model was overwhelming.

**Response Principal B:** The process would be all encompassing and required teacher buy-in to be successful. It also required cross-curricular implementation.

**Response Principal C:** It worked in Brockton how would we make it work in Jackson county? Still struggling in how to incorporate because our school had a high population of special education students. The special education students needed additional support to master the components of the literacy initiative and we worked with all their teachers to make it work. Some teachers pushed back because they felt it would be too time consuming. Some of these were teachers with many years of experience. I had to help them understand that this was not an optional program but one that all teachers would need to implement in their classrooms.

**Response Principal D:** Dr. Szachowicz was an exciting, engaging speaker. She had data to support her claims. Felt overwhelmed wondering how a big school program could be adapted countywide in small schools. How to change the model for elementary schools was a concern.

**Response Principal E:** Really thought it was going to be extremely difficult to be as successful as it was at Brockton. Elementary students needed to learn the skills in addition to the literacy model. High School students already can read and write. Another concern was how well the teachers were going to react to the initiative. They jumped in and started looking at how to make it work and to adjust on the fly.

**Response Principal F:** Dr. Szachowicz's presentation and data were compelling. As a former high school teacher and now an elementary school principal, I realized immediately there would need to be modifications to the process with younger children. How to help teachers understand the work and develop a successful process in our school would require careful planning and support.

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For Interview Question 1, principals were asked about their initial thoughts regarding the Brockton Model and implementation at their school. Several principals commented on the presentation by Dr. Szachowicz as compelling and thought provoking as well as supported by data. The principals expressed a sense of being overwhelmed at the task in terms of implementation, teacher buy-in, and adapting the program from a high school to an elementary model. A few expressed concerns about the students acquiring the skills needed to read and write while implementing the Brockton Model. One principal expressed concern regarding the

additional support needed and modifications needed for special education students and how to ensure appropriate support was provided in all class settings.

Table 2

*Jackson County Schools Principals' Responses to Interview Question 2*

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Describe the process for developing training materials for teachers as well as activities to be used with students in the classroom to implement the literacy model.

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**Response Principal A:** The director of elementary education provided materials for us to use including posters of the ten steps found in the writing process. We developed our training materials directly from Dr. Szachowicz's book and provided copies of the materials to the staff. Our staff used graphic organizers with the students to assist with the steps in the writing process.

**Response Principal B:** We put our heads together as a staff and as a county. At our school we used the curriculum team to plan the activities and make sure they were age and developmentally appropriate. When the literacy initiative was used in subjects other than ELA, we made sure it was appropriate to the curriculum of that subject.

**Response Principal C:** Once we decided to move forward, we reviewed the grade level standard to determine what the expectation would be for each grade level. By doing it this way the students were able to add to their skills each year. The first few years we had to provide more support to the fourth and fifth graders since they had not experienced the model in previous years. Upon completing grade five, the students had the skill set for writing to be successful at middle school.

**Response Principal D:** We used our leadership team at the school to work on this together before school started. Came in during the summer and attended a session at Ripley High with the other schools and members of their leadership teams. Brockton High School shared their training slides, and we used their process to adapt the script for elementary teachers. We filmed the process to model for the teachers and used it to train teachers and refer to later. As the process began, we tweaked it and filmed the teachers implementing the model. At the end of year one, we invited the other elementary schools to observe our classrooms. The materials for the students needed to have vocabulary appropriate for elementary students. We kept the vocabulary consistent for each part from K through 5. We also created posters for all classrooms and a catchy tune to help students remember the steps. Literacy all day.

**Response Principal E:** We have teacher leaders at each grade level. The school leadership team met and looked at the high school model for some information for adaptation at the elementary level. It was not specific to elementary but leading in that direction. We then compared it to what we were already using in the school. For example, we used a railroad track graphic organizer for writing assignments in fourth grade and the hamburger model was already in place in our school. (*The hamburger model was a graphic organizer for writing a paragraph or essay county officials recommended to use with elementary grades.*) The next challenge was determining what materials to use. First grade already used books and stories with questions that fit the type used in the literacy model. Other grades had to find materials and as we did, we built a file of materials to use for the project and compared the materials from grade to grade. We decided to divide the steps up and teach them over the course of elementary years. For example, in first grade we worked on steps 1 – 4, in second grade strengthened those steps with students to use independently and by the end of fifth grade, students were able to use the steps to write an open-response answer to a question. In addition, we had posters with symbols to aid students in using the reading process and incorporated the steps into our daily reading review. We focused on incorporating the initiative into our school routine and not making it a separate initiative.

**Response Principal F:** The leadership team met, and I shared the process and expectations of Superintendent Hess for the literacy initiative. We looked at the process and compared it to what we were doing and how to adapt to be age and developmentally appropriate and aligned to the content standards. The leadership team had several ideas and modifications for the process including breaking it into two sections reading for information and writing a response. This allowed the process to be broken down into smaller units for students to learn.

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For Interview Question 2, the principals discussed the process for developing training materials and activities for students in the classroom. Most of the principals mentioned collaboration with staff from either the school leadership or curriculum teams to develop materials that were age-appropriate and cross-curricular. The training materials for teachers were modeled after Dr. Szachowicz's outline used at Brockton High School. Schools developed posters for classrooms or used the ones provided by the district. In the interviews, two principals mentioned the use of graphic organizers with students to organize the writing of materials. Although only two principals mentioned the graphic organizers, this was a county-wide requirement for the literacy model.

Table 3

*Jackson County Schools Principals' Responses to Interview Question 3*

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What adaptations, if any, did you make to the Brockton Model for use with students in Grades K through five?

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**Response Principal A:** From the beginning it was apparent that we had to take into consideration the developmental age of the students. For example, with Grades K – 1, we focused on the big ideas and using a graphic organizer to plan for writing, in Grade 2 we took it a step further to write a paragraph with scaffolding and support for grammar and punctuation. In Grades 3 – 5, the students were expected to write multiple paragraphs with additional details and transitions building upon the basic components of answering a question and using a graphic organizer.

**Response Principal B:** We had to teach the students how to find and mark up important words in the questions. For the younger learners much of the work was teacher directed, with the older students in Grades 4 and 5, we worked on reading a passage and annotating important components.

For mathematics we found early in the process that the students needed to know how to answer mathematics questions and justify the answers. Instead of using the literacy model on a passage about a math topic or person, we had the students apply the technique to real-world math problems to understand what they were expected to do and to answer the question with an explanation of the numerical answer.

**Response Principal C:** The students first experienced the literacy model through a demonstration. We recorded a teacher teaching the literacy model and discussed the expectations with the students and what the finished product would look like for them.

**Response Principal D:** The Brockton Model has 10 steps. We decided to chunk them and focus on three at a time. Especially in the younger grades. We would practice a step and add another step. We developed timelines for each chunk. Grades K – 2 and 3 – 5 had different timelines and rubrics that were grade-appropriate. Keeping the vocabulary consistent helped students transition the process to the next grade. We provided additional supports such as fill-in-the-blank, or a list of transitional phrases for writing a response.

**Response Principal E:** We stuck with the first seven steps in the first two years of the project and added the remaining steps in the third year. We created our own materials, posters, etc. and looked at student sample work both good and bad. We added to our materials folders examples of students' work that represented various levels of achievement. The below mastery examples enabled us to look at what we were doing and make changes.

**Response Principal F:** The adaptation we made included focusing on vocabulary, verbal, and pictorial responses by students in kindergarten and during the first semester of first grade. Students in Grades 2 – 5 provided written responses and the progression aligned with the writing expectations found in the West Virginia College- and Career-Readiness Standards for each grade level. We created posters for the classrooms that were student friendly and provided pictorial clues to the literacy initiative for students.

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For Interview Question 3, the principals discussed adaptations to the Brockton Model for elementary-aged students. Their responses covered a wide variety of topics related to the adaptations. The adaptations included incorporating the 10 steps of the Brockton Model over the years from K – 5 so by the end of Grade 5, students would be able to read passages and complete a multi-paragraph response to the questions. Another adaptation was to provide a demonstration of the model and the expectations of the students in video form. One principal indicated for mathematics, students did not need to write an essay, but to respond to real-world mathematics problems that justify the answer and explain its meaning.

Table 4

*Jackson County Schools Principals' Responses to Interview Question 4*

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Describe some of the challenges to implementation of the Brockton Literacy Model in your school.

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**Response Principal A:** The staff handled the challenge well. They understood this was a directive from the superintendent. Scheduling observations of classrooms and writing assignments for different subject areas was the biggest hurdle. Some of the teachers remarked some of the standards were not addressed due to the time spent on the literacy model.

**Response Principal B:** There were two challenges to implementation for our school. The first was how to use the model in mathematics classes and get the bang for our buck there. The second was a few staff members not buying into the model and only providing the required use of the model.

**Response Principal C:** A major challenge was making sure special education students understood and had access to the process. Nearly 25% of our student population has an IEP. We knew some of them would struggle so the classroom teacher worked with the special educators to make sure all students had the same information and expectations. Some of the special education teachers were not completely cooperative and wanted to lower the expectations for some students.

**Response Principal D:** The upfront planning was time consuming and placed an extra burden on the staff. They were worried about the data and if the process was making a difference prior to the second benchmark. The results from this benchmark indicated we were moving in the right direction and won the teachers over. The upfront design is key. The plan was flexible and tweaked the original plan from time to time to refine the process. Consistency and monitoring time are important.

**Response Principal E:** Having the time to get information to teachers was a challenge. We incorporated the literacy model into what we were doing and not an add on. Used teacher leaders to share with grade level teams. We made the process understandable and laid out to minimize opportunity for resistance. Another challenge was getting everyone to stay true to the model which required constant refreshing and staying on the same page. New hires from year to year created challenges to keep the model consistent from year to year. We monitored teachers and helped those who were still not comfortable with the model and challenged those who were.

**Response Principal F:** Probably the largest challenge was finding time to train the teachers and meet with the leadership team to plan our implementation strategy. Our school had funds from a grant that allowed us to pay teachers to attend training after school on how to use the model in their classroom as well as find materials to use with the students.

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Interview Question 4 asked principals to respond to the challenges of implementing the Brockton Literacy Model. Four of the principals indicated scheduling and finding times to work with teachers and training as a challenge. Other responses included difficulty adapting to all



subject areas, reluctant staff members, consistency in the delivery of the model between classrooms, special education concerns, and time for monitoring classroom implementation.

Table 5

*Jackson County Schools Principals' Responses to Interview Question 5*

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Describe the nature and degree of teacher involvement in your school with development, planning and implementation of the literacy initiative in your school.

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**Response Principal A:** The training of staff and the creation of the schedule was completed by me (principal). The teachers once they understood the process then collaborated to find age-appropriate materials to use with the Brockton literacy Model. There were lots of conversations with staff about the process.

**Response Principal B:** The curriculum team which included most of the staff at our small school. In the large group we would discuss ideas and then break into smaller groups to further develop the ideas posed by the group. We discussed curriculum and grading and our vertical teaming approach to implementation helped.

**Response Principal C:** We formed a literacy team that is still active. They met at least once per 9 weeks and together choose writing prompts and materials for the students to use with the literacy model. This ensures students receive the same information and are held to the same expectations. As new teachers move into the school, they are trained in the process and seem to be open and adaptable regarding the literacy initiative.

**Response Principal D:** We created a team of three people two from K – 2 and one from 3-5. I chose the most senior people who were leaders. It was important who they were and their relationship with the staff. This group created the training scripts and rollout plan. During PLC meetings all the teachers had input, provided feedback, and discussed potential problems. The teachers felt safe to speak and share their ideas and concerns.

**Response Principal E:** Teacher leaders were key. The strong teachers were on board immediately and convinced the others it was going to work. The fourth-grade group was ready and helped convince their peers it could be done.

**Response Principal F:** The teachers at my school all have masters degrees in reading and the leadership team came up with a training format and then trained the remaining teachers in smaller groups. Teachers were encouraged to provide feedback on the plan and adjust after each implementation in the classroom. The teachers met after each implementation of the literacy initiative in the classroom and discussed the process and examined student work. This process helped teachers refine the initiative parameters after each implementation in the classroom.

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Interview Question 5 asked participants to describe the nature and degree of teacher involvement in the development and implementation of the literacy model. The principals stated teacher collaboration was used to select materials, ensure age-appropriate lessons, review student work to ensure consistency, and determine next steps were all key to successful implementation. The process of planning, classroom implementation, and debriefing after implementation was mentioned in some form by most of the principals.

Table 6

*Jackson County Schools Principals' Responses to Interview Question 6*

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Superintendent Hess required each school to submit short term plans throughout the school year for the literacy initiative. Describe your experiences with the plans in terms of how they were developed, revised, and used to guide the work related to the literacy initiative.

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**Response Principal A:** This was something Mr. Hess needed. Feedback was provided on the plans and it helped to clarify the expectations. As the plans evolved, we thought we were required to complete an assignment using the model every other week. We decided to instead complete one every nine weeks. This made the process more manageable and kept student interest.

**Response Principal B:** The curriculum team helped to develop the plan. This included specific dates to observe and teach to students, with a calendar and goals for monitoring. After the monitoring piece, the curriculum team discussed the process and gradually moved to the process becoming an organic part of instruction and not an event only used on specific dates.

**Response Principal C:** I gave my teachers six weeks to train the students in the literacy model. After that, they were to sign up for a time to be observed and then review once a grading period. In between the scheduled observations, I monitored classrooms to ensure they were using the process or components during instruction. For the end of year local school improvement council meeting with the district board, the students “taught” the board members about the process and provided samples of work. Central office personnel provided feedback for the 20-day plans.

**Response Principal D:** We made a plan for the semester and divided it into 20-day pieces. We revised the plan as we went along. For example, K – 2 did not get as far as we had planned. The implementing, revising and reimplementing process became a part of our routine. The plan held all accountable and we received feedback from others. In county principal meetings we would share out to help with consistency of the larger process. We shared tools and graphic organizers and ideas with each other to determine best practices for all. Challenge was that schools were given flexibility but had to ensure a core of basic practices were evident in the plans and implementation.

**Response Principal E:** We set the course for our school and decided what, how and when we were doing the instruction. We kept everyone aware of the expectations. Our plans now are more about the pace and how to roll out the steps. Students are moving faster now that we have been doing this for a while. Third grade students are now doing what our fifth-grade students did in the first year. We are expected to submit our plans and we receive feedback on these plans from the central office. Our routine now is to write the plan for the upcoming year based upon the previous year’s plan and experiences.

**Response Principal F:** The initial 20-day plan contained information about how to introduce the plan to the teachers and select the members to teach and implement the literacy initiative. After that, the leadership team and other teachers in the school developed a timeline and schedule for implementation and observation of classrooms. After every classroom implementation of the literacy initiative, teachers met in grade band PLCs to discuss student work and plan the next sessions. Subsequent years the plans were adjusted to make allowances for what the students learned in previous years and move the project forward.

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The principals responded to Interview Question 6 about the short term 20-day plans in similar fashion as to the role and use in their schools. Many reported receiving feedback on their plans from the central office. Most of the plans employed a school-based team working with the principal to create the plan and its subsequent revisions. Principals indicated submitted plans included schedules for implementation, monitoring, and revision. Several principals indicated the plans have evolved over the years to refine the process and ensure consistent and timely implementation of the literacy model in classrooms.

Table 7

*Jackson County Schools Principals' Responses to Interview Question 7*

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The demographics of Brockton High School and Jackson County are vastly different in terms of size, location, and diversity of the student population. Why do you think this literacy model works (or does not work) in both places?

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**Response Principal A:** What the Brockton Model does is it creates a recipe that all students can use as a tool, especially the struggling learners. They can practice and use the ten steps to complete a writing assignment. It helps them to organize their thoughts and develop a plan of attack to go through something that can be used in other subjects.

**Response Principal B:** The reason I think it works in both places is because of the repetition embedded in the process and the consistency of language across grade levels. One significant difference between the implementation at our schools and Brockton is that special education students at Brockton received a double dose of the practices compared to the non-special education students.

**Response Principal C:** The program worked for us because I did not give the teachers a choice and both students and teachers were held to high expectations. We are the poorest school in the county with the largest percentage of special education students. Our teachers worked hard to make it work. The fourth year we were able to focus more on the writing because the third graders had completed three years of training on the model in kindergarten through second grade. This did not mean we had to stop training. We could focus on improving the writing quality. Student success helped the teachers to become fully vested in the work and all had a role in how it was implemented at our school. We shared suggestions and made changes if the staff agreed the changes would improve the process.

**Response Principal D:** Challenges with ELA and writing are universal independent of demographics. Our school although small in comparison to Brockton had similar demographic issues such as low socioeconomic status, lack of parent education. The staff at both schools are similar and reflect three categories, the go getters, the skeptics, and the nay-sayers. Some schools had buy-in others did not and because of that, it took longer for them to implement fully.

**Response Principal E:** The model works because it is common skills needed for success. How to read and understand what is there and the model. That does not change. Education is an equalizer and the skills taught in the literacy model will help all students.

**Response Principal F:** Dr. Szachowicz said the process was sometimes called cookie cutter and some teachers at her school felt it impeded on their creativity. She said it is cookie cutter because it works independent of the demographics or curriculum. It is a process that builds the skills students need to read and write effectively and are applicable to all content areas and grade levels.

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The principal responses to Interview Question 7 indicated the Brockton Model created a consistent tool for students to become proficient in writing short essays and responses to open-

ended questions. The principals felt the Brockton Literacy Model provided a useful instructional model for all students independent of age or demographics.

### **Examination of Plans Submitted to the County Superintendent by Elementary School Principals**

The Jackson County Schools central office provided the implementation plans for all eight elementary schools for the 2015-16 and 2016-17 school years. The plans provided were submitted by the school principals and do not contain any annotations or feedback from the central office staff. The documents were referenced by letter to maintain the anonymity of the school and staff. These documents partially addressed Research Question 1: *What were the processes used by Jackson County elementary schools to transform the Brockton High School Literacy Model into the Jackson County Literacy Initiative?*

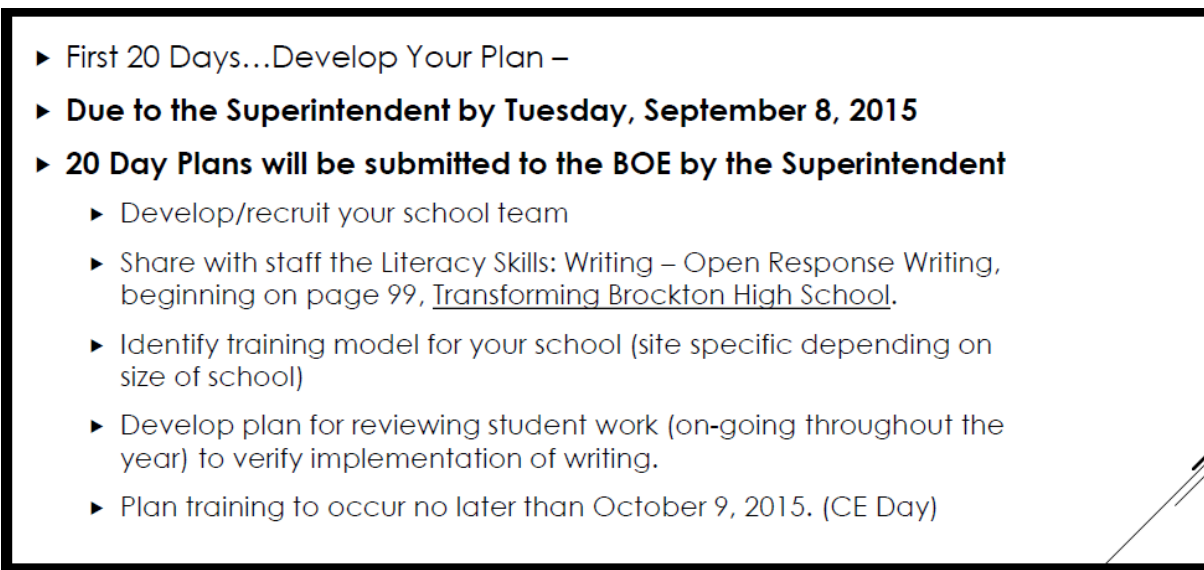
- 
- ▶ First 20 Days...Develop Your Plan –
  - ▶ **Due to the Superintendent by Tuesday, September 8, 2015**
  - ▶ **20 Day Plans will be submitted to the BOE by the Superintendent**
    - ▶ Develop/recruit your school team
    - ▶ Share with staff the Literacy Skills: Writing – Open Response Writing, beginning on page 99, [Transforming Brockton High School](#).
    - ▶ Identify training model for your school (site specific depending on size of school)
    - ▶ Develop plan for reviewing student work (on-going throughout the year) to verify implementation of writing.
    - ▶ Plan training to occur no later than October 9, 2015. (CE Day)

Figure 6: Superintendent’s presentation slide outlining components of school literacy plans.

In a presentation at the July 2015 Jackson County Administrative Retreat, Superintendent Hess required all principals to submit 20-day plans to implement the literacy initiative. Included

in Hess' presentation (Figure 6) were the required components of the school plans. The components included: develop/recruit a school team, share information from the book *Transforming Brockton high school: High standards, high expectations, no excuses* (Szachowicz,2013), identify a training model for the school staff, develop plans for reviewing student work to verify implementation, and ensure staff training occurs on or before October 9, 2015. In addition, the plans were examined to determine if they included a schedule for classroom implementation.

Table 8

*Summary of Year 1 Literacy Plan Components One through Four Submitted by Elementary School Principals*

	<b>Develop or Recruit a Literacy Team</b>	<b>Share Vision and Training Materials of Literacy Initiative</b>	<b>Identify a Training Model for the School Staff</b>	<b>Develop a plan for reviewing student work</b>
School A	Team members identified	Shared with Staff on August 10, 2015	Training scheduled for 30 minutes after school as needed.	Student work reviewed during monthly Professional Learning Community (PLC)
School B	Team members identified	Shared with staff on August 10, 2015	Training occurred October 9, 2015.	Teachers will review work of students in their classrooms. Full review of all staff work will occur during PLC time.
School C	Team members identified	Shared with Staff during the Week of September 1, 2015	Collaborated with another school to train leadership teams after school. Extra training of leadership team Oct. 9, 2015.	Not evident in the plan.
School D	Team members identified	Shared with Staff August 12, 2015	The training occurred for August 18 after school and October 9, 2015	Teachers review student work and after the second assignment teachers brought student work to PLC group.
School E	Team members identified	Shared with staff on August 10, 2015 additional feedback and planning with academic coaches.	Staff training August and September. October 9, 2015 faculty reviewed and planned for future events.	After implementing the literacy strategy for the first semester the staff met and reviewed student work.
School F	Team members identified	Shared with staff on August 10, 2015	School Team met after school to create training materials for the staff in September. Staff training on October 9, 2015.	Student work samples reviewed after each iteration of the literacy strategy in the classroom during PLC meetings.
School G	Team members identified	Shared with staff on August 10, 2015	Staff Trained on September 16 and October 9, 2015 using strategies for ELA and Math content areas. Later trainings in other subjects.	Student work samples reviewed during weekly collaboration days.
School H	Team members identified	Shared with staff on August 10, 2015	Staff trained on October 9, 2015 by the literacy team	Not mentioned in plan provided



Table 8 outlines the results for four of the seven components of the literacy plans submitted by the eight elementary principals for year 1 of the Jackson County Literacy Initiative. The review of the plans indicates all the elementary schools identified a core group of teachers to serve as literacy team members. Seven of the eight schools shared the overall vision for the Jackson County Literacy Initiative during the week of August 10, 2015 with the remaining school doing so in early September 2015. The identification of the training model by schools varied in detail and content. The components that could be identified and coded from the training models were: the training occurred after school, used a continuing education day for training (October 9, 2015), collaborated with another elementary school, and provided multiple training sessions. Three schools provided some training after school, seven used the continuing education day for training, two schools collaborated and shared training responsibilities, and six schools conducted multiple training sessions.

Table 9

*Summary of Year 1 Literacy Plan Components Five through Seven Submitted by Elementary School Principals*

	<b>Provide training on or Before Oct. 9, 2015</b>	<b>Schedule for Monitoring Classroom Implementation of the Literacy Initiative</b>	<b>Sample Materials Included in Literacy Plans</b>
School A	Yes	Yes, using walkthrough template developed for review of implementation of the model.	Not Provided with Plan
School B	Yes	Yes, will be monitored using the walkthrough electronic template with annotation of visit in the notes section.	Not Provided with Plan
School C	Yes	Yes, observation schedule provided no indication of data collection of observations.	Not Provided with Plan
School D	Yes	Yes, principal developed a form to collect classroom monitoring observations and shared with teachers.	Yes - open response writing rubrics for Grades K through 2 and 3 – 5
School E	Yes	Yes, examined lesson plans and electronic walkthrough data was collected.	Not provided with plan
School F	Yes	Yes, observations scheduled, and data collected using electronic walkthrough software.	Yes – active reading strategy steps poster used in classrooms with students.
School G	Yes	Yes, observations scheduled, and data collected using electronic walkthrough software.	Yes – materials used to train teachers in the literacy initiative including graphic organizer and rubric.
School H	Yes	No schedule of staff observations included in plan provided	Not provided with plan

Table 9 contains the remaining three items coded from the year 1 literacy plans submitted by the elementary principals. All schools completed the required staff training on or before October

9, 2015 as required by the county superintendent. Seven of the eight schools indicated in the literacy plans they were conducting staff observations. Of those seven, six indicated using some method to record observations during the monitoring for implementation visits of classrooms. Three of the principals included sample materials used with teacher training or classroom instruction with their plans submitted to the central office.

Table 10

*Summary of Year 2 Literacy Plans Submitted by Elementary School Principals*

<b>Summary of Year 2 Plans</b>	
School A	Provided refresher training to staff at beginning of school year including new teachers. Observations of staff when requested; focus on examination of student work during PLC time. Training for understanding graphs scheduled.
School B	Training for understanding graphs scheduled and schedule for PLCs to discuss student work scheduled. No mention of observations of classrooms.
School C	Continue to use literacy strategies in classroom. Paired new teachers with a mentor for the literacy strategies. Walkthroughs mentioned and examination of student work during PLCs.
School D	Provided refresher training for teachers. Schedules for observations, PLC examination of student work and training for understanding graphs were included in plan.
School E	Plan only included information about graphing component.
School F	Included schedules for training, observation, and examination of student work. Training for understanding graphs was scheduled.
School G	Included review of literacy initiative for staff, plans for assisting new staff members, schedules for training, observation, and examination of student work.
School H	Monitoring of implementation and examination of student work were included. Training for understanding graphs was scheduled.

Table 10 summarizes the year 2 plans for the eight elementary schools. The year 2 plans required by the superintendent needed to only include a summary of the continuation of the year

1 program as well as adding reading and writing about charts and graphs. Five of the eight plans included refresher training for new and returning teachers in their year 2 plans. Six of the plans included charts and graphs literacy. Plans for observations were included in six of the submitted year 2 plans. Seven of the year 2 plans included a system for reviewing student work.

### **Examination of Artifacts Used with Students in Classrooms**

Artifacts included with the plans submitted to the superintendent and central office staff included several components related to implementing the literacy initiative in the elementary classroom. These artifacts included: cards for completing the steps for understanding an open-response question, active reading of a passage and writing an effective response; two versions of graphic organizers for creating a written response to an open-ended question or essay. Additional artifacts included rubrics for scoring student writing assignments and ensuring the literacy initiative steps were used to ensure consistency and provide feedback to teachers as well as students. Monitoring checklists for principals to use were provided as they observed the implementation of the literacy initiative in the classroom and work sample expectations when brought to PLC meetings for discussion. The artifacts are found below and were used either in whole or part by the elementary schools in Jackson County.

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### 10 Steps to Answering Open Response Questions


1. Read question carefully – **Read through once**
2. Circle key words – **Power Verbs See page 2 of PowerPoint**
3. Restate the question as thesis -
4. Read passage carefully
  - a. **This is where we will put the active reading strategies into play – see handout with symbols**
5. Take notes that respond to the question/**Brainstorm and map out your answer**
6. Complete your thesis
7. Write your response carefully, using your map as a guide.
8. Strategically repeat key words from your thesis in your body and in your end sentence
9. Paragraph your response
10. Reread and edit your response

---

Figure 7: Artifact of Brockton High School Literacy Model with notes on adaptation for 3 – 5

Figure 7 contains the original Brockton High School ten step model with notations for breaking the 10 steps into three distinct activities for students in Grades 3 – 5. The three separate skills that were developed over time are reading the question, reading a passage using active reading strategies, and organizing, writing, and editing a response. This artifact was used initially by the literacy teams to determine the initial modifications that needed to be made for use with students in Grades 3 – 5.

### Taking on the Question

1. Read the question carefully.
  2.  power verbs (direction words) that tell you what to do.
  3. Underline or **highlight** important information.
  4. Restate the question in your own words. This is a thesis.
- 

### Actively Reading a Passage

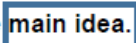




1. Underline or **highlight** important information.
2. Draw a box around the  main idea.
3. Put a  near things you do not understand.
4. Put a  where you can make a connection.
5. Use a  to show you agree with the author.
6. Put an  to show you disagree with the author.
7. Write notes in the margins.
8. Map out your answer using a graphic organizer.

Figure 8: Artifact of Jackson County Schools Literacy Initiative Steps that Align to the Brockton High School Model Steps 1 – 5 for Grades 3 – 5

Figure 8 was created to assist students with implementing the literacy model. The artifact in Figure 8 outlines the steps students were to use when reading a question prior to answering and forming a thesis statement from the question. The second section of Figure 8 outlines the steps for actively reading a passage. Symbols were added to give students visual clues for the process as they completed the classroom assignments for the literacy model. The artifact in Figure 8 represents the input from all elementary schools and was distributed in poster form to all schools for teachers to place in their classrooms. The steps outlined in Figure 8 align with Steps 1 – 5 of the Brockton Model.

## Tackling Open Response Questions

### Writing an Effective Response Grades 3 - 5

1. **Make the thesis statement strong.** 

2. **Use the notes from the graphic organizer to build sentences or paragraphs.**



3. **Summarize using details from the thesis and body.**



4. **Paragraph your response.**



5. **Remember to check for COPS.**

**Capitalization**  
**Organization**  
**Punctuation**  
**Spelling**



Figure 9: Artifact of Jackson County Schools Literacy Initiative Steps that Align to the Brockton High School Model Steps 6 – 10 for Grades 3 - 5

The artifact found in Figure 9 demonstrates the steps used to assist students in writing their response to a question using the outline notes and graphic organizer created during steps one through five. Students in Grades 3 – 5 answered using a multi-paragraph response to an open-ended question. The expectations for writing align with the West Virginia College- and Career-readiness standards (WVDE, 2016). Students were given a copy Figure 9 to use at their desks when writing a response to a question after completing the reading assignment and graphic organizer.

The graphic organizer is a vertical template with a central title "Graphic Organizer". It is divided into five distinct sections, each with a rounded top and bottom. The sections are labeled as follows: "Topic/Thesis" at the top, followed by "Details 1", "Details 2", "Details 3", and "Conclusion" at the bottom. The "Topic/Thesis" and "Conclusion" sections are shaped like semi-circles, while the "Details" sections are rectangular with rounded corners.

Figure 10: Artifact of a Graphic Organizer Used by Jackson County Elementary Schools for the Literacy Initiative



<b>Topic/Thesis</b>	
<hr style="border: none; border-top: 1px solid black;"/> <hr style="border: none; border-top: 1px solid black;"/>	
<b>Transition:</b> To begin with, In the first place, Firstly, The first reason	
<b>Topic:</b> _____ <hr style="border: none; border-top: 1px solid black;"/> <hr style="border: none; border-top: 1px solid black;"/>	<b>Evidence:</b>  
<b>Transition:</b> Additionally, Another reason why, Secondly, Next	
<b>Topic:</b> _____ <hr style="border: none; border-top: 1px solid black;"/> <hr style="border: none; border-top: 1px solid black;"/>	<b>Evidence:</b>  
<b>Transition:</b> Lastly, Yet another reason why, One last reason why, Thirdly	
<b>Topic:</b> _____ <hr style="border: none; border-top: 1px solid black;"/> <hr style="border: none; border-top: 1px solid black;"/>	<b>Evidence:</b>  
<b>Conclusion</b>	
<hr style="border: none; border-top: 1px solid black;"/> <hr style="border: none; border-top: 1px solid black;"/>	

Figure 11: Artifact of a Modified Graphic Organizer Used by Jackson County Elementary Schools for the Literacy Initiative

Figures 10 and 11 are examples of graphic organizers used by teachers in Jackson County elementary schools. These graphic organizers were often referred to as the “hamburger” type and were used to help students plan their writing by creating notes for sections of an effective paragraph or essay. The organizer includes an introduction/thesis, three topics or details, and a conclusion section. Figure 11 is a modification of the original hamburger graphic organizer. It

provided lines for students to write information, suggested phrases to use for transitions, and a place for evidence to support the student's writing response. The second hamburger graphic organizer was developed by teachers as a scaffold to use with students who needed extra support or struggled with writing and organizing their work. The hamburger graphic organizer was promoted by the county office and used by most of the elementary schools for the literacy initiative.

### Literacy Initiative Steps Checklist

<input type="checkbox"/>	Read the Question
<input type="checkbox"/>	Attacked the Question
<input type="checkbox"/>	Restated the Question to Form the Thesis
<input type="checkbox"/>	Actively Read the Text
<input type="checkbox"/>	Completed the Thesis
<input type="checkbox"/>	Completed the Graphic Organizer
<input type="checkbox"/>	Completed First Draft of Response
<input type="checkbox"/>	Reviewed Edited First Draft and Completed Final Draft

<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
Completed 0-1 steps of the process.	Completed 2-4 steps of the process.	Completed 5-7 steps of the process.	Completed 8 steps of the process.

Open Response Score \_\_\_\_\_  
 Literacy Initiative Steps Score \_\_\_\_\_  
 Total Score \_\_\_\_\_  
 Mastery Level \_\_\_\_\_

Above Mastery = 18 - 21    Mastery = 13 - 17  
 Partial Mastery = 8 - 12    Needs Improvement = 7 and below

### LITERACY INITIATIVE OPEN RESPONSE WRITING RUBRIC Third-Fifth Grade

Student \_\_\_\_\_ Date \_\_\_\_\_

	0	1	2	3
<b>Content</b>				
Thesis	Thesis is not complete or correct.	Thesis is complete but not correct.	Thesis is complete and correct but does not include key words from the question.	Thesis is complete, correct and includes key words from the question.
Detail Sentences	There is no evidence from the text to support your thesis.	Some evidence from the text is included but it does not support the thesis.	Evidence from the text is included and supports the thesis but sentences do not include key words from the thesis.	Evidence from the text is included and supports the thesis. Sentences include key words from the thesis.
Conclusion	Conclusion is not complete or correct.	Conclusion is complete but not correct.	Conclusion is complete and correct but does not include key words from the question.	Conclusion is complete, correct and includes key words from the question.
<b>Form</b>				
Sequence	Transition vocabulary was not included and details are not in order.	Transition vocabulary was not included but details are in order.	Transition vocabulary is used in one or two of the details and the details are in order.	Transition vocabulary is used in all details and the details are in order.
Structure	Sentences contain major grammatical errors in structure and do not make sense.	Two sentences contain major grammatical errors and do not make sense.	One sentence contains major grammatical errors and does not make sense.	All sentences are free from grammatical errors and make complete sense.
Capitalization Punctuation	There are 10 or more capitalization and/or punctuation errors.	There are 7-9 capitalization and/or punctuation errors.	There are 4-6 capitalization and/or punctuation errors.	There are 3 or fewer capitalization and/or punctuation errors.

Figure 12: Artifact of Rubric Used by Jackson County Elementary Schools for the Literacy Initiative to Examine and Quantify Student Work in Grades 3 - 5

Figure 12 is a rubric used by some of the schools to score and quantify student work after completing an assignment using the steps of the writing initiative. This rubric contains the steps found in the Jackson County literacy initiative for Grades 3 – 5. The rubric outlined what was expected of students as they read a passage and prepared an answer to an open-ended question. The steps were to create and fill in a graphic organizer, use the graphic organizer to prepare a first draft, and review and edit the first draft into a final draft. The rubrics were used to score, analyze, and discuss student work.

## Elementary Literacy Monitoring

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date

Literacy Steps observed for Active Reading/Open Response

- \_\_\_\_ 1. Read the question
- \_\_\_\_ 2. A. Circle key direction verbs.
- \_\_\_\_ 2.B. Underline important information
- \_\_\_\_ 3. Restate the question in your own words.
- \_\_\_\_ 4. Read the passage using your active reading strategies

Codes that were used by students: \_\_\_\_circle, \_\_\_\_underline, \_\_\_\_question mark,  
\_\_\_\_connection \_\_\_\_ check mark,  
\_\_\_\_x mark, \_\_\_\_double line,  
\_\_\_\_ writing in the margins (gr. 2-5)

- \_\_\_\_ 5. Fill in the blanks to your thesis statement. (This is the answer to your question)
- \_\_\_\_ 6. Using your thesis statement, fill in your Graphic Organizer. Cite evidence to correspond with the answers in your thesis statement.
- \_\_\_\_ 7. Paragraph your response.
- \_\_\_\_ 8. Reread and edit your response.
- \_\_\_\_ 9. Use a rubric to check your work.

Comments/Suggestions:

Figure 13: Artifact of Classroom Monitoring Template Used by Jackson County Elementary Schools for the Literacy Initiative

Walkthrough Name	Template
[REDACTED]	Literacy Strategy Observation Steps 1 - 5 Only
Board Name	School Name
Jackson County Schools	[REDACTED]
Observer	Subject
[REDACTED]	[REDACTED]
Start Date	End Date
[REDACTED]	Thu Oct 22 2015 11:29 AM

<p><b>Page 1</b></p> <p><b>1. Open Ended question and reading passage reflect required content area</b>                  Note : Mrs. [REDACTED] tied the reading to a future activity. The passage was aligned to the content area. The students previewed the pictures then looked at the questions. Students looked at the first question. Is to look for the power verbs in question. The students circled the power verbs. Circled LOOK and WRITE.</p> <p><b>2. Teacher provides instruction regarding how to examine the question stem prior to reading the passage.</b>                  Note : The students had a routine to circle power verbs and to underline important information. The students knew what to do and were on task. Pictures can be answers too...Important information can be in the picture too...Students could create a picture to answer the question.</p> <p><b>3. Teacher demonstrates active reading strategies that are developmentally appropriate.</b>                  Note : Mrs. [REDACTED] clearly explained the expectations. She asked the students to read silently and to look for the main topic.</p> <p><b>4. Students are engaged and understand the task.</b>                  Note : Students were reading silently and answering appropriately. Mrs. [REDACTED] asked for them to identify the main idea. The students wanted to give details instead of the main idea. After prompting to examine the first paragraph, the students correctly stated the main idea. Mrs. [REDACTED] explained the need for a bike rack at the school in the story and took the time to explain the context. (Students in this story could ride their bikes to school).</p> <p><b>5. Teacher provides opportunities for discussion of student responses.</b>                  Note : The students had to think about what they wanted to do. They were to draw a picture of the problem need to do to solve our community problem. (They were looking at the environment and habitat of Kenna and how it could be taken care of - connected it to their Jack Hanna Lesson project. ) They drew a picture of how to solve their problem. She gave the hamburger graphic organizer to each group to write a sentence for the Thesis, identify 3 details from the pictures and then write a conclusion - why is the important to the animals.</p> <p><b>6. Students provide information regarding thesis, at least three details and a concluding statement.</b>                  Note : Students were prompted to find the main idea and underline key details. Mrs. [REDACTED] then had the students answer the question by prompting them to examine the main idea and details they had boxed/underlined. She then tied the moral of the story to how things might be in the "real" world.                   Could the hamburger help us write about the story and answer the questions? She also connected it to other activities and models in class.</p> <p><b>7. Notes/Observations</b>                  Note : Mrs. [REDACTED] made sure the students understood the main ideas and the vocabulary for the literacy problem. This lesson was exceptional for the students to take information and use for an applications. The use of groups and discussions was excellent. Amazing lesson.</p>
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[https://mxweb.media-x.com/ewalk/Print/print\\_walkthrough\\_1.php?walkthrough\\_id=1181...](https://mxweb.media-x.com/ewalk/Print/print_walkthrough_1.php?walkthrough_id=1181...) 10/30/2015

Figure 14: Artifact of Classroom Monitoring Templates Used by Jackson County Elementary Schools for the Literacy Initiative

Figures 13 and 14 are two examples of classroom observation and monitoring templates used by Jackson County principals to observe the literacy initiative implementation in the

classroom. The templates provided were used to record classroom instruction and student interaction as it related to the steps of the literacy initiative. Some of the schools used a handwritten observation form as demonstrated by Figure 13 and others created templates using the county's walkthrough software as shown in Figure 14.

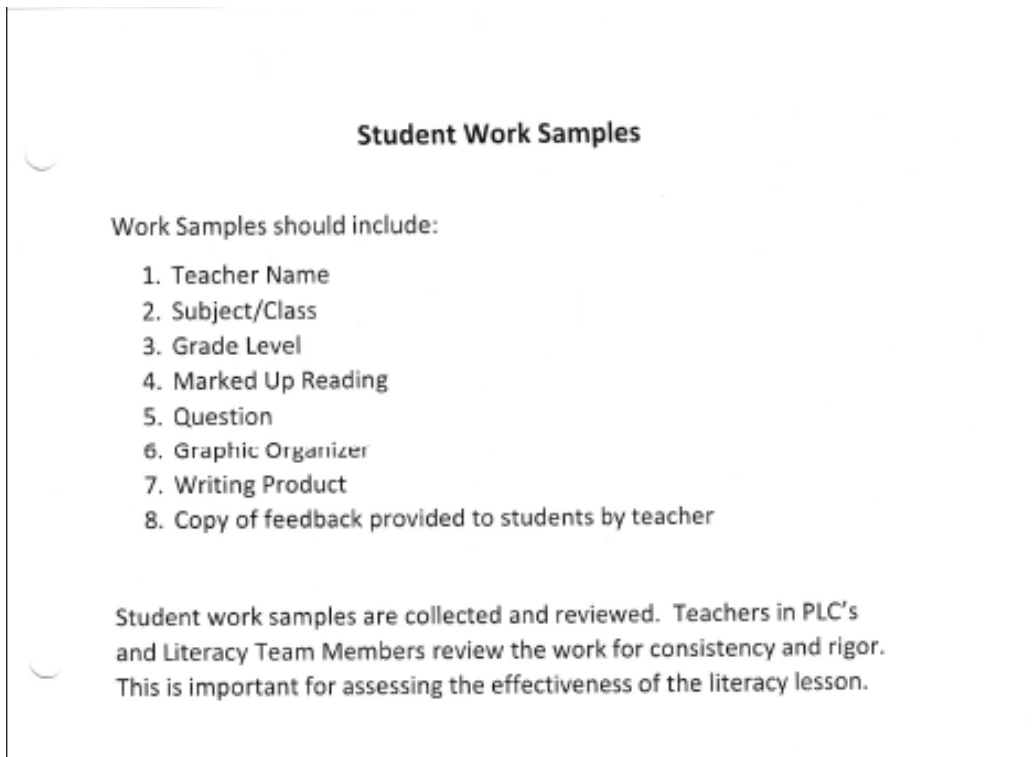


Figure 15: Artifact of Expectations for Student Work Samples to discuss during Professional Learning Committee Meetings at School

Figure 15 is an example of the materials teachers were expected to bring to PLCs to discuss student work. Discussion of student work was a requirement of the superintendent for implementing the Jackson County Literacy Initiative (Figure 6). The list found in Figure 15 provided teachers with the criteria for work sample submissions, a process used to analyze student work samples, and a rationale for the process.

## **Quantitative Data Analysis**

The summative assessment data examined student and grade level scale scores and performance levels for the overall assessments in English Language Arts and scaled sub-scores and performance levels for reading, listening, writing, and research/inquiry. The assessment data was used to answer Research Question 2: *What effect, if any, did the implementation of the Jackson County Literacy Initiative have on student English Language Arts achievement over the 2015-2016 and 2016-2017 academic years in Jackson County elementary schools?*

The data file was obtained from the West Virginia Department of Education after the approval of the research by Marshall University's IRB and the IRB at WVDE. The file contained 3,235 records for students attending Jackson County Schools who were administered the state summative assessment during the 2014-15 through 2016-17 school years in Grades 3 through 5. The data fields for each assessment record included the school year, school code, school name, student identification number, grade level, gender, days attended, and days enrolled. The portion related to the assessment scores included scale scores and performance levels for English Language Arts composite, and scaled sub-scores and performance levels for reading, listening, writing and research. The summative assessment given in West Virginia during the 2014-15 through 2016-17 school years was the West Virginia General Summative Assessment (WVGSA) developed as a part of the Smarter Balanced Assessment Consortium (SBAC). Scale scores are on a continuous vertical scale that range from 2114 to 2701 for Grades 3 – 5 (WVDE, 2017).

### **Data Analysis of Scale Scores**

To ensure a consistent data set that reflected the program initiated at each school, the West Virginia General Summative Assessment data file was filtered for several factors. The first filter was to remove records of students who attended less than 100 days during a school year.



Any records with at least 100 days of attendance were kept as part of the study. The records were then sorted by student identification number and school code. Students who were retained during the school years were identified and eliminated from the data set used for the study. The data set derived from this initial filtering process was used for each of the three analyses and subsequently filtered to meet the parameters of the analysis being performed. The file was reduced to 3,011 records representing 1,003 students.

A first run of the quantitative data analysis was performed on scale score data for each school comparing school year 2014-2015 (pre-model data) to 2016-2017 data (year 2 of the model). The data file was filtered further to only include students who attend the same school for the three years from 2014-15 to 2016-17. Students who attended less than 100 days each year were not included. A total of 247 students in seven schools were included in the first run of the quantitative data analysis. The following tables provide a summary of the statistical analysis for each school. The t-Test for dependent groups was calculated for the scale scores for each school. The p-values were examined for the data with significance obtained when  $p < 0.05$ . The mean scale score gains were determined for overall ELA and the subscores for Reading, Listening, Writing, and Research/Inquiry. Statistical analysis is presented in Tables 11 – 17.

Table 11

*School A: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups– Grade 3 to Grade 5 (pre and after year 2)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2016 – 17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	70	2535	2605	6.605	0.000*
Reading	66	2530	2596	4.874	0.000*
Listening	63	2533	2596	3.164	0.006*
Writing	73	2535	2608	3.580	0.002*
Research/Inquiry	88	2532	2620	3.222	0.005*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School A showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2016-2017 year in Table 11. The t-test for dependent groups showed significant differences in student scale scores between the years 2014-2015 and 2016-2017 in the ELA Composite and significant differences in student scale scores in all sub-sections of the WVGSA ELA test: Reading, Listening, Writing, and Research/Inquiry.

Table 12

*School B: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups– Grade 3 to Grade 5 (pre and after year 2)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2016 – 17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	70	2432	2502	5.653	0.000*
Reading	101	2402	2503	6.442	0.000*
Listening	71	2440	2511	3.586	0.001*
Writing	64	2438	2502	2.917	0.008*
Research/Inquiry	60	2436	2496	2.901	0.008*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School B showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2016-2017 year in Table 12. The t-test for dependent groups showed significant differences in student scale scores between the years 2014-2015 and 2016-2017 in the ELA Composite and significant differences in student scale scores in all sub-sections of the WVGSA test: Reading, Listening, Writing, and Research/Inquiry.

Table 13

*School C: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups– Grade 3 to Grade 5 (pre and after year 2)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2016 – 17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	72	2430	2502	14.546	0.000*
Reading	74	2427	2502	9.024	0.000*
Listening	50	2442	2492	4.092	0.000*
Writing	74	2425	2499	7.435	0.000*
Research/Inquiry	80	2417	2497	7.324	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School C showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2016-2017 year in Table 13. The t-test for dependent groups showed significant differences in student scale scores between the years 2014-2015 and 2016-2017 in the ELA Composite and significant differences in student scale scores in all sub-sections of the WVGSA test: Reading, Listening, Writing, and Research/Inquiry.

Table 14

*School D: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups– Grade 3 to Grade 5 (pre and after year 2)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2016 – 17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	85	2421	2506	6.364	0.000*
Reading	117	2398	2515	5.562	0.000*
Listening	33	2441	2474	1.064	0.302
Writing	59	2440	2499	2.881	0.010*
Research/Inquiry	118	2397	2515	5.856	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School D showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2016-2017 year in Table 14. The t-test for dependent groups showed significant difference in student scale scores between the years 2014-2015 and 2016-2017 in the ELA Composite and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Writing, and Research/Inquiry. The sub-test that did not show a significant scale score difference was Listening.

Table 15

*School E: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups– Grade 3 to Grade 5 (pre and after year 2)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2016 – 17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	76	2413	2489	12.91	0.000*
Reading	88	2403	2491	9.174	0.000*
Listening	73	2418	2491	6.490	0.000*
Writing	79	2409	2488	8.214	0.000*
Research/Inquiry	72	2403	2475	6.624	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School E showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2016-2017 year in Table 15. The t-test for dependent groups showed significant differences in student scale scores between the years 2014-2015 and 2016-2017 in the ELA Composite and significant differences in student scale scores in all sub-sections of the WVGSA test: Reading, Listening, Writing, and Research/Inquiry.

Table 16

*School F: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups– Grade 3 to Grade 5 (pre and after year 2)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2016 – 17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	60	2430	2490	6.817	0.000*
Reading	70	2424	2494	4.549	0.000*
Listening	18	2456	2474	0.925	0.362
Writing	66	2429	2495	4.658	0.000*
Research/Inquiry	70	2402	2472	4.347	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School F showed scale score gains for all sections of the WVGSAs English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2016-2017 year in Table 16. The t-test for dependent groups showed significant difference in student scale scores between the years 2014-2015 and 2016-2017 in the ELA Composite and significant differences in student scale scores in three sub-sections of the WVGSAs test: Reading, Writing, and Research/Inquiry. The sub-test that did not show a significant scale score difference was Listening.

School G has students in Grades PK -2 and does not administer the West Virginia General Summative Assessment.

Table 17

*School H: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 5 (pre and after year 2)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2016 – 17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	81	2455	2536	9.020	0.000*
Reading	106	2433	2539	4.829	0.000*
Listening	86	2479	2565	4.033	0.000*
Writing	86	2439	2525	5.772	0.000*
Research/Inquiry	66	2473	2539	3.812	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School H showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2016-2017 year in Table 17. The t-test for dependent groups showed significant differences in student scale scores between the years 2014-2015 and 2016-2017 in the ELA Composite and significant differences in student scale scores in all sub-sections of the WVGSA test: Reading, Listening, Writing, and Research/Inquiry.

The second run of the quantitative data analysis was performed on data for each school comparing school year 2014-2015 (pre-model data) to 2015-2016 data (year 1 of the model) for students moving from Grade 3 to Grade 4. The data file was filtered further to only include students who attend the same school for the 2014-15 and 2015-16 school years. Students who attended less than 100 days each year were not included. A total of 286 students in seven schools were included in the analysis. The following tables provide a summary of the statistical analysis for each school. The t-Test for dependent groups was calculated for the scale scores for each school. The p-values were examined for the data with significance obtained when  $p < 0.05$ . The



mean scale score gains were determined for overall ELA and the subscores for reading, listening, writing and research/inquiry. Statistical analysis is presented in Tables 18 – 24.

Table 18

*School A: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	37	2536	2573	3.926	0.001*
Reading	44	2530	2574	2.676	0.017*
Listening	87	2532	2619	3.112	0.007*
Writing	38	2536	2574	1.800	0.091
Research/Inquiry	39	2533	2572	1.561	0.138

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School A showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 18 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in two sub-sections of the WVGSA test: Reading and Listening. The sub-tests that did not show significant scale score differences were Writing and Research/Inquiry.

Table 19

*School B: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	59	2441	2500	5.481	0.000*
Reading	67	2419	2486	4.224	0.000*
Listening	29	2449	2478	1.126	0.269
Writing	77	2447	2524	4.442	0.000*
Research/Inquiry	59	2437	2496	3.186	0.002*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School B showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 19 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Writing and Research/Inquiry. The sub-test that did not show a significant scale score difference was Listening.

Table 20

*School C: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	44	2431	2475	8.454	0.000*
Reading	46	2430	2476	4.490	0.000*
Listening	29	2442	2471	2.184	0.032*
Writing	51	2425	2476	5.364	0.000*
Research/Inquiry	36	2422	2458	3.044	0.003*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School C showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 20 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in all sub-sections of the WVGSA test: Reading, Listening, Writing and Research/Inquiry.

Table 21

*School D: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	77	2425	2502	5.634	0.000*
Reading	95	2403	2498	5.198	0.000*
Listening	62	2447	2509	1.980	0.063
Writing	55	2444	2499	3.293	0.004*
Research/Inquiry	109	2393	2502	4.002	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School D showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 21 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Writing and Research/Inquiry. The sub-test that did not show a significant scale score difference was Listening.

Table 22

*School E: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	60	2415	2475	10.929	0.000*
Reading	66	2406	2472	7.458	0.000*
Listening	83	2421	2504	7.039	0.000*
Writing	50	2412	2462	4.834	0.000*
Research/Inquiry	70	2405	2475	5.620	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School E showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 22 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in all sub-sections of the WVGSA test: Reading, Listening, Writing and Research/Inquiry.

Table 23

*School F: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	43	2432	2475	4.889	0.000*
Reading	51	2425	2476	3.766	0.000*
Listening	31	2454	2485	1.383	0.175
Writing	34	2436	2470	2.433	0.020*
Research/Inquiry	71	2399	2470	3.211	0.003*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School F showed scale score gains for all sections of the WVGSAs English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 23 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSAs test: Reading, Writing and Research/Inquiry. The sub-test that did not show a significant scale score difference was Listening.

School G has students in Grades PK -2 and does not administer the West Virginia General Summative Assessment.

Table 24

*School H: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	67	2450	2517	6.349	0.000*
Reading	82	2431	2513	4.851	0.000*
Listening	95	2469	2564	4.613	0.000*
Writing	69	2436	2505	3.860	0.000*
Research/Inquiry	53	2466	2519	2.975	0.006*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School H showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 24 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in all sub-sections of the WVGSA test: Reading, Listening, Writing and Research/Inquiry.

Also, in the second run of the quantitative data analysis for each school comparing school year 2014-2015 (pre-model data) to 2015-2016 data (year 1 of the model) examined the results for students moving from Grade 4 to Grade 5. The data file was filtered further to only include students who attend the same school for the 2014-15 and 2015-16 school years. Students who attended less than 100 days each year were not included. A total of 293 students in seven schools were included in the analysis. The following tables provide a summary of the statistical analysis for each school. The t-Test for dependent groups was calculated for the scale scores for each school. The p-values were examined for the data with significance obtained when  $p < 0.05$ . The

mean scale score gains were determined for overall ELA and the subscores for reading, listening, writing and research/inquiry. Statistical analysis is presented in Tables 25 – 31.

Table 25

*School A: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	60	2519	2579	4.657	0.000*
Reading	60	2510	2570	2.741	0.015*
Listening	36	2505	2541	0.892	0.387
Writing	57	2519	2576	3.809	0.001*
Research/Inquiry	88	2522	2610	3.709	0.002*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School A showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 25 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Writing and Research/Inquiry. The sub-test that did not show a significant scale score difference was Listening.



Table 26

*School B: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	46	2500	2546	5.138	0.000*
Reading	68	2475	2543	4.302	0.000*
Listening	64	2464	2528	2.874	0.009*
Writing	10	2547	2557	0.803	0.429
Research/Inquiry	80	2465	2545	4.257	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School B showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 26 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Listening and Research/Inquiry. The sub-test that did not show a significant scale score difference was Writing.

Table 27

*School C: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	61	2431	2492	11.200	0.000*
Reading	58	2418	2476	5.847	0.000*
Listening	44	2430	2474	3.632	0.000*
Writing	55	2442	2497	6.884	0.000*
Research/Inquiry	103	2403	2506	8.924	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School C showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 27 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in all sub-sections of the WVGSA test: Reading, Listening, Writing and Research/Inquiry.

Table 28

*School D: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	4	2499	2503	0.472	0.642
Reading	-18	2516	2498	-1.121	0.276
Listening	-11	2468	2457	-0.472	0.064
Writing	13	2495	2508	1.219	0.238
Research/Inquiry	11	2494	2505	0.537	0.597

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School D showed scale score gains for the ELA Composite, Writing, and Research/Inquiry with a decrease in scale scores for the Reading and Listening sections of the WVGSA English Language Arts test as noted from the data from the 2014-2015 year to the 2015-2016 year in Table 28 for students moving from Grade 4 to Grade 5. The t-test for dependent groups did not show a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and in student scale scores for all sub-sections of the WVGSA test: Reading, Listening, Writing and Research/Inquiry.

Table 29

*School E: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	42	2490	2532	7.373	0.000*
Reading	33	2488	2521	4.179	0.000*
Listening	10	2504	2514	0.612	0.542
Writing	44	2493	2537	5.289	0.000*
Research/Inquiry	98	2457	2555	7.591	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School E showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 29 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Writing and Research/Inquiry. The sub-test that did not show a significant scale score difference was Listening.

Table 30

*School F: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	46	2480	2526	7.650	0.000*
Reading	52	2463	2515	4.231	0.000*
Listening	8	2504	2512	0.375	0.710
Writing	58	2480	2538	4.480	0.000*
Research/Inquiry	70	2460	2530	4.983	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School F showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 30 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Writing and Research/Inquiry. The sub-test that did not show a significant scale score difference was Listening.

School G has students in Grades PK -2 and does not administer the West Virginia General Summative Assessment.

Table 31

*School H: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (pre and after year 1)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2014 –15 Mean Scale Score</b>	<b>2015 – 16 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	59	2468	2527	6.733	0.000*
Reading	69	2445	2514	4.930	0.000*
Listening	22	2465	2487	1.189	0.244
Writing	23	2492	2515	1.309	0.201
Research/Inquiry	106	2459	2565	6.465	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School H showed scale score gains for all sections of the WVGSA English Language Arts test as noted in an increase in scale scores from the 2014-2015 year to the 2015-2016 year in Table 31 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores between the years 2014-2015 and 2015-2016 for the ELA Composite score and significant differences in student scale scores in two sub-sections of the WVGSA test: Reading and Research/Inquiry. The sub-tests that did not show a significant scale score difference was Listening and Writing.

A third run of the quantitative data analysis was performed on data for each school comparing school year 2015-2016 (year 1 data of the model) to 2016-2017 data (year 2 of the model) for students moving from Grade 3 to Grade 4. The data file was filtered further to only include students who attend the same school for the 2015-16 and 2016-17 school years. Students who attended less than 100 days each year were not included. A total of 307 students in seven schools were included in the analysis. The following tables provide a summary of the statistical analysis for each school. The t-test for dependent groups was calculated for the scale scores for each school. The p-values examined for the data with significance obtained when  $p < 0.05$ . The

mean scale score gains were determined for overall ELA and the subscores for Reading, Listening, Writing and Research/Inquiry. Statistical analysis is presented in Tables 32 – 38.

Table 32

*School A: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	22	2530	2552	2.640	0.015*
Reading	-7	2532	2525	- 0.392	0.699
Listening	29	2539	2568	1.005	0.326
Writing	61	2526	2587	3.445	0.002*
Research/Inquiry	5	2551	2556	0.235	0.817

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School A showed scale score gains for the ELA Composite, Listening, Writing and Research/Inquiry and a decrease in scale scores for the Reading section of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 32 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and significant differences in student scale scores in one sub-section of the WVGSA test: Writing. The sub-tests that did not show a significant scale score difference were Reading, Listening, and Research/Inquiry.

Table 33

*School B: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	45	2428	2473	4.264	0.000*
Reading	39	2419	2458	1.863	0.076
Listening	27	2452	2479	1.340	0.194
Writing	66	2413	2479	5.366	0.000*
Research/Inquiry	24	2440	2464	0.828	0.416

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School B showed scale score gains for all sections of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 33 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and significant differences in student scale scores in one sub-section of the WVGSA test: Writing. The sub-tests that did not show a significant scale score difference were Reading, Listening, and Research/Inquiry.



Table 34

*School C: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	31	2437	2468	5.770	0.000*
Reading	33	2447	2480	3.743	0.000*
Listening	-4	2472	2468	-0.297	0.767
Writing	48	2410	2458	6.104	0.000*
Research/Inquiry	12	2434	2446	0.849	0.398

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School C showed scale score gains for the ELA Composite, Reading, Writing, and Research/Inquiry and a decrease in scale score for the Listening section of the WVGSA English Language Arts test as noted in the data from the 2015-2016 year to the 2016-2017 year in Table 34 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and significant differences in student scale scores in two sub-sections of the WVGSA test: Reading and Writing. The sub-tests that did not show a significant scale score difference were Listening and Research/Inquiry.

Table 35

*School D: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	47	2469	2516	4.133	0.000*
Reading	57	2472	2529	2.747	0.013*
Listening	33	2475	2508	1.083	0.294
Writing	40	2471	2511	2.459	0.025*
Research/Inquiry	59	2445	2504	2.416	0.027*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School D showed scale score gains for all sections of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 35 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Writing, and Research/Inquiry. One sub-test that did not show a significant scale score difference was Listening.

Table 36

*School E: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	50	2411	2461	9.555	0.000*
Reading	53	2406	2459	5.961	0.000*
Listening	23	2434	2457	1.688	0.095
Writing	41	2406	2447	5.416	0.000*
Research/Inquiry	73	2393	2466	7.087	0.000*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School E showed scale score gains for all sections of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 36 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Writing, and Research/Inquiry. One sub-test that did not show a significant scale score difference was Listening.

Table 37

*School F: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	25	2442	2467	3.636	0.000*
Reading	25	2444	2469	2.228	0.031*
Listening	27	2427	2454	1.543	0.130
Writing	27	2456	2483	2.153	0.037*
Research/Inquiry	30	2416	2446	1.690	0.098

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School F showed scale score gains for all sections of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 37 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and significant differences in student scale scores in two sub-sections of the WVGSA test: Reading and Writing. Two sub-tests that did not show a significant scale score difference were Listening and Research/Inquiry.

School G has students in Grades PK -2 and does not administer the West Virginia General Summative Assessment.

Table 38

*School H: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 3 to Grade 4 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	58	2426	2484	6.205	0.000*
Reading	68	2431	2499	4.144	0.000*
Listening	25	2459	2484	1.246	0.222
Writing	56	2402	2458	3.291	0.003*
Research/Inquiry	76	2423	2499	3.549	0.001*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School H showed scale score gains for all sections of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 38 for students moving from Grade 3 to Grade 4. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and significant differences in student scale scores in three sub-sections of the WVGSA test: Reading, Writing, and Research/Inquiry. One sub-test that did not show a significant scale score difference was Listening.

Also in the third run of the quantitative data analysis for each school comparing school year 2015-2016 (year 1 data of the model) to 2016-2017 data (year 2 of the model) for students moving from Grade 4 to Grade 5. The data file was filtered further to only include students who attend the same school for the 2015-16 and 2016-17 school years. Students who attended less than 100 days each year were not included. A total of 279 students in seven schools were included in the analysis. The following tables provide a summary of the statistical analysis for each school. The t-Test for dependent groups was calculated for the scale scores for each school. The p-values were examined for the data with significance obtained when  $p < 0.05$ . The mean

scale score gains were determined for overall ELA and the subscores for Reading, Listening, Writing and Research/Inquiry. Statistical analysis is presented in Tables 39 - 45.

Table 39

*School A: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	38	2573	2611	3.548	0.002*
Reading	28	2571	2599	1.545	0.139
Listening	-11	2624	2613	-0.400	0.693
Writing	39	2575	2614	1.993	0.061
Research/Inquiry	54	2570	2624	1.885	0.075

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School A showed scale score gains for the ELA Composite, Reading, Writing and Research/Inquiry and a decrease in scale scores for the Listening section of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 39 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 in the ELA Composite score. All four of the sub-tests, Reading, Listening, Writing, and Research/Inquiry did not show a significant scale score difference.

Table 40

*School B: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	-4	2498	2494	-0.326	0.747
Reading	8	2487	2495	0.593	0.558
Listening	11	2490	2501	0.472	0.641
Writing	-14	2514	2500	-0.734	0.470
Research/Inquiry	-19	2496	2477	-0.873	0.391

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School B showed scale score gains for Reading and Listening and a decrease in scale score for the ELA Composite, Writing, and Research/Inquiry sections of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 40 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed no significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and all the sub-tests, Reading, Listening, Writing, and Research/Inquiry.

Table 41

*School C: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	22	2482	2504	4.078	0.000*
Reading	21	2483	2504	2.715	0.008*
Listening	20	2476	2496	1.384	0.171
Writing	18	2483	2501	1.525	0.132
Research/Inquiry	37	2462	2499	3.372	0.001*

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School C showed scale score gains for all sections of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 41 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores for the years 2015-2016 and 2016-2017 for the ELA Composite score and for two of the subtests, Reading and Research/Inquiry. Two of the sub-tests, Listening and Writing did not show a significant scale score difference.



Table 42

*School D: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	8	2496	2504	0.745	0.466
Reading	21	2492	2513	1.326	0.202
Listening	-30	2503	2473	-1.090	0.290
Writing	1	2494	2495	0.037	0.971
Research/Inquiry	21	2492	2513	0.987	0.337

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School D showed scale score gains for the ELA Composite, Reading, Writing and Research/Inquiry and a decrease in scale scores for the Listening section of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 42 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed no significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and all of the sub-tests, Reading, Listening, Writing, and Research/Inquiry.

Table 43

*School E: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	18	2471	2489	3.272	0.002*
Reading	22	2468	2490	2.536	0.013*
Listening	-5	2500	2495	-0.436	0.663
Writing	32	2458	2490	3.157	0.002*
Research/Inquiry	1	2471	2472	0.103	0.918

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School E showed scale score gains for the ELA Composite, Reading, Writing, and Research/Inquiry and a decrease in scale scores for the Listening section of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 43 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and for two of the subtests, Reading and Writing. Two of the sub-tests, Listening and Research/Inquiry did not show a significant scale score difference.

Table 44

*School F: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	20	2465	2485	2.359	0.024*
Reading	27	2466	2493	2.212	0.034*
Listening	-9	2477	2468	-0.364	0.718
Writing	30	2459	2489	2.082	0.045*
Research/Inquiry	7	2458	2465	0.452	0.654

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School F showed scale score gains for the ELA Composite, Reading, Writing, and Research/Inquiry and a decrease in scale scores for the Listening section of the WVGSAs English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 44 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed a significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and for two of the subtests, Reading and Writing. Two of the subtests, Listening and Research/Inquiry, did not show a significant scale score difference.

School G has students in Grades PK – 2 and does not administer the West Virginia General Summative Assessment.

Table 45

*School H: Statistical Analysis of Summative Assessment English Language Arts Scores t-Test for Dependent Groups – Grade 4 to Grade 5 (From Year 1 to Year 2 of Initiative)*

<b>Test Section</b>	<b>Mean Scale Score Gain</b>	<b>2015–16 Mean Scale Score</b>	<b>2016–17 Mean Scale Score</b>	<b>T-test for Dependent Groups Statistic</b>	<b>p-value attained</b>
ELA Composite	12	2517	2529	1.290	0.208
Reading	18	2515	2533	0.972	0.340
Listening	-12	2569	2557	-0.554	0.584
Writing	15	2505	2520	1.037	0.309
Research/Inquiry	11	2514	2525	0.571	0.573

\*Significance attained at  $p < 0.05$

Statistical analysis of the data from School H showed scale score gains for the ELA Composite, Reading, Writing, and Research/Inquiry and a decrease in scale scores for the Listening section of the WVGSA English Language Arts test as noted from the data from the 2015-2016 year to the 2016-2017 year in Table 45 for students moving from Grade 4 to Grade 5. The t-test for dependent groups showed no significant difference in student scale scores between the years 2015-2016 and 2016-2017 for the ELA Composite score and all the subtests, Reading, Listening, Writing, and Research/Inquiry.

## Data Analysis of Performance Levels

The Chi Square was used to test for the changes in the number of students in each performance level: Level 1 – has not met standard, Level 2 – nearly met standard, Level 3 – met standard, and Level 4 – exceeded standard for the first year of implementation of the revised Brockton Model. Tables 46 – 52 present the Chi-Square analysis for each school, for students who went from Grade 3 to Grade 4, before implementation of the model, 2014-2015 academic year, to the end of the first year of implementation of the model, 2015-2016 academic year. No significance was found throughout the frequency analysis of each school for this first year of implementation, Grade 3 to Grade 4.

Table 46

*School A: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	5.9%	0%	11.8%	82.4%	0.237**	0.888
2015-2016 % within Year	5.9%	0%	17.6%	76.5%		

\* Significance attained at  $p < 0.05$ . \*\* 4 cells (66.7%) have expected count less than 5. The minimum expected count is 1.00.

Table 47

*School B: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	20.7%	13.8%	37.9%	27.6%	2.592**	0.459
2015-2016 % within Year	10.3%	27.6%	31.0%	31.0%		

\* Significance attained at  $p < 0.05$ . \*\* 2 cells (25.0%) have expected count less than 5. The minimum expected count is 4.50.

Table 48

*School C: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	21.3%	25.3%	24.0%	29.3%	0.059	0.996
2015-2016 % within Year	20.0%	25.3%	25.3%	29.3%		

\* Significance attained at  $p < 0.05$ . \*\* 2 cells (25.0%) have expected count less than 5. The minimum expected count is 4.50.

Table 49

*School D: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	21.1%	36.8%	26.3%	15.8%	3.076**	0.380
2015-2016 % within Year	15.8%	15.8%	36.8%	31.6%		

\* Significance attained at  $p < 0.05$ . \*\* 4 cells (50.0%) have expected count less than 5. The minimum expected count is 3.50.

Table 50

*School E: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	25.6%	28.0%	22.0%	24.4%	1.454	0.693
2015-2016 % within Year	23.2%	31.7%	15.9%	29.3%		

\* Significance attained at  $p < 0.05$ .

Table 51

*School F: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	16.7%	33.3%	27.8%	22.2%	4.152	0.245
2015-2016 % within Year	27.8%	13.9%	30.6%	27.8%		

\* Significance attained at  $p < 0.05$ .

Table 52

*School H: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	24.1%	13.8%	24.1%	37.9%	0.836**	0.841
2015-2016 % within Year	17.2%	10.3%	24.1%	48.3%		

\* Significance attained at  $p < 0.05$ . \*\* 2 cells (25.0%) have expected count less than 5. The minimum expected count is 3.50.

The Chi Square was used to test for the changes in the number of students in each performance level: Level 1 – has not met standard, Level 2 – nearly met standard, Level 3 – met standard, and Level 4 – exceeded standard for the first year of implementation of the revised Brockton Model. Tables 53 – 59 present the Chi-Square analysis for each school, for students who went from Grades 4 to Grade 5, before implementation of the model, 2014-2015 academic year, to the end of the first year of implementation of the model, 2015-2016 academic year. School C was the only school that showed a significant difference in frequencies. It appears the significance occurred where the percentage of students in Level 1 decreased by  $42.4\% - 26.1\% = 16.3\%$ ; and where the percentage of students increased in Level 3 from  $33.7 - 15.2\% = 18.5\%$ . A possible significant difference also occurred where the percentage of students in Level 4 decreased from  $16.3\% - 12.0\% = 4.3\%$ . No significance was found throughout the frequency analysis of the other schools for this first year, Grade 4 to Grade 5.

Table 53

*School A: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	6.3%	25.0%	12.5%	56.3%	0.919**	0.821
2015-2016 % within Year	6.3%	12.5%	18.8%	62.5%		

\* Significance attained at  $p < 0.05$ . \*\* 6 cells (75.0%) have expected count less than 5. The minimum expected count is 1.00.



Table 54

*School B: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	20.8%	12.5%	20.8%	45.8%	0.202**	0.977
2015-2016 % within Year	16.7%	12.5%	25.0%	45.8%		

\* Significance attained at  $p < 0.05$ . \*\* 4 cells (50.0%) have expected count less than 5. The minimum expected count is 3.00.

Table 55

*School C: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	42.4%	26.1%	15.2%	16.3%	10.689	0.014 *
2015-2016 % within Year	26.1%	28.3%	33.7%	12.0%		

\* Significance attained at  $p < 0.05$

Table 56

*School D: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	15.0%	15.0%	30.0%	40.0%	1.269**	0.736
2015-2016 % within Year	25.0%	15.0%	35.0%	25.0%		

\* Significance attained at  $p < 0.05$ . \*\*4 cells (50.0%) have expected count less than 5. The minimum expected count is 3.00.

Table 57

*School E: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	11.7%	26.0%	33.8%	28.6%	1.116	0.773
2015-2016 % within Year	9.1%	24.7%	41.6%	24.7%		

\* Significance attained at  $p < 0.05$ .

Table 58

*School F: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	23.7%	15.8%	21.1%	39.5%	1.343	0.719
2015-2016 % within Year	18.4%	21.1%	28.9%	31.6%		

\* Significance attained at  $p < 0.05$ .

Table 59

*School H: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2014/2015 to 2015/2016*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	26.7%	23.3%	26.7%	23.3%	1.310	0.727
2015-2016 % within Year	16.7%	20.0%	36.7%	26.7%		

\* Significance attained at  $p < 0.05$ .

The Chi Square was used to test for the changes in the number of students in each performance level: Level 1 – has not met standard, Level 2 – nearly met standard, Level 3 – met standard, and Level 4 – exceeded standard for the second year of implementation of the revised Brockton Model. Tables 60 – 66 present the Chi-Square analysis for each school, for students who went from Grade 3 to Grade 4, after the first year of implementation of the model, 2015-2016 academic year, to the end of the second year of implementation of the model, 2016-2017 academic year. No significance was found throughout the frequency analysis of each school for this second year of implementation, Grade 3 to Grade 4.

Table 60

*School A: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	0%	4.5%	31.8%	63.6%	1.853**	0.396
2016-2017 % within Year	0%	13.6%	18.2%	68.2%		

\* Significance attained at  $p < 0.05$ . \*\* 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.00.

Table 61

*School B: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	26.1%	17.4%	21.7%	34.8%	0.993**	0.803
2016-2017 % within Year	21.7%	13.0%	34.8%	30.4%		

\* Significance attained at  $p < 0.05$ . \*\* 2 cells (25.0%) have expected count less than 5. The minimum expected count is 3.50.

Table 62

*School C: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	21.1%	26.3%	21.1%	31.6%	0.723	0.868
2016-2017 % within Year	23.7%	30.3%	19.7%	26.3%		

\* Significance attained at  $p < 0.05$ .

Table 63

*School D: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	11.1%	27.8%	16.7%	44.4%	0.944**	0.815
2016-2017 % within Year	5.6%	22.2%	27.8%	44.4%		

\* Significance attained at  $p < 0.05$ . \*\* 6 cells (75.0%) have expected count less than 5. The minimum expected count is 1.50.

Table 64

*School E: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	23.4%	39.4%	24.5%	12.8%	4.314	0.229
2016-2017 % within Year	26.6%	25.5%	29.8%	18.1%		

\* Significance attained at  $p < 0.05$ .

Table 65

*School F: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	20.9%	23.3%	27.9%	27.9%	0.950	0.813
2016-2017 % within Year	27.9%	20.9%	30.2%	20.9%		

\* Significance attained at  $p < 0.05$ .

Table 66

*School H: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 4 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	16.1%	41.9%	22.6%	19.4%	3.328	0.344
2016-2017 % within Year	22.6%	25.8%	16.1%	35.5%		

\* Significance attained at  $p < 0.05$ .

The Chi Square was used to test for the changes in the number of students in each performance level: Level 1 – has not met standard, Level 2 – nearly met standard, Level 3 – met standard, and Level 4 – exceeded standard for the second year of implementation of the revised Brockton Model. Tables 67 – 73 present the Chi-Square analysis for each school, for students who went from Grade 4 to Grade 5, after the first year of implementation of the model, 2015-2016 academic year, to the end of the second year of implementation of the model, 2016-2017 academic year. School E was the only school that showed a significant difference in frequencies. It appears the significance occurred throughout each performance level. The percentage of students in Level 1 increased by  $32.1\% - 22.0\% = 10.1\%$ . The percentage of students decreased in Level 2 by  $31.7\% - 23.5\% = 8.2\%$ . The percentage of students increased in Level 3 from  $28.4\% - 15.9\% = 12.5\%$ . The percentage of students in Level 4 decreased from  $30.5\% - 16.0\% = 14.5\%$ . No significance was found throughout the frequency analysis of the other schools for this second year of implementation, Grade 4 to Grade 5.

Table 67

*School A: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	5.0%	0%	20.0%	75.0%	0.146**	0.930
2016-2017 % within Year	5.0%	0%	25.0%	70.0%		

\* Significance attained at  $p < 0.05$ . \*\* 4 cells (66.7%) have expected count less than 5. The minimum expected count is 1.00.

Table 68

*School B: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	14.8%	25.9%	25.9%	33.3%	2.649	0.449
2016-2017 % within Year	33.3%	18.5%	18.5%	29.6%		

\* Significance attained at  $p < 0.05$ .

Table 69

*School C: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	18.8%	26.1%	24.6%	30.4%	5.463	0.141
2016-2017 % within Year	20.3%	24.6%	39.1%	15.9%		

\* Significance attained at  $p < 0.05$ .

Table 70

*School D: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	15.8%	21.1%	36.8%	26.3%	1.818**	0.611
2016-2017 % within Year	31.6%	21.1%	21.1%	26.3%		

\* Significance attained at  $p < 0.05$ . \*\* 4 cells (50.0%) have expected count less than 5. The minimum expected count is 4.00.

Table 71

*School E: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	22.0%	31.7%	15.9%	30.5%	9.105	0.028
2016-2017 % within Year	32.1%	23.5%	28.4%	16.0%		

\* Significance attained at  $p < 0.05$ .

Table 72

*School F: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	34.3%	14.3%	22.9%	28.6%	1.031	0.794
2016-2017 % within Year	34.3%	22.9%	17.1%	25.7%		

\* Significance attained at  $p < 0.05$ .



Table 73

*School H: Change in Number of Students in Overall ELA Proficiency Levels from Grade 4 to Grade 5 through Academic Years 2015/2016 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	17.9%	10.7%	25.0%	46.4%	0.376**	0.945
2016-2017 % within Year	17.9%	14.3%	28.6%	39.3%		

\* Significance attained at  $p < 0.05$ . \*\* 2 cells (25.0%) have expected count less than 5. The minimum expected count is 3.50.

The Chi Square was used to test for the changes in the number of students in each performance level: Level 1 – has not met standard, Level 2 – nearly met standard, Level 3 – met standard, and Level 4 – exceeded standard for the first year of implementation of the revised Brockton Model. Tables 74 – 80 present the Chi-Square analysis for each school, for students who went from Grade 3 to Grade 5, before implementation of the model, 2014-2015 academic year, to the end of the second year of implementation of the model, 2016-2017 academic year. No significance was found throughout the frequency analysis of each school throughout the full implementation of the model.

Table 74

*School A: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 5 through Academic Years 2014/2015 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	5.9%	0%	11.8%	82.4%	1.646**	0.439
2016-2017 % within Year	5.9%	0%	29.4%	64.7%		

\* Significance attained at  $p < 0.05$ . \*\* 4 cells (66.7%) have expected count less than 5. The minimum expected count is 1.00.

Table 75

*School B: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 5 through Academic Years 2014/2015 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	21.7%	17.4%	34.8%	26.1%	0.971**	0.808
2016-2017 % within Year	26.1%	21.7%	21.7%	30.4%		

\* Significance attained at  $p < 0.05$ . \*\* 2 cells (25.0%) have expected count less than 5. The minimum expected count is 4.50.

Table 76

*School C: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 5 through Academic Years 2014/2015 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	18.2%	27.3%	22.7%	31.8%	6.671	0.083
2016-2017 % within Year	18.2%	24.2%	40.9%	16.7%		

\* Significance attained at  $p < 0.05$ . \*\*

Table 77

*School D: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 5 through Academic Years 2014/2015 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2015-2016 % within Year	22.2%	38.9%	22.2%	16.7%	2.500**	0.475
2016-2017 % within Year	33.3%	16.7%	22.2%	27.8%		

\* Significance attained at  $p < 0.05$ . \*\* 4 cells (50.0%) have expected count less than 5. The minimum expected count is 4.00.

Table 78

*School E: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 5 through Academic Years 2014/2015 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	26.4%	31.9%	22.2%	19.4%	1.428	0.699
2016-2017 % within Year	30.6%	25.0%	27.8%	16.7%		

\* Significance attained at  $p < 0.05$ .

Table 79

*School F: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 5 through Academic Years 2014/2015 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	18.8%	31.3%	28.1%	21.9%	1.889	0.596
2016-2017 % within Year	31.3%	25.0%	18.8%	25.0%		

\* Significance attained at  $p < 0.05$ .

Table 80

*School H: Change in Number of Students in Overall ELA Proficiency Levels from Grade 3 to Grade 5 through Academic Years 2014/2015 to 2016/2017*

	Overall ELA Proficiency Levels				Chi-Square	p value attained
	1.00	2.00	3.00	4.00		
2014-2015 % within Year	23.1%	15.4%	19.2%	42.3%	1.140**	0.767
2016-2017 % within Year	15.4%	15.4%	30.8%	38.5%		

\* Significance attained at  $p < 0.05$ . \*\* 2 cells (25.0%) have expected count less than 5. The minimum expected count is 4.00.

## **Summary of Findings**

The qualitative data collected for the study included interviews with principals, an examination of the required plans each school submitted to the central office staff and artifacts used by schools to implement the components in the Brockton Model related to literacy.

The interviews with the principals provided several insights to the adaptation of the Brockton Model to elementary schools in Jackson County, West Virginia. There were similarities in the responses regarding the principals' assessment of the task and the realization that modifications would need to be made to the model for students in elementary schools. Some of the similar modifications used by the schools were to divide the ten steps of the Brockton Model into sections, include teacher input into the planning process for the model, and use professional learning communities to train teachers, discuss student work and plan next steps.

An examination of the plans submitted from the principals indicated common aspects of training, development of materials, and the implementation and observation of the literacy model in classrooms at the schools. The level of detail of the written plans varied by school and there was significantly less detail in the year 2 plans compared to the plans for year 1.

Artifacts that were included with the plans demonstrated how the Brockton Model was modified for students to include visual clues tied to the steps, graphic organizers that helped students organize their writing, and scaffolding components for students needing additional support. To help teachers evaluate work and provide students with effective feedback, rubrics were developed and used in several of the schools. The principals developed observation forms to use when observing the classrooms during the literacy model initiative. This was a component required by the county superintendent for principals to implement.

The quantitative data was derived from the test scores from the general summative assessment for the year prior to the implementation of the literacy initiative and for the first two years of implementation. Student scale scores were examined for gains as well as the changes in performance levels for students at each school. The data included in the study was for students who attended the same school during years under examination for a minimum of 100 days each year. An examination of the scale scores indicated the gains were statistically significant for nearly all timeframes examined. Statistical significance was not reflected in the analysis of proficiency level changes for the data.

## CHAPTER FIVE

### CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Chapter 5 will summarize the study including the purpose, population and sample, methods, conclusions to research questions, implications, and recommendations for future study.

#### **Summary of Purpose**

The purpose of this study was to examine the adaptation of the Brockton High School Literacy Model to elementary schools in Jackson County, West Virginia. The study examined in-depth methods used to communicate the vision for the literacy model, provide training and support to teachers, and adapt the Brockton Literacy Model for elementary-aged children. This study also included an analysis of student scores from the West Virginia General Summative Assessment (WVGSA) for the English Language Arts (ELA) test in order to determine the effect of the adaptation of this model, if any, on student achievement for students in Grades 3 – 5 in seven of the eight elementary schools in Jackson County.

#### **Summary of Population and Sample**

The population for the qualitative portion of the research study included the eight elementary principals responsible for implementing the Brockton Literacy Model at their schools. Six of the eight principals (75%) participated in an interview regarding the implementation of the Brockton Literacy Model during the first two years. Central office staff provided each schools' required implementation plans including sample documents for review as part of the study.

Also, a sample of student data was collected from the English Language Arts portion of the West Virginia General Summative Assessment data for Jackson County students in Grades 3, 4, and 5 for the academic years 2014-15 through 2016-17. The assessment data represents the

year prior to implementation of the Brockton High Literacy Model (2014-2015 academic year) and the first two years of implementation (2015-2016 and 2016-2017 academic years). The student data sample was narrowed to include students attending the same school for at least 100 days per year for each run of the data analysis.

## **Methods**

This study incorporated the collection of both qualitative and quantitative data sources using a concurrent triangulation mixed-methods approach (Cresswell, 2009) to analyze the data. The qualitative data collected included principal interviews, school implementation plans, and materials used in the training and implementation of the Brockton Model. The interviews provided information about principals' perceptions of the task of implementing the Brockton Model and the strategies used to establish the vision of the assignment, logistics of training, classroom implementation, and their impressions of the process. School implementation plans provided information about schedules, training, teaching the Brockton Model, monitoring classroom use of the model, and analysis of student work. Some of the implementation plans included examples of documents used in the classrooms with students, rubrics for grading assignments, and examples of observations. The qualitative data pieces collected for the study were aligned to the same key components used in the Brockton Model. The qualitative data collected was analyzed and coded to look for common themes and practices among each of the elementary schools in Jackson County. The data identifying common themes and practices were used to compare the Jackson County Literacy Initiative to those of the Brockton Model and identify the adaptations made to the Brockton Model for use in elementary school settings.

The quantitative component of the research study examined student performance from the West Virginia General Summative Assessment (WVGSA) for the 2014, 2015, and 2016

academic years for students in Grades 3 – 5 in Jackson County, West Virginia. This three-year period included the assessment data for the year prior to implementation and the first two years of implementation of the Brockton Model adaptation as part of the Jackson County Literacy Initiative. The WVGSA consists of sections to examine English Language Arts, Mathematics, and Science. Only the English Language Arts components of the assessment were used in this study with an analysis of student scale scores and performance levels.

The scale scores from the West Virginia General Summative Assessment for the English Language Arts composite and corresponding subcategories in Reading, Listening, Writing, and Research/Inquiry were used for one portion of the quantitative data analysis. The student scale scores for the English Language Arts composite and the associated subscores for Reading, Listening, Writing, and Research/Inquiry were examined using the t-Test for dependent groups with significance attained where  $p < 0.05$  (Howell, 2016). The ELA scale score data was analyzed for three different time periods. The first run examined changes in the scale score data while comparing the pre-implementation year to the second year of implementation of the model. The second run examined changes in the scale score data while comparing the pre-implementation year to the first year of implementation of the model. The third run examined changes in the scale score data while comparing the first year of implementation of the model to the second year of implementation of the model.

The change in English Language Arts Performance Levels were also examined for the three years. Performance Levels were set by the WVDE by dividing the scale score range for each grade into four levels as part of the assessment design process which were used to determine if students had achieved one of the four levels. The four achievement levels are: Level 1 Did Not Meet Standard, Level 2 Partially Met Standard, Level 3 Met Standard, and Level 4



Exceeded Standard. Students whose scale scores were at Level 3 or above were considered proficient on the WVGSA assessment. A Chi Square analysis was used to test for changes in the number of students who accomplished the four performance levels for the English Language Arts composite score of the West Virginia General Summative Assessment. Three separate analyses of student performance level data for the ELA composite were conducted. The first run examined changes in the performance level data while comparing the pre-implementation year to the second year of implementation of the model. The second run examined changes in the performance level data while comparing the pre-implementation year to the first year of implementation of the model. The third run examined changes in the performance level data while comparing the first year of implementation of the model to the second year of implementation of the model.

### **Conclusions: Research Question 1**

Research Question 1 was *What were the processes used by Jackson County elementary schools to transform the Brockton High School Literacy Model into the Jackson County Literacy Initiative?* Qualitative data collected from principal interviews, implementation plans, and their accompanying attachments were coded to look for elements, both common and unique, used in the elementary schools to implement the Brockton Model. The areas examined included teacher training, implementing the literacy model with students, monitoring the literacy model in classrooms, and examining student work. The following discusses each of the common themes identified in the analysis of the qualitative data.

*Concerns Adapting the Brockton Model to Elementary Grades.* The principals indicated as part of the interview process their apprehension to implementing the Brockton Model in their schools. The county superintendent issued a directive to use the Brockton Model in all schools

and classrooms in the district. The principals indicated concerns about the magnitude of implementing a major schoolwide program that was not designed for use in elementary grades. The principals indicated teacher buy-in was paramount to the success of the program. Significant modifications to the Brockton Model were necessary to adapt the process to classrooms where students were still learning to read and write. The principals identified potential problems related to the size of the task, teacher buy-in, providing appropriate support for students with special needs, and the consistency of implementation across all classrooms. The understanding of these potential roadblocks associated with the implementation of the program provided the principals with knowledge to create a framework to design a successful rollout and implementation of the Brockton Model in an elementary school setting.

*Materials for Teacher Training.* Szachowicz (2013), in her book *Transforming Brockton high school: High standards, high expectations, no excuses*, provided written scripts, presentations and materials to train teachers and use in classrooms with students. Since these materials were designed for high school students, Jackson County elementary school principals and their literacy teams needed to make significant changes to the materials found in Szachowicz's book. The principals indicated through the interviews and implementation plans teachers needed to experience the process as a learner with materials that were like the types of materials that would be used with elementary students. The materials used in the Brockton Model with high school teachers were lengthy passages written for students in high school. The elementary principals expressed concern that using training materials intended for high school teachers for the training of elementary teachers could potentially hinder elementary teacher buy-in to the process. Instead, the elementary principals used reading passages written for students in Grades 5 and 6 to train teachers in the overall process of the Brockton Model. This helped

teachers to internalize the process and start to think about how it would look in kindergarten through Grade 5 classrooms. Once the teachers understood the overall process and how it worked, the training shifted to determining age-appropriate modifications to the Brockton Model and identifying materials to be used with students in elementary classrooms based on grade level.

The elementary schools in Jackson County used existing school organizational structures such as leadership and curriculum teams to create literacy teams tasked with creating a process to adapt the Brockton Model to elementary classrooms. The teams modified the Brockton Model by dividing the ten steps into smaller pieces to be taught over a longer time, finding reading materials to use in classrooms that were grade appropriate for students, and creating posters that outlined the steps using age-appropriate phrases and vocabulary. For teachers of early elementary grades, kindergarten through second, additional instructional modifications were needed since students in those grades were just beginning to learn how to read and write. Teachers in kindergarten through second grade classrooms read the passages to the students, encouraged them to draw or verbally communicate their answers to learn the steps of the Brockton Model at the beginning of the year, and gradually transitioned to students reading and writing responses independently. Each school's literacy team created a process to identify where adaptations were needed. This helped the trainers find appropriate materials for training elementary teachers and helped trainers provide examples of materials appropriate for elementary students in their classrooms.

*Classroom Implementation Materials and Modifications for Students.* The interviews with Jackson County elementary principals indicated adaptations to the Brockton Model had a common theme of ensuring the process was developmentally appropriate. For example, many of the schools had an approach defined by the grade level of students. Typically, the divisions were

K – 1, 2, and 3 – 5. None of the elementary schools in Jackson County implemented the 10 steps of the Brockton Model during a single lesson; rather, they divided the steps into groups of 3 to 5 depending on the grade level. Many divided the steps of the Brockton Model into two sections: reading and writing. The modified literacy steps created by each elementary school were made into posters that were placed in the schools' classrooms as a visual reminder of the Brockton process.

A significant modification to the Brockton Model by Jackson County elementary schools was the integration of graphic organizers for students to organize their written responses. Although the Brockton Model did not explicitly mention the use of graphic organizers, one of the steps was to “map out your answer” (Szachowicz, 2013). Using a common graphic organizer in all elementary schools in Jackson County was a modification discussed early in the first year of implementation by elementary principals and central office staff. The graphic organizer used by elementary schools in Jackson County provided a framework for students to organize and develop a working draft of their writing assignment. Some of the elementary schools added additional sentence starter phrases to the graphic organizer for students who needed additional support in completing the writing assignments.

In the Brockton Model, high school students are expected to be able to respond to writing prompts or questions concerning a reading passage. These responses were expected to be lengthy paragraphs to back up the reading passage. After initial implementation, the elementary teachers found the need to differentiate the length of the written response or the type of response based upon grade level or subject matter. In kindergarten classrooms, some teachers would rely more on verbal responses or drawings instead of written responses as the means for students to convey their thoughts about what was read to them or to answer a question about the text read aloud by

the teacher. Also, in the Brockton Model, specific passages were presented to be used in content areas. For example, an art class would read a passage about Van Gogh; or a mathematics class would read a passage about Pythagoras. The elementary teachers perceived these given passages to be too advanced for elementary students; or did not connect to the day-to-day writing expectations for elementary students. For example, Principal B's team felt students were better served by writing responses in the context of mathematics content rather than reading a passage about mathematics or a mathematician. Instead, students would write about the process used to solve a problem or what the answer to the math problem conveyed. The literacy teams in elementary schools in Jackson County used grade level standards for reading and writing to match components of the Brockton Model to their appropriate standards.

The success elementary aged students in Jackson County demonstrated using the Brockton Model was due to the elementary principals' and teachers' identification and implementation of modifications to ensure the process used was grade appropriate. The overarching common theme of using grade-appropriate standards-based materials with students to incorporate the Brockton Model ensured the adaptation process and classroom implementation to be successful in meeting the requirements of sharing the vision with staff, creating a team, developing a training model, and reviewing student work as set forth by the county superintendent.

*Challenges to Implementation.* As with any initial implementation of a new initiative in a school system, a significant challenge is finding time to meet with staff. Most of the elementary principals indicated time to train teachers was a challenge due to scheduling conflicts, professional development programs already in place, and the limited number of days available prior to the beginning of school to meet with teachers and formulate plans. Some of the solutions

to provide training opportunities for teachers were to rearrange the daily schedule, use continuing education days already in the calendar, and allocate funds to pay teachers to plan and receive training outside of the workday. Providing deliberate and scripted training to teachers prior to implementing the Brockton Model in the classroom was an essential piece to ensure consistency in the delivery of instruction in all classrooms.

A second challenge to implementation of the Brockton Model in the elementary schools in Jackson County was adapting the model to all subject areas. In addition to using the Brockton Model with English Language Arts content, teachers were expected to use the model with science, mathematics, and social studies themed reading and writing assignments. Physical education, art, and music teachers were also required to implement the Brockton Model in their content areas. The principals' continuous and steady insistence of the Brockton Model as a schoolwide initiative helped with teacher buy-in and compliance with the requirements for implementation in all subject content areas.

A third challenge expressed by elementary principals in implementing the Brockton Model was consistency of delivery in each classroom. To ensure consistency, the superintendent asked for specific components included in each schools' literacy plan. The specific components were training staff in the Brockton Model, creating a schedule for monitoring classroom implementation in all subject areas, and scheduling meetings to review student work with teachers. The plans submitted by the principals indicated initial training of teachers by October 9, 2015, and throughout the year. Included in the plans were schedules of when elementary teachers would present each subject area while using the Brockton Model in their classrooms. This served as the classroom monitoring schedule. Subject areas were spaced out during the school year so students would have multiple exposure to the Brockton Model in more than one subject area. The

plans also included dates of meetings with teachers to discuss student work after each use of the Brockton Model in the classroom. Examples of rubrics to assess student work were included with some of the plans. The principals indicated in the interviews how the plans helped guide the work and help ensure consistency for the implementation of the Brockton Model.

The training and guidance from Dr. Szachowicz and her staff provided the elementary school principals with examples of how to address potential challenges and roadblocks to the implementation of the Brockton Model.

*Planning and Preparation.* Most of the principals reported school-based teams of teachers were the key to the development and planning of the rollout of the Brockton Model. The teams in most of the schools were viewed as partners with the principal to plan and implement the Brockton Model in the school.

The Jackson County Superintendent required principals to submit plans periodically during the school year to describe their process, progress, and assessment data. The principals were to submit plans every 20 days to the county directors and superintendent. In the interviews, all the principals expressed how the plans were organic documents that were revised after teachers used the literacy model in classrooms for the first time. Elementary school-based teams discussed student work and planned next steps to continue the modification of the Brockton Model. This helped provide teachers with frequent feedback, brainstorming, and support which was used to adjust school implementation plans throughout the year. Principals reported that in subsequent years, the plans covered longer periods of time and needed only minor refinements to enhance the process and maintain instructional fidelity to the model and student engagement.

The plans submitted by the Jackson County principals at the elementary schools included a schedule for implementing the model in the classrooms throughout the year as well as meeting

schedules for school based professional learning communities to discuss student work after each use of the Brockton Model in classrooms. The principal and teachers from classrooms, special education and Title I attended the meetings. The meetings usually occurred within a week after the Brockton Model lesson was used in classrooms. Scheduling implementation and observation dates communicated the importance of the Brockton Model to the improving student academic achievement for all students.

*Summary.* During the principal interviews, a question was asked about the significant demographic differences between Brockton High School and Jackson County elementary schools and why the model appeared to be successful in both locations independent of the demographics. The principals indicated the Brockton Literacy Model worked because it contains common skills that are needed for success in reading and writing. The success of the Brockton Model in the elementary grades in Jackson County required schools to create a common vision, and carry it out through planning, preparation, training, implementation, and monitoring. There were clear expectations for all involved in the process including students, teachers, and principals. The principals indicated the Brockton Model served to provide a tool for students to be successful readers and writers in all subject areas. The components regarding consistency, long term planning, and clear expectations used to implement the Brockton Model in Jackson County elementary schools aligned with the research related to effective educational program implementation and sustainability (Darling-Hammond, Hyler & Gardner, 2017). The elementary schools in Jackson County each developed a plan that successfully adapted the Brockton Model to meet the vision set forth by the county superintendent.



## **Conclusions: Research Question 2**

Research Question 2 was *What effect, if any, did the implementation of the Jackson County Literacy Initiative have on student English Language Arts achievement over the 2015-2016 and 2016-2017 academic years in Jackson County elementary schools?*

*Scale Score Analysis Conclusions: Year 1 to Year 3.* The scale score quantitative analysis of the West Virginia General Summative Assessment English Language Arts test for the year prior to the implementation of the Brockton Model and after two years of implementation was conducted first. The students in this analysis attended the same school during the three-year period for at least 100 days each year. In year 1, the students were in third grade and took the West Virginia General Summative assessment in the spring of their third-grade year. The Brockton Model began in the fall of the students' fourth grade year. Student scale scores from Grade 3 and Grade 5 were compared. This compared pre-Brockton Model scores to post-Brockton Model scores after the second year of implementation. This analysis was completed first to determine if there was a significant difference in student scale scores prior by comparing WVGSA assessment results from year 1 to year 3 to obtain an overall picture of the success, if any, of the Brockton Model in Jackson County elementary schools.

The data indicated a significant difference in scale scores from year 1 to year 3 for the ELA Composite score of the WVGSA. Also, in all seven of the elementary schools in Jackson County, there was a significant difference in scale scores from year 1 to year 3 for the Reading, Writing, and Research/Inquiry ELA subscores. All but two of the schools had a significant difference in scale scores from year 1 to year 3 for the Listening ELA subscore on the WVGSA. The range of scale score gains for the English Language Arts portion of the WVGSA for the seven Jackson County elementary schools were: 60 to 85 for the ELA composite, 66 to 117 in

Reading, 18 to 86 in Listening, 59 to 86 for Writing, and 60 to 118 for Research/Inquiry. Overall, there were significant gains in scale scores for all the schools from year 1 to year 3.

However, an examination of the performance level changes for the ELA section of the West Virginia General Summative Assessment from year 1 to year 3 for elementary school students in Jackson County did not indicate any statistical significance as found with the scale score data. Performance levels were examined using a Chi square analysis with significance attained at  $p < 0.05$ .

Performance levels are generally established by placing “cuts” along the scale score range for a grade level using field test data as part of the design of a new assessment. The cuts are determined using a variety of factors derived from student performance on the field test. Proficiency levels for the West Virginia General Summative Assessment were established by dividing the scale score range for each grade into four groups: Level 1 Did Not Meet Standard, Level 2 Partially Met Standard, Level 3 Met Standard, and Level 4 Exceeded Standard. The scale score ranges for each level are not uniform and were established using a standard setting process as part of the Smarter Balanced Consortium for the West Virginia General Summative Assessment used during the three years of the study (SBAC, 2015). Table 81 contains the scale score values and ranges for each performance level for Grades 3 – 5. Performance level data is a required reporting metric required by the United States Department of Education as part of Every Student Succeeds Act (USED, 2019). None of the seven elementary schools in Jackson County had a statistically significant change in performance levels from year 1 to year 3.

Table 81

*ELA Reported Scale Scores (Ranges) for the West Virginia General Summative Assessment (2015 – 2017)*

<b>Grade</b>	<b>Level 1 Did not Meet Standard</b>	<b>Level 2 Partially Met Standard</b>	<b>Level 3 Met Standard</b>	<b>Level 4 Exceeded Standard</b>
3	2114 – 2366 (Range: 252)	2367 – 2431 (Range: 64)	2432 – 2489 (Range: 57)	2490 – 2623 (Range: 133)
4	2131 – 2415 (Range: 284)	2416 – 2472 (Range: 56)	2473 – 2532 (Range: 59)	2533 – 2663 (Range: 130)
5	2201 – 2441 (Range: 240)	2442 – 2501 (Range: 59)	2502 – 2581 (Range: 79)	2582 – 2701 (Range: 119)

Scale scores from year 1 to year 3 of the study indicated significant differences for all Jackson County elementary schools that administered the WVGSA during the 2014 through 2016 academic years, indicating overall student performance improved. The scale score improvements and significance were not evident when examining performance level changes during the same time. The variance in the scale score ranges among performance levels may have been attributed to the lack of a statistical correlation for performance level changes.

Table 82

*ELA Reported Average Scale Score of West Virginia and Jackson County for the West Virginia General Summative Assessment (2015 – 2017)*

<b>Grade</b>	<b>2014 – 15 Average Scale Score</b>	<b>2015 – 16 Average Scale Score</b>	<b>2016 – 17 Average Scale Score</b>
3	WV: 2421 JC: 2425	WV: 2427 JC: 2433	WV: 2418 JC: 2434
4	WV: 2458 JC: 2468	WV: 2464 JC: 2487	WV: 2460 JC: 2473
5	WV: 2499 JC: 2510	WV: 2500 JC: 2515	WV: 2493 JC: 2502

Table 82 contains the reported ELA scale score averages for West Virginia and Jackson County during the three-year administration of the West Virginia General Summative Assessment included in the study. The average ELA scale score on the WVGSA for all West Virginia Grade 3 students in 2014-15 (Year 1) was 2421 near the top of the Level 2 Partially Met

Standard category. Jackson county Grade 3 students during the same time had an average scale score of 2425 on the ELA portion of the WVGSA, slightly higher than the state average but still in the Level 2 Partially Met Standard category. Two years later, the same cohort of West Virginia students, now in Grade 5 during the 2016-17 (Year 3) school year had an average scale score of 2493 on the ELA portion of the WVGSA, which is also near the top of the Level 2 Partially Met Standard category. Jackson County students in the same cohort during year 3 had an average scale score of 2502, on the ELA portion of the WVGSA which is higher than the West Virginia average scale score. The difference is the average scale score for the ELA portion of the WVGSA for Grade 5 students in Jackson County was in the Level 3 Met Standard range. The average scale score gain from year 1 to year 3 on the ELA portion of the WVGSA for all students in West Virginia in Grade 3 during year 1 and Grade 5 during year 3 was 72 points. Students in Jackson County had a gain for the same grade levels and years of 77 points on the ELA portion of the WVGSA. Although the scale score point gains were similar, the gain in Jackson County was enough to move the average performance level from Level 2 to Level 3.

*Scale Score Analysis Conclusions: Year 1 to Year 2 compared to Year 2 to Year 3.* After completing the analysis of the scale score differences from year 1 to year 3, a question regarding whether the magnitude of improvement in scale scores was consistent from year 1 to year 2 and year 2 to year 3. Since the incorporation of the Brockton Model was implemented in all elementary schools in Jackson County with a shared set of expectations (Hess, 2015), examining the effectiveness of the model from year to year and over a period of multiple years could provide insights to successful implementation and sustainability. Fullan (2006) stresses the importance in examining the change theory used to facilitate school improvement to determine

the effectiveness of the change initiative. Examining a school improvement initiative over time can aid with decision making as the initiative continues over multiple years (Capers, 2000).

*Grade 3 to Grade 4 Scale Score Analysis of Year 1 to Year 2 and Year 2 to Year 3.* The scale scores for the ELA portion of the WVGSA for students moving from Grade 3 (year 1) to Grade 4 (year 2) indicated all seven Jackson County elementary schools had a significant difference in scale scores for the ELA composite score. For the ELA subscores associated with the WVGSA for the students moving from Grade 3 to Grade 4 from year 1 to year 2, 23 of the 28 reported subscores (82%) had a significant difference in the scale scores. The ELA composite average scale score gain for the students moving from Grade 3 to Grade 4 in year 1 to year 2 was 54 points.

The scale scores of students moving from Grade 3 to Grade 4 in year 2 and year 3 indicated all seven Jackson County elementary schools had a significant difference in scale scores for the ELA composite score. For the ELA subscores associated with the WVGSA for the students moving from Grade 3 to Grade 4 from year 2 to year 3, 15 of the 28 reported subscores (54%) had a significant difference in the scale scores. The ELA composite average scale score gain for the students moving from Grade 3 to Grade 4 in year 2 to year 3 was 40 points.

For students moving from Grade 3 to Grade 4, there were differences in scale score gains on the ELA portion of the WVGSA for the year 1 to year 2 group and the year 2 to year 3 group. The year 1 to year 2 group had a higher average scale score gain by 14 points and had a 28% higher number of significant differences in scale score for subgroups compared to the year 2 to year 3 group of students going from Grade 3 to Grade 4. The smaller improvement in scale scores from year 2 to year 3 could be due to comparing two different groups of students, a

change in the implementation of the Brockton Model and/or changes in staff members at the elementary schools in Jackson County.

*Grade 4 to Grade 5 Scale Score Analysis of Year 1 to Year 2 and Year 2 to Year 3.* The scale scores for the ELA portion of the WVGSA for students moving from Grade 4 (year 1) to Grade 5 (year 2) indicated six of the seven Jackson County elementary schools had a significant difference in scale scores for the ELA composite score. For the ELA subscores associated with the WVGSA for the students moving from Grade 4 to Grade 5 from year 1 to year 2, 18 of the 28 reported subscores (64%) had a significant difference in the scale scores. The ELA composite average scale score gain for the students moving from Grade 4 to Grade 5 in year 1 to year 2 was 49 points.

The scale scores of students moving from Grade 4 to Grade 5 in year 2 to year 3 indicated four of the seven Jackson County elementary schools had a significant difference in scale scores for the ELA composite score. For the ELA subscores associated with the WVGSA for the students moving from Grade 4 to Grade 5 from year 2 to year 3, 6 of the 28 reported subscores (21%) had a significant difference in the scale scores. The ELA composite average scale score gain for the students moving from Grade 4 to Grade 5 in year 2 to year 3 was 17 points.

For students moving from Grade 4 to Grade 5, there were differences in scale score gains on the ELA portion of the WVGSA for the year 1 to year 2 group and the year 2 to year 3 group. The year 1 to year 2 group had a higher average scale score gain of 32 points and had a 43% higher number of significant differences in scale score for subgroups compared to the year 2 to year 3 group of students going from Grade 4 to Grade 5. One school (School B) had a decrease in the ELA Composite scale score from Grade 4 to Grade 5 in year 2 to year 3. The smaller improvement in scale scores from year 2 to year 3 could be due to comparing two different

groups of students, a change in the implementation of the Brockton Model or changes in staff members at the elementary schools in Jackson County.

*Grade 3 to Grade 5 Cohort Scale Score Analysis of Year 1 to Year 2 and Year 2 to Year*

3. The scale scores for the ELA portion of the WVGSA for students moving from Grade 3 (year 1) to Grade 4 (year 2) indicated all seven Jackson County elementary schools had a significant difference in scale scores for the ELA composite score. For the ELA subscores associated with the WVGSA for the students moving from Grade 3 to Grade 4 from year 1 to year 2, 23 of the 28 reported subscores (82%) had a significant difference in the scale scores. The ELA composite average scale score gain for the students moving from Grade 3 to Grade 4 in year 1 to year 2 was 54 points.

The scale scores of the same cohort of students moving from Grade 4 to Grade 5 in year 2 to year 3 indicated four of the seven Jackson County elementary schools had a significant difference in scale scores for the ELA composite score. For the ELA subscores associated with the WVGSA for the students moving from Grade 4 to Grade 5 from year 2 to year 3, 6 of the 28 reported subscores (21%) had a significant difference in the scale scores. The ELA composite average scale score gain for the students moving from Grade 4 to Grade 5 in year 2 to year 3 was 17 points.

The analysis of the cohort of students in Jackson County elementary schools moving from Grade 3 to Grade 5 and participating in two years of the Brockton Model implementation indicated most of the scale score gains over the two-year period were made in the first year of implementation. The average scale score gain for the ELA Composite from Grade 3 to Grade 4 was 54 points while from Grade 4 to Grade 5 was 17 points.

*Summary.* While there were statistically significant differences in scale scores from year to year, overall, it appears there was a greater gain in student scale scores in year 1 of the implementation of the modified model compared to a much less gain in scale scores after the second year of implementation. This was a consistent result when students went from third to fourth grade, fourth to fifth grade, and third to fifth grade.

Several factors may have influenced the differences in scale score growth from year 1 to year 2 of the implementation of the Brockton Model in elementary schools in Jackson County. One factor could be changes in personnel at the schools through retirement, reduction in force, and teacher transfers. The impact of teacher turnover impacts educational systems in a school by disrupting the teacher to teacher and teacher to administrator relationships (Hanselman, et al., 2016). These relationship interruptions and the time needed to train new staff members in a school improvement initiative may hinder the progress of the initiative and have an impact on student achievement. When school personnel know and trust each other, school improvement efforts are easier to advance (Capers, 2000).

A second factor that may have impacted the differences in scale score growth from year 1 to year 2 of implementation may be a decreased emphasis on training and strict adherence to the Brockton Model and its adaptations in year 2 by staff at the schools. Fullan and Sharrat (2006) conclude that attention to staying the course, through focused and precise actions are where breakthroughs in change are accomplished. The lack of details in many of the year 2 plans submitted by the elementary principals as compared to the year 1 plans may support the validity of this factor.

Finally, student growth over time is a difficult metric to measure and predict given the myriad of factors impacting students' educational experiences from year to year. The initial



starting point of a student's scale score and proficiency level compared to their peers with similar scores can be used to predict future growth and achievement. In examining scale scores to predict future student scale scores, the starting point and degree and quality of interventions may impact the amount of annual student scale score growth from year to year. It should be considered as well that student academic growth, like physical growth, is non-linear and examining student gains from year to year can provide insight into predicting future student academic achievement and growth (Betebenner, 2011).

### **Conclusions: Research Question 3**

Research Question 3 was, *How did the implementation of the literacy initiative differ in elementary schools that were already high achieving compared to those that were not?*

Two elementary schools in Jackson County consistently ranked in the top 25% of all elementary schools in West Virginia on the West Virginia General Summative Assessment for the percentage of students achieving a scale score in Level 3 Met Standard or Level 4 Exceeded Standard. One of the schools was the highest ranked or second highest ranked school in the state for having the highest percentage of students meeting or exceeding standard for the WVGSA over the three-year period.

The interviews with the principals from the two schools labeled as high achieving had similar responses regarding the implementation of the Brockton Model as their peers at the other elementary schools in Jackson County. They communicated the Brockton Model to their staff, established a literacy team, and addressed activities to modify the model to be grade appropriate for students in delivery and the materials used. A process for assessing student work and ensuring consistency was also expressed in the interviews. The principals at the two schools also

discussed the importance of teacher buy-in during the interviews as being an important component to successful implementation.

An examination of the implementation plans from the two schools were also similar in content and approach as those from the other six schools in Jackson County. The plans included dates for training staff, classroom implementation, monitoring and examination of student work via professional learning communities. The two high achieving schools implemented the Brockton Model in much the same manner as the other elementary schools in Jackson County.

The two schools' WVGSA ELA composite mean scale scores prior to implementation of the Brockton Model in elementary schools were 2535 and 2432, respectively. The first school's scale score of 2535 is 45 points above the Level 4 Exceeded Standard cut score for Grade 3. The second school's average scale score of 2432 is at the minimum scale score value for Level 3 Meets Standard for Grade 3. After two years of the implementation of the Brockton Model, both schools had average WVGSA ELA composite scores of 2432 and 2502, respectively. The first school's scale score of 2432 is 23 points above the Level 4 Exceeds Standard for Grade 5. The second school's average scale score of 2502 is the minimum scale score value for Level 3 Meets Standard for Grade 5. Both schools had an average ELA scale score gain of 70 points after 2 years of implementation of the Brockton Model.

The Performance Level analysis of the WVGSA ELA composite score for the two schools did not show any statistical difference from year 1 to year 3 of the Brockton Model. Students are considered proficient if their Performance Level is a 3 or 4. The first school had 94.1% of their students score at a Level 3 or above on the WVGSA ELA assessment from year 1 to year 3. The second school had a slight decrease in the number of students scoring at Performance Level 3 or above from year 1 to year 3, from 60.9% to 52.1%. It should be noted

that both schools had sample sizes less than 25 students, so one student falling below Performance Level 3 could affect the percent proficient by at least 4 percentage points.

*Summary.* The two high performing schools in Jackson County implemented the Brockton Model in much the same way as the other elementary schools in Jackson County with average scale score gains on the WVGSA ELA composite of 70 points. The range of the WVGSA ELA composite scale score gains for all seven schools was 60 to 85 points. Given the average WVGSA ELA composite scale scores for the two high achieving schools were already above the state average, it could have been difficult to achieve a significant difference in scale scores since the students were already performing at levels that met or exceeded standards. The implementation of the Brockton Model at the high achieving schools was consistent with the implementation at the other schools and produced similar results.

### **Implications**

The Brockton High School Model and its adaptation to elementary school classrooms serves as a framework for building successful school and district improvement initiatives. A directive and vision from the county leadership communicated the implementation of the Brockton Model was a requirement and not optional. The county office expected regular communication and follow-up regarding the progress of the Brockton Model at each school. Although there may have been other factors influencing student achievement, it appears from the data the Brockton Model had a positive outcome on student achievement in the elementary schools.

The major focus for the Brockton Model's use in elementary schools was to improve student achievement in English Language Arts on the West Virginia General Summative Assessment. To implement the model in elementary school classrooms required modifications to

the Brockton Model to ensure the components of the model were used with students at an appropriate developmental level and were aligned to grade level standards.

The successful restructuring of a teaching model to a different programmatic level requires using the expertise of the principals and teachers in the building. They are the experts in the content standards and developmental milestones of the students in the school and will ultimately be responsible for the implementation of the initiative. Including a team of teacher leaders from the school to formulate the plan to implement the Brockton Model or any other school wide initiative provides ownership in the process and supports its success in the classroom.

In addition to including staff in the development of the implementation, another key piece of ensuring the success of the Brockton Model is scheduling observations of the initiatives used in classrooms by principals and providing feedback to teachers regarding the implementation. This process communicates to the staff the importance of the initiative and creates a dialogue between teachers and administrators about the success of the initiative in the classroom. It can also provide information about any changes that need to be made to improve the process.

The involvement of Szachowicz and her staff from Brockton High School to serve as trainers helped provide administrators and teachers with training on how to implement the major components of the Brockton Model was instrumental in its success in Jackson County elementary schools. It provided administrators and teachers an opportunity to interact with the Brockton staff to answer questions about implementation and identify potential pitfalls along the way.

The study revealed that to achieve overall success with a school improvement initiative, all staff members need to be involved with the planning, implementation, and monitoring of the

initiative. Adequate training of staff and evaluation of student work is also important to ensure consistency. Jackson County Schools have traditionally demonstrated a better than average performance on statewide summative assessments. Given the statistical difference in scale scores for the elementary schools reported in this study, it is possible that the process would be beneficial for low performing schools and districts.

### **Recommendations for Further Study**

This study examined assessment data for students in Grades 3 – 5 over a three-year period. The Brockton Model was used in kindergarten through Grade 5 classrooms in the elementary schools in Jackson County. The examination of student data for kindergarten through second grade may provide additional information about the Brockton Model’s use in early elementary grades.

This study examined the impact of the Brockton Model on the WVGSA ELA assessment during the first and second year of implementation. The Brockton Model is still in use in Jackson County schools in kindergarten through 12<sup>th</sup> grade. Additional study may include examining student achievement over a longer period as students transition from elementary to middle to high school. Conducting surveys of teachers in the middle and high schools to determine if there is an overall improvement in students’ writing abilities upon entry to middle or high school as compared to years prior to the Brockton Model’s use could provide additional information regarding the success and sustainability of the initiative.

Four of the eight elementary principals that participated in the initial rollout of the Brockton Model are no longer serving as administrators in Jackson County. In terms of teacher and school sustainability, a study of the measures put in place by Jackson County Schools to ensure the onboarding of new teachers and administrators in the expectations for using the

Brockton Model in schools and classrooms may provide information about how changes in leadership and staff at a school affect student achievement.

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**APPENDIX A: IRB APPROVAL LETTER**



Office of Research Integrity  
Institutional Review Board  
One John Marshall Drive  
Huntington, WV 25755

FWA 00002704  
IRB1 #00002205  
IRB2 #00003206

November 18, 2020

Edna Meisel, Ed.D.  
Curriculum & Instruction, COEPD

RE: IRBNet ID# 1673377-1  
At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Meisel:

**Protocol Title:** [1673377-1] ADAPTATION OF THE BROCKTON HIGH SCHOOL LITERACY INITIATIVE TO ELEMENTARY SCHOOLS IN JACKSON COUNTY, WEST VIRGINIA

**Site Location:** MU  
**Submission Type:** New Project APPROVED  
**Review Type:** Expedited Review

In accordance with 45CFR46.110(a)(5&7), the above study was granted Expedited approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Chair. An annual update will be required on November 18, 2021 for administrative review and approval. The update must include the Annual Update Form and current educational certificates for all investigators involved in the study. All amendments must be submitted for approval by the IRB Chair prior to implementation and a closure request is required upon completion of the study.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Anna Robinson at (304) 696-2477 or robinsonn1@marshall.edu. Please include your study title and reference number in all correspondence with this office.

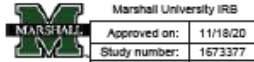
Sincerely,

A handwritten signature in blue ink that reads 'Bruce F. Day'.

Bruce F. Day, ThD, CIP  
Director, Office of Research Integrity

## APPENDIX B: VERBAL CONSENT TO INTERVIEW

### Consent to Participate in Research – Verbal Presentation



Hello, my name is Sonya White. You have been chosen to be in a study about Adaptation of the Brockton High School Literacy Initiative to Elementary Schools in Jackson County, West Virginia. This study involves research. The purpose of this research study is to determine how elementary principals and teachers adapted a high school literacy model for students in Grades K through five. This will take no more 30 – 45 minutes of your time. The Marshall University Institutional Review Board has approved this study. If you choose to be in the study, I will interview you and you will be expected to provide answers to the questions to the best of your knowledge. I will record this session using Microsoft Teams for the purpose of transcribing your responses. Once the responses are transcribed, the recording will be deleted from the secure server.

There are no foreseeable risks or benefits to you for participating in this study. There is no cost or payment to you. If you have questions while taking part, please stop me and ask. Your responses will remain confidential.

If you have questions about this research, or study related problems, you may call Dr. Edna Meisel at 304.786.8983. If you feel as if you were not treated well during this study, or have questions concerning your rights as a research participant call the Marshall University Office of Research Integrity (ORI) at (304) 696-4303.

Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to stop. May I continue?

## APPENDIX C: STUDY ABSTRACT

### Abstract

#### **The Purpose of the Research:**

The purpose of this study is to examine how eight elementary schools in Jackson County, West Virginia adapted the Brockton High School, Brockton, Massachusetts, Literacy Model to Grade K – 5 classrooms. The study of the processes used by administrators and teachers to modify the Brockton High School Literacy Model to meet the developmentally appropriate needs of elementary students and the impact if any on benchmark and summative assessments will be examined. The study will examine in depth the training, implementation, and monitoring of the literacy initiative among and between the eight schools in Jackson County, West Virginia to determine best practices and any impact on student achievement.

#### **The Scientific or Scholarly Rationale:**

School districts are required to provide professional development for teachers and administrators annually to improve teacher practice and ultimately student achievement. Research regarding effective professional development indicates school climate and deliberate, sustained activities to promote teacher improvement seem to have the highest impact on student achievement. This study proposes to investigate the adaptation, implementation, and effect of a high school literacy model to classrooms in kindergarten through Grade 5 through the examination of materials used to train teachers, instruct students, monitor implementation, and measure student achievement. The study will look for correlations between student achievement and implementation of the literacy program.

#### **The Procedures to be Performed:**

The co-researcher will contact the superintendent of Jackson County schools asking for student benchmark and summative assessment data from the eight elementary schools in the district from 2014 - 2017. The student data will include the student identification number, gender, school attended and all English Language Arts scores and sub-scores including the online writing component of the summative assessment. In addition, the co-researcher will ask the superintendent for documents from each elementary school related to the training, implementation, and monitoring of the Brockton Literacy Model and permission to interview the administrators at the eight elementary schools. If needed, the co-researcher will secure permission from the superintendent of Jackson County Schools to obtain the files related to the summative assessment data from the West Virginia Department of Education.

Once permission is granted, an e-mail will be sent to the superintendent with a link to the interview questions for principals along with the *Voluntary Consent to Participate in the Research Study* information which includes a brief explanation of the research study and assurance participation is voluntary. Participants will be assured there will be no penalty or loss of benefits if they choose not to participate and all questions do not have to be answered. Participants will be given contact information for the primary investigator, the co-investigator, and Marshall University's Office of Research Integrity. The superintendent will then forward the consent form and interview questions to the principals. The interviews with principals will occur either in-person adhering to social distancing guidelines or through an online conferencing platform.

The interview questions will ask for principals to describe the experience of implementing the Brockton Model related to planning for implementation, inclusion of teachers in the process, modifications made to the original Brockton Model, follow-up with teachers after implementation, and collaboration with other principals in the district.

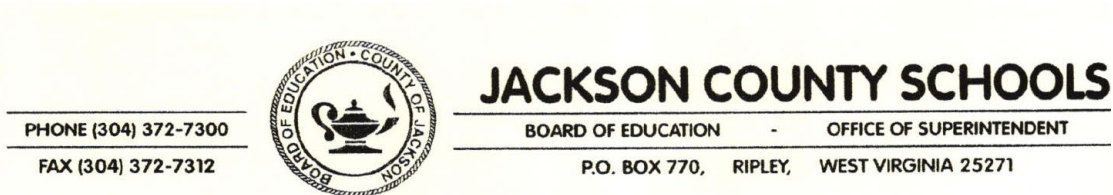
**The Risks and Potential Benefits of the Research:**

There are no known risks involved with participation in this study. Potential benefits of the research include the use of the resulting data from this study to inform school and district leaders on best practices for professional development to improve student achievement especially in literacy and adaptation of the model to other content areas such as mathematics and science.

**Complete Inclusion/Exclusion Criteria (may be submitted separately if extensive):**

Data will be collected from the eight elementary schools in Jackson County, West Virginia from the central office and principals. Benchmark and summative assessment data will be collected from the Jackson County Schools central office and the West Virginia Department of Education, if needed, with permission from the Jackson County Schools superintendent. The only potential exclusion may be using co-researcher's responses to the principal interview questions since one of the schools included in the study was under her leadership at the time of the implementation of the literacy initiative.

## APPENDIX D: PERMISSION LETTER



October 16, 2020

Dr. Edna Meisel, Chair  
Marshall University Graduate College  
100 Angus E. Peyton Drive  
South Charleston, WV 25303

Dear Dr. Meisel,

This letter is to document that Sonya J. White, a Marshall University Doctoral Student, has permission to conduct a research study at the eight elementary schools, in Jackson County, West Virginia once Institutional Review Board (IRB) approval has been obtained. I understand that this study involves obtaining benchmark and summative assessment data from 2014 – 2017 for students in Grades K – 5 from the district and/or the West Virginia Department of Education (WVDE), documents related to the training, implementation, and monitoring of the Jackson County Literacy Initiative in the county's eight elementary schools, and conducting brief interviews with the principals responsible for implementing the literacy initiative in the elementary schools in the study. I also understand this project is a part of Marshall University's requirements for completion of Ms. White's doctoral dissertation. The primary researcher for this study is Dr. Edna Meisel, Assistant Professor and Committee Chair, Marshall University.

I understand Ms. White will email to me the abstract submitted for IRB approval and a copy of the principal interview questions. Informed consent will be obtained prior to conducting interviews with principals.

I will support the implementation of this study and can be contacted by phone at 304-372-7300 or by email at [bhess@boe.jack.k12.wv.us](mailto:bhess@boe.jack.k12.wv.us).

Sincerely,

Blaine C. Hess  
Superintendent

## APPENDIX E: PRINCIPAL INTERVIEW QUESTIONS

### Interview Questions for School Principals

1. What were your initial thoughts after attending the presentation by Dr. Sue Szachowicz regarding implementing the Brockton High School Literacy Model at your school?
2. Describe the process for developing training materials for teachers as well as activities to be used with students in the classroom in order to implement the literacy model.
3. What adaptations, if any, did you make to the Brockton Model for use with students in Grades K through five?
4. Describe some of the challenges to implementation of the Brockton Literacy Model in your school.
5. Describe the nature and degree of teacher involvement in your school with development, planning, and implementation of the literacy initiative in your school.
6. Superintendent Hess required each school to submit short term plans throughout the school year for the literacy initiative. Describe your experiences with the plans in terms of how they were developed, revised, and used to guide the work related to the literacy initiative.
7. The demographics of Brockton High School and Jackson County are vastly different in terms of size, location (urban vs. rural), and diversity of the student population. Why do you think this literacy model works (or does not work) in both places?

## APPENDIX F: WVDE IRB APPROVAL LETTER



1900 Kanawha Boulevard, East, Building 6 • Charleston, WV 25305  
wvde.us

December 9, 2020

Sonya White  
1900 Kanawha Boulevard East  
Building 6, Room 215  
Charleston, WV 25305

Dear Sonya White:

The WVDE has approved your Research Proposal Application (RPA) for your study entitled, "Adaptation of the Brockton High School Literacy initiative to Elementary Schools in Jackson County, West Virginia." We believe this study will provide information that addresses critical questions for our state.

The next step is for you to work with us to develop a comprehensive Data Disclosure Agreement (DDA). This is a legal document that authorizes you, as an agent of the state, to conduct research on our behalf. This is necessary prior to the release of any personally identifiable information (PII).

The DDA details your responsibilities with respect to protecting the privacy of the students whose PII is being provided as part of this study. The DDA also binds you to use the information you receive only in the way described in your approved RPA. A staff attorney will be involved in the development of the DDA to ensure all legal requirements are met. If during this process, we cannot come to agreement on critical aspects of the agreement, the project will not commence.

Next, you will have an initial consultation with our Office of Data Analysis and Research to discuss your data requirements in full detail. No fee will be charged for this consultation. However, after the consultation, the WVDE will provide you with a good faith estimate regarding the projected cost of securing these data. The following dates are proposed for your consultation:

- December 11, 2020

If you have questions, please contact the WVDE at 304.558.8869 or by email ([jonathan.rollins@k12.wv.us](mailto:jonathan.rollins@k12.wv.us)).

Best regards,

A handwritten signature in blue ink that reads "Jonathan D. Rollins III".

Jonathan D. Rollins III, Ph.D.  
Coordinator (Research, Evaluation, and Reporting), Research Review Committee Chair  
WVDE Office of Data Analysis and Research  
(304) 558-8869, ext. 53005  
[jonathan.rollins@k12.wv.us](mailto:jonathan.rollins@k12.wv.us)

JDR:jk

W. Clayton Burch  
State Superintendent of Schools

Miller L. Hall  
President, West Virginia Board of Education

## VITA

# SONYA WHITE

56 Faber Lane, Kenna, WV 25248 - 304-532-2464  
[snjwhite@k12.wv.us](mailto:snjwhite@k12.wv.us)

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To apply my skills, experiences and strengths to further the West Virginia Department of Education's vision to *"empower all students to pursue knowledge for life, contribute to their community as responsible citizens, and succeed in the workforce."*

## EXPERIENCE

### JULY 2018 TO PRESENT

#### SENIOR OFFICER, OFFICE OF TEACHING AND LEARNING; EXECUTIVE DIRECTOR, OFFICE OF SUPPORT AND ACCOUNTABILITY; ASSISTANT DIRECTOR, OFFICE OF ASSESSMENT WEST VIRGINIA DEPARTMENT OF EDUCATION

- Serve as Senior Officer of WVDE Office of Teaching & Learning which includes four units: Early & Elementary Learning, Middle & Secondary Learning, Assessment, and Educator Development & Support
- Led the implementation of WVDE's *math4life* statewide initiative to improve mathematics achievement by supporting local school districts with tools and professional learning to improve mathematics instruction and student achievement. [wvde.us/math4life](http://wvde.us/math4life)
- Co-Authored two Assessment Federal Peer Reviews for the Grade 11 assessment options. Both reviews received a *Substantially Meets* rating from the United States Department of Education
- Assisted with conducting Special Circumstance Reviews and writing the accompanying reports for submission to the West Virginia Board of Education.

### MARCH 2013 TO JUNE 2018

#### PRINCIPAL, KENNA ELEMENTARY SCHOOL, JACKSON COUNTY, WV SCHOOLS

- Created a positive learning environment and community culture for 280 students in Grades Pre-K through 5
- Implemented the county literacy initiative and secured waivers to supplement mathematics materials that aligned with current research and standards
- Improved parent involvement using One Book, One School, One Family program
- Coordinated the publicity events for the groundbreaking and occupancy of the new school building that resulted in a model community/school partnership
- Obtained a \$3,000 STEM grant to provide fifth grade students with robotics and coding training at the NASA center – The students visited all the neighboring elementary schools and provided hands-on workshops in robotics to their peers
- Worked with governmental agencies, community groups, and the Jackson County Board of Education to raise \$200,000 for two outside learning environments that include a walking track and pavilions for community use
- Recognized in 2016 as a model community use facility
- Three teachers in the last five years obtained National Board Certification



## EXPERIENCE (CONT.)

- Received grants to fund a Marathon Club for students in grades three to five to promote healthy lifestyles - students logged over 2,500 miles for the 2017 -18 school year
- Implemented a "Maker Space" STEM room for students to use before school; staffed by a volunteer grandparent who is a retired geologist
- Supported STEM activities through a partnership with PTO and businesses via STEM Night and COSI on Wheels which led to the return of the school science fair
- Coordinated with the PTO to provide two - \$1,000 grants annually for teachers to use in their classroom for innovative projects one which allowed the music teacher to purchase a classroom set of ukuleles for Grade 5 music classes
- Improved school climate through various positive behavior support programs including the entire school reading of the book *Wonder* by R.J. Palacio
- Created videos of teachers modeling positive behavior expectations in hallways and on the playground; posted on social media for parents to view

FEBRUARY 2008 TO FEBRUARY 2013

### **ASSISTANT DIRECTOR, OFFICE OF ASSESSMENT & ACCOUNTABILITY; WESTEST 2 MATHEMATICS ASSESSMENT COORDINATOR; BENCHMARK ASSESSMENT COORDINATOR WEST VIRGINIA DEPARTMENT OF EDUCATION**

- Collaborated with the Executive Director regarding personnel assignments and responsibilities
- Provided leadership and direction to the successful administration of WESTEST 2
- Represented West Virginia Department of Education at national meetings during the transition to the Smarter Balanced Consortium
- Planned all aspects of county test coordinator meetings
- Worked closely with assessment vendor to ensure seamless administration and reporting of test results
- Planned and conducted item writing workshops and alignment studies for assessment items
- Created professional development sessions for data analysis of summative and interim assessments
- Authored or edited over 1,400 questions for the interim assessment item bank for Acuity
- Worked cooperatively with other offices in the Division of Teaching and Learning to further the vision of the West Virginia Department of Education
- Assisted with the interviews and hiring of coordinators for the office

## **EXPERIENCE (CONT.)**

**AUGUST 1998 TO FEBRUARY 2008**

**MATHEMATICS COORDINATOR COACH – 2006 – 2007; CLASSROOM TEACHER –  
RIPLEY HIGH SCHOOL JACKSON COUNTY, WV SCHOOLS**

- Oversaw the mathematics curriculum and development for eight elementary, two middle and two high schools in Jackson County
- Provided support to educators to improve mathematics instruction via observation, modeling lessons, and the incorporation of technology
- Developed and implemented professional development academies for county teachers
- Coordinated efforts with central office staff to reduce duplication
- Wrote a grant for middle school students to participate in a NASA e-mission integrating science, mathematics, and real-world experiences
- Taught high school mathematics and chemistry courses including AP Calculus
- Served as Faculty Senate vice-president and treasurer
- Employed as the school technology specialist, county math field day coordinator/ coach, mentor teacher and student teacher supervisor
- Coauthored the Ripley High school technology plan
- Coordinated the implementation online course management software (Edline) and electronic gradebook software

**JUNE 1999 TO AUGUST 2006**

**FACILITATOR - GOVERNOR'S SUMMER INSTITUTE FOR TEACHERS AND  
BEGINNING TEACHERS WORKSHOP WEST VIRGINIA CENTER FOR PROFESSIONAL  
DEVELOPMENT**

- Provided professional development in team building, standards-based instruction, data analysis, content mapping CSOs, professional learning communities
- Led sessions with beginning teachers regarding classroom management strategies and collaborating with their assigned mentor
- Developed and taught specialized mathematics sessions during the summer institutes

**2006 TO 2010**

**ADJUNCT MATHEMATICS FACULTY WEST VIRGINIA UNIVERSITY - PARKERSBURG**

- Taught courses in Elementary and Intermediate Algebra at the Jackson County Center

**1988 TO 1998**

**CLASSROOM TEACHER – AMELIA AND GLEN ESTE HIGH SCHOOLS  
WEST CLERMONT OHIO LOCAL SCHOOL DISTRICT**

- Taught high school mathematics and chemistry
- Conducted professional development sessions regarding graphing calculators and laboratory safety

## EDUCATION

**JANUARY 2021 (ANTICIPATED)**

**DOCTOR OF EDUCATION (ED. D) CURRICULUM AND INSTRUCTION, MARSHALL UNIVERSITY**

Completed Prospectus and Finishing Dissertation – *The Adaptation of the Brockton High School Literacy Model to Elementary Schools in Jackson County, West Virginia.*

**MAY 2015**

**EDUCATIONAL SPECIALIST (ED. S) LEADERSHIP STUDIES, MARSHALL UNIVERSITY**

Completed coursework to meet the requirements for an Educational Specialist Degree in Leadership Studies. GPA: 3.75

**MAY 2008**

**LEADERSHIP ENDORSEMENT CERTIFICATE, SALEM INTERNATIONAL UNIVERSITY**

Completed coursework to meet the requirements for certification as a Superintendent, Supervisor of Instruction, and Principal in West Virginia

**MAY 2002**

**MASTERS IN EDUCATION CURRICULUM AND INSTRUCTION, COPPIN STATE UNIVERSITY**

Completed coursework to meet the requirements for a Masters degree in Curriculum and Instruction.

**DECEMBER 1986**

**BACHELOR OF SCIENCE SECONDARY EDUCATION, WEST VIRGINIA STATE UNIVERSITY**

Completed coursework to meet the requirements for a Bachelor of Science degree in secondary education for chemistry and mathematics.

## ADDITIONAL COURSEWORK

**1986 – 2006**

**MARSHALL UNIVERSITY**

Graduate Level courses related to National Board Certification. Undergraduate level courses to pursue an additional certification in Physics.

**1998 – 2006**

**WEST VIRGINIA UNIVERSITY**

Graduate level courses in technology, classroom management and BC Calculus.

**1995 – 1996**

**UNIVERSITY OF CINCINNATI**

Graduate work in Curriculum and Instruction with an emphasis on Technology

## **SKILLS**

### **General Training**

- North Central Association – Writing the NCA Profile/Data Analysis
- Teachers teaching with Technology
- Carnegie Learning Cognitive Tutor Algebra I
- APL Training
- Learning Focused Schools
- Laboratory Safety
- Lenses on Learning
- Evaluation Leadership Institute
- National Center for Leadership in Education –Literacy Focus
- Model Schools Conference

### **West Virginia Center for Professional Development –Trained and Served as a Facilitator 1999 - 2006**

- Standards-Based Instruction Unit Design
- WESTEST Data Analysis
- Team Building
- Content Mapping utilizing the Content Standards and Objectives
- Working with a group in a Collegial Professional Learning Community
- Mentoring Beginning Teachers
- Harry Wong Strategies for Classroom Management
- Mathematics Sessions on Projects for Algebra, Geometry and Graphing Calculators

### **West Virginia Department of Education Activities**

- ACT Analysis
- Module 3 Training – Backward Design
- Technology Training to utilize the Teach 21 website
- Internet Safety and Technology Plan Development
- Dynamic Classroom Assessment – Served as a facilitator at Ripley High School
- Algebraic Thinking Toolkit – Served as a facilitator/trainer for WVCPD
- Mathematics Leadership Team
- Applied Mathematics
- Choosing and Implementing a Standards- Based curriculum
- Acuity Training – Certified Trainer
- Lexile and Quantile Training
- Classroom Assessment Network (CAN)
- Instructional Leaders’ Summit
- FAST SCASS Member

## **ACTIVITIES**

National Association of Elementary School Principals  
West Virginia Association of Elementary and Middle School Principals  
Delta Kappa Gamma – Women in the education profession  
Former Board Member Jackson County Read Aloud

## **CERTIFICATION**

West Virginia Professional Permanent Teaching Certificate

Endorsements:

- Mathematics 7 – 12
- Chemistry 7 – 12

National Board Certification Adolescence to Young Adulthood Mathematics (2006 – 16)

West Virginia Permanent Professional Administrative Certificate

Endorsements:

- Principal
- Supervisor of General Instruction
- Superintendent

Classification:

- Masters plus 45 hours

## **REFERENCES**

Available upon Request