Running Head: TEACHER DESIGNED KINDERGARTEN CURRICULUM

THE EFFECTS OF A TEACHER DESIGNED KINDERGARTEN CURRICULUM ON THE READING PERFORMANCE OF ENGLISH LANGUAGE LEARNERS

By

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ABSTRACT

Research in early childhood education has continually demonstrated the importance of developing children's literacy during their early years. Becoming literate is a multifaceted skill that children in the United States must achieve to be successful. There is considerable controversy, among policymakers, researchers, and educators, about how best to ensure the reading success of English language learners (ELL; Slavin & Cheung, 2005). Although research suggests the benefits of using ELLs' native language to support literacy instruction in English, many schools, either for political or economic reasons, do not have that option. Many ELLs are taught alongside their English-proficient peers by teachers who often have had little or no preparation for working with ELLs (Llagas, 2003). These teachers are faced with the challenge of adapting their literacy instruction to meet a widening range of needs within their classrooms. To enhance student learning and thereby improve outcomes, a colleague and I were selected to develop a kindergarten curriculum to meet the unique needs of our district's school population. The purpose of this quantitative study is to investigate the effectiveness of that curriculum with particular attention to the reading achievement of ELLs in comparison with the effectiveness of the Tools of the Mind Curriculum that our district previously used. Investigating how the reading performance of kindergarten ELLs in this district has (or has not) changed subsequent to the curriculum change also provides district leaders with some insights into whether the new curriculum has contributed to a reduction of the achievement gap between ELL and native English groups. This study is a formative evaluation in that these findings may help my district make other necessary changes in curriculum or to consider rethinking our use of PLCs to support curriculum and instruction to increase student achievement. The findings of this study may encourage further research about curriculum development for linguistically diverse populations.

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Exploring how curriculum can impact reading achievement for ELLs will contribute to the kindergarten research field, the understanding of ELLs' reading achievement, and will, hopefully, generate interest in this neglected and critical area of research.

Keywords: English language learners (ELL), reading, curriculum, kindergarten

DEDICATION

I dedicate this dissertation to the Red Bank Borough public school community comprised of amazing students, families, leadership, and staff. I strongly believe in our commitment to a shared vision that supports ALL children in their pursuit of BIG dreams.

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My writing of this dissertation has been quite a journey. I have learned as much from my successes in this process as I have from my obstacles or times of self-doubt. A common theme has been to just keep the train moving. Throughout this ride, I have grown both personally and professionally. I am a stronger writer, thinker, leader, teacher, and risk taker because of this process. For that I am genuinely thankful.

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Let's start with why. Research in early childhood education has continually demonstrated the importance of developing children's literacy during their early years. Becoming literate is a multifaceted skill that children in the United States must achieve to be successful. Today, more than ever before, early childhood literacy is regarded as the single best investment for enabling children to develop skills that will likely benefit them for a lifetime (Neuman & Dickinson, 2001). Early literacy experiences have been found to influence achievement in later grades and to influence children's attitudes toward learning (Zimiles, 1986). Parents play a significant role in their children's academic development (Harper & Pelletier, 2010). Therefore, early literacy experiences are not uniform for all and can vary significantly depending on a child's culture, language, socioeconomic status, and ethnicity.

The early language and literacy development of children from Spanish-speaking backgrounds is an issue of growing concern in the United States (August, Shanahan, & Escamilla, 2009; August, McCardle, & Shanahan, 2014; Capps, Fix, Murray, Ost, Passel, & Herwantoro, 2005; Dickinson, McCabe, Chiarelli, & Wolf, 2004; Genesee, 2006). Hispanics are the largest and fastest-growing minority group in the United States, representing nearly 18 percent of the nation's population (Llagas, 2003; U.S. Census Bureau, 2017). The number of Spanish-speaking English language learners (ELLs) in schools in the United States is steadily growing. From 2003 to 2013, the number of Hispanic students enrolled increased from 9.0 million to 12.5 million, and the related percentage increase was from 19 to 25 percent. Spanish was the home language of nearly 3.8 million ELLs in 2013–14, representing 76.5 percent of all ELLs and 7.7 percent of all public K–12 students (National Center for Education Statistics, 2016). The increase in Hispanic enrollment is seen at all levels of education from nursery to college. Between 1996 and 2006, Hispanic kindergarten students rose from 14.9 percent to 25.7 percent (Bauman, 2017). Mexican American immigrants are the largest and fastest growing minority group among young elementary school students (West, Denton, & Germino-Hausken, 2000). Given the increase in the population of Spanish-speaking children in schools in the United States, it is imperative that we better understand how to support the process by which these children learn to read as they move through school.

It is critical to note the heterogeneity of the Hispanic population. Most data sets do not distinguish among Hispanic subgroups, disregarding important cultural and economic differences among them (Ford, Cabell, Konold, Invernizzi, & Gartland, 2013). Given the experiences of bilingual Hispanic children who live in economically disadvantaged homes are multifaceted (August & Hakuta, 1997; Hammer, Miccio, & Wagstaff, 2003).

Overall, despite high educational expectations, Hispanics are among the least educated groups in the United States. More than one-fourth of Hispanic adults have less than a ninthgrade education (U.S. Census Bureau, 2002). Hispanic families in the United States are disproportionately characterized by low levels of educational attainment, low levels of English language proficiency, low paying or inconsistent employment, and poverty (Figueras-Daniel & Barnett, 2013; National Center for Education Statistics, 2016; Schhneider, Martinez, & Ownes, 2006). Mexican Americans, who are the largest and fastest growing Hispanic subgroup in the United States, have the lowest rates of educational attainment compared with other groups.

Hispanics are among those most at risk for reading difficulty in the United States (August & Hakuta, 1998; Hemphill, & Vanneman, 2011; Llagas, 2003). In fact, despite gains in educational achievement for Hispanics, there continue to be significant differences between the achievement of Hispanics and that of their non-Hispanic White peers, particularly around literacy development (Llagas, 2003; Reardon & Galindo, 2009). For reading, at the national

level, NAEP reading scores increased for both groups significantly, but the achievement gap between Hispanic and White students did not change for fourth- or eighth-graders when comparing 1992 to 2009 (Hemphill, & Vanneman, 2011). By the time they enter kindergarten, Hispanic students, for the most part, already trail their classmates in reading (and mathematics) achievement. Results from a recent national study of kindergartners, the Early Childhood Longitudinal Study Kindergarten Class of 2010-2011 (ECLS-K), point to a problematic academic future for Hispanic children (Tourangeau, Nord, Lê, Sorongon, Hagedorn, Daly, & Najarian, 2015). Hispanic children whose parents do not speak English at home were the least likely to have passing reading proficiency scores across all tasks (West, Denton, & Germino-Hausken, 2000). Per the National Center for Education Statistics (2005), 58% of children from Spanish speaking backgrounds read below basic reading levels in fourth grade (Culatta, Reese, & Setzer, 2006). The initial achievement gap between Hispanic and white students persists throughout middle school and high school. Tracing the academic performance of Hispanic students using trend data from the National Assessment of Educational Progress (NAEP) shows that Hispanic students continue to lag behind non-Hispanic whites. When Hispanic reading scores are examined by subgroup, Mexican Americans and Puerto Ricans tend to score the lowest (West, Denton, & Germino-Hausken, 2000).

Such differences may stem not only from English language proficiency, but also from low parent education and literacy levels in the home language, as well, in many cases. Nonetheless, student learning standards set expectations for all kindergarten students to read emergent-reader texts with purpose and understanding. Raising academic standards for all students and the measurement of student achievement to hold schools accountable for educational progress leave educators feeling pressured to have ELLs perform on level with native English-speakers (NES). This challenge leaves districts and educators seeking to find the best methods for helping close the achievement gap between ELLs and NES.

There is considerable controversy, among policymakers, researchers, and educators, about how best to ensure the reading success of English language learners (Slavin & Cheung, 2005). The role and benefit of the native language in the instruction of English language learners has been a topic of interest for quite some time now. Children's reading proficiency in their native language can be a strong predictor of their ultimate English reading performance (Garcia, 2000). Effective early literacy instruction in a child's native language can provide a foundation for reversing the negative reading outcomes trend for children from Spanish-speaking backgrounds (Culatta et al., 2006).

Although research suggests the benefits of using ELLs' native language to support literacy instruction in English, many schools, either for political or economic reasons, do not have that option. Many ELLs are taught alongside their English-proficient peers; and by teachers, many of whom have had little or no preparation for working with ELLs (Llagas, 2003) and are faced with the challenge of adapting their literacy instruction to meet an ever-widening range of needs within their classrooms. The kindergarten year is a challenging time in which educators are tasked with teaching all students to learn to read regardless of their abilities, experiences, and backgrounds.

The kindergarten curriculum has been a topic of importance for quite some time now (Katz, Raths, & Torres, 1987; Spodek, 1986); however, little or no research has been conducted to assess the quality of a differentiated kindergarten curriculum design used in meeting the needs of ELLs in the general education classroom (Bigelow, Ranney, & Dahlman, 2006; Martínez, 2011; Nielson, Friesen, & Fink, 2012; Santamaria, 2009; Llosa & Slayton, 2009). Likewise,

research on reading during the kindergarten year for ELLs is very limited; much of the ELL research focuses on the development of vocabulary and other literacy skills (August et al., 2014; Ballantyne, Sanderman, & McLaughlin, 2008; Silverman, 2007). More research is needed in curriculum and reading instruction for ELLs during the kindergarten year.

As a certified ESL kindergarten teacher, informal teacher leader, and co-author of the *Red Bank Kindergarten Curriculum Guide* for the Red Bank Primary School, I work closely with ELLs during their kindergarten year. I am interested in determining the effects of the Red Bank Kindergarten (RBK) curriculum on the reading performance of ELLs in the Red Bank Borough School District to examine the extent to which the new curriculum addresses the district administration's concerns about the *Tools of the Mind* Curriculum and the needs of our student population. This study will determine the effects of the Red Bank Borough School District.

Statement of the Problem

The Red Bank Borough School District has a student population that currently is about 80% Hispanic, 10% Black, and 10% White. More than 90% of our students are reported to be socioeconomically disadvantaged (New Jersey Department of Education (NJDOE), 2015). Forty-two percent of students in grades P-8 are identified as ELLs based on their Assessing Comprehension and Communication in English State-to-State (ACCESS) test scores (S. Sherwood, personal communication, October 27, 2016). This percentage does not reflect all of the students who speak another language at home. It represents the percentage of students eligible to receive ESL support in school. Sixty-nine percent of kindergarten students are identified as ELLs; the percentage of ELLs decreases by grade level as students exit the ESL program.

Within-district data analysis and score reports from state mandated testing, Partnership for Assessment of Readiness for College and Careers (PARCC), revealed that Red Bank Borough School District students schoolwide in grade 3 were performing below the state average for English Language Arts (NJDOE, 2015). Red Bank Borough School District used the *Tools of the Mind* (Tools) kindergarten curriculum from 2007 to 2015. District administration was dissatisfied with Tools due to a perceived decline in reading performance while demographics of the school population, as measured by the district, did not significantly change.

To enhance student learning and thereby improve outcomes, a colleague and I were selected to develop a kindergarten curriculum to meet the unique needs of our district's school population. The need for a new kindergarten curriculum stemmed from the attribution of low student achievement in literacy to a lack of focus on key literacy components in the previous curriculum. Prior to this new curriculum many students were leaving kindergarten barely reading on grade level with major gaps in their phonological and phonemic awareness skills. The lack of explicit phonics instruction was thought to be especially detrimental to our large population of ELLs who enter kindergarten with weak basic skills in English.

Study Overview

The purpose of this quantitative study is to investigate the effects of the RBK curriculum on the reading performance of ELLs. I undertake this study from a pragmatic worldview (Creswell, 2014). I fully recognize that my research occurs in a social, historical, and political context. I am seeking to understand how ELLs compare to NES in reading and whether the RBK curriculum has contributed to the reduction of the achievement gap between these two groups. The findings of this study may encourage further research about reading instruction during the kindergarten year and about curriculum development for linguistically diverse populations. My overarching research question is what are the effects of the RBK curriculum on the reading performance of ELLs? To address it, this research study will address the following specific questions:

Research Question 1: Do the students experiencing the RBK curriculum have higher reading scores on the DRA2 at the end of kindergarten when compared to the students that experienced the Tools curriculum, after adjusting for student family background? **Research Question 2:** How do ELLs' reading scores (DRA2) compare to the reading scores on the DRA2 of NESs under both curricula, adjusting for student family background? background?

Research Question 3: Did the reading performance gap on DRA2 between ELLs and NESs decrease after the adoption of the RBK curriculum, adjusting for student family background?

The hypotheses for my study follow:

Hypothesis 1: The students experiencing the RBK curriculum have higher reading scores on the DRA2 than students that experienced the Tools curriculum, after accounting for student family background.

Hypothesis 2: The reading scores of ELLs are lower than the reading scores of NESs under both curricula.

Hypothesis 3: The difference (gap) between the reading scores for ELLs and NESs narrowed after the introduction of the RBK curriculum.

Significance of Study

I am interested in obtaining evidence regarding the possible effects of the Red Bank Kindergarten (RBK) curriculum on the reading performance of ELLs in the Red Bank Borough School District to examine the extent to which the new curriculum addressed the district administration's concerns about Tools and reading achievement. Although the methodology available to address this question does not provide the strongest basis for drawing causal inferences regarding the effects of the RBK curriculum, it is the best available approach in current circumstances. Moreover, if it appears that the reading performance of ELL's did not substantially improve subsequent to the introduction of the new curriculum, then new efforts are necessary to understand why and what steps may need to be taken to improve upon the situation.

Investigating how the reading performance of ELLs in my district has (or has not) changed subsequent to the RBK curriculum change will help district leaders better understand how ELLs compare to NESs in reading and whether the RBK curriculum has contributed to a reduction of the achievement gap between these two groups. This study is not just a summative evaluation, but is a formative one in that these findings may help my district make other necessary vertical changes or modifications to the current kindergarten curriculum. Our proposed plan for attacking the problem of raising student reading achievement in kindergarten was not complete when the curriculum was "done" being written and will not be "done" when this study is complete. It is my hope that this study will inspire my district to not wait for big results about what is working or not working, but rather, to see the value of embedding this type of inquiry into the work we are already doing. I would like this project to contribute to our school district's journey of getting better at getting better.

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Additionally, this study may be of interest to those seeking to learn more about Tools in kindergarten before choosing to adopt it. The findings of this study may encourage further research about curriculum development for linguistically diverse populations. Exploring how curriculum can impact reading achievement for ELLs will contribute to the kindergarten research field, the understanding of ELLs' reading achievement, and will, hopefully, generate interest in this neglected and critical area of research.

Methodology

To study if the RBK curriculum has improved reading outcomes for ELLs in Red Bank, I have analyzed reading achievement data for four cohorts of children. Two cohorts experienced the Tools curriculum and two subsequent cohorts experienced the RBK curriculum. I have collected reading levels at two points in the school year (Winter and Spring) from the Diagnostic Reading Assessment 2nd Edition (DRA2) (Beaver, 2006) for kindergarten students entering kindergarten from 2013 to 2016. Data from 2017 and 2018 are not included in this study as the district has since transitioned from using the DRA2 reading assessment to another reading assessment, Rigby, and I am uncertain about the alignment of the two assessments. I will be comparing the data from year to year to see if the change to the curriculum for students entering kindergarten in 2015 and beyond resulted in changes to students' (particularly, ELLs') reading performance gains. I can estimate this by comparing DRA scores controlling for child and family background characteristics and a literacy measure collected early each Fall (or Winter DRA scores when Spring DRA is the dependent variable). This analysis will help determine whether the introduction of the RBK curriculum positively influenced reading performance in the Red Bank Borough School District.

Sample and Context

The sample consists of all kindergarten students entering five general education classrooms from 2013 to 2016 who completed mid-year and end-of-year DRA2 assessments as located through school data available from the Red Bank Borough School District. The sample consists of students only from five classrooms because the teachers in these five settings remained consistent throughout the four school years. Students in self-contained special education classrooms are not included in the sample. From a broader perspective, this is a convenience sample, but it is one that is uniquely relevant to my problem of practice. Special education students in self-contained special education classrooms are not included in the sample because of the level of curriculum modification this population requires. Special education students mainstreamed in the general education setting are included in the sample. The students in the sample are separated into two groups for comparison: 232 kindergarten students who experienced the Tools curriculum in years 2013-2015, and 206 kindergarten students who

Measures

The data to assess the effects of the RBK curriculum on the reading performance of ELLs was obtained from the district's standardized assessment data base that includes DRA2 reading scores. The DRA2 is used in many school districts to determine students' reading levels. The District DRA2 data provide an indicator of student reading achievement. I am ensuring confidentiality by removing identifiers from the data sets. As noted above, it was feasible for me to access this data because of my position as a kindergarten teacher, curriculum author, and informal teacher leader in the Red Bank Borough School District. I received IRB approval and

board approval from my district to conduct this study. The data I have collected from the sample outlined above is as follows:

- Letter and sound knowledge on a baseline literacy measure (pre-test) at the beginning of each kindergarten school year
- 2) DRA2 levels at the middle and end of each kindergarten school year
- Demographic information on students including whether they receive free or reduced price lunch as an indicator of each family's socioeconomic status, home language, ethnicity, race, and gender

Dependent Variables. The key dependent variables in this study are reading ability as measured by the DRA2 in the Winter and Spring of each year. A student's DRA2 independent reading level reflects the student's oral reading fluency and comprehension at independent performance levels (Beaver & Carter, 2006). A rubric is included to guide the scoring of the student's fluency and comprehension. The DRA2 is a formative reading assessment system that allows teachers to assess their reading level, then observe, record, and evaluate changes in student reading performance for children in grades K-8 (Beaver, 2006). The DRA2 has undergone rigorous field-testing and is supported by evidence of validity and reliability (McCarty & Christ, 2010). The following reliability analyses were performed during DRA2 development: internal consistency reliability, passage equivalency, test-retest reliability, and interrater and expert rater reliabilities. The developers disaggregated reliability coefficients by reading level. Reliabilities for Oral Reading Fluency and Comprehension at all levels ranged from .50 to .80. Correlation coefficients for test-retest reliability were all above .90, indicating consistent evaluations across administrations. The publisher reports the following evidence of DRA2 as a valid measurement of accuracy, fluency, and comprehension. Correlations between

test scores were in the .60 to .70 range. Predictive validity was calculated by comparing teacher ratings to students' scores on the DRA2, yielding coefficients of .63 and .60 for Oral Reading Fluency and Comprehension, respectively. The DRA2 has been administered to all children in the sample.

Independent Variables. As discussed above, the independent variables are the Fall letter and sound levels (pre-test), curriculum, ESL status (ELL), and demographic measures that control for individual child characteristics and family background including whether they receive free or reduced price lunch as an indicator of each family's socioeconomic status (FRPL), home language, ethnicity, race, and gender. Student letter and sound knowledge is recorded on a baseline literacy measure (pre-test) at the beginning of each kindergarten school year. This ELA assessment was created by the kindergarten team and is used throughout the school year to collect benchmark data on fundamental literacy skills (letter names, sounds, and sight words). The ELA assessment is first given at the start of the school year to establish a baseline and guide small group formation for instruction. This is assessment is "homegrown" and therefore, there has been no assessment of this literacy measure's reliability or validity. The demographic data are obtained from parental report at the time of kindergarten enrollment. ELL status during the kindergarten year is based on the Pre-K WIDA test given at the end of preschool or a screening tool administered at kindergarten entry if they are new to the district. These tests are administered to students who report another language spoken at home on the home-language survey. These tests in conjunction with academic performance and teacher input provide multiple indicators for identification of ELLs.

Curriculum Change

As discussed above, to enhance student learning and thereby improve outcomes, a colleague and I were selected to develop a kindergarten curriculum to meet the unique needs of our district's school population. Prior to this new curriculum many students were leaving kindergarten barely reading on grade level with major gaps in their phonological and phonemic awareness skills. A brief description of Tools and RBK curricula and their key differences follows.

Tools of the Mind. According to the Tools of the Mind website (2018), Tools is a research-based early childhood model combining teacher professional development with a comprehensive innovative curriculum that helps young children to develop the cognitive, socialemotional, self-regulatory, and foundational academic skills they need to succeed in school and beyond. Yet, I have identified what seems to be significant shortcomings. The Tools curriculum for kindergarten does not include explicit phonics instruction (Bodrova & Leong, 2007). In addition, the Tools curriculum's shared book reading uses the Magic Tree House chapter book series as children's daily read aloud experience. This chapter book series takes children on exciting adventures to past times and places (e.g. ancient Egypt), but does not take the place of picture books rich with illustrations, text, and meaningful opportunities for discussion. Additionally, the Tools curriculum did not explicitly emphasize the importance of the reciprocal relationship between home and school. Much of the learning in the classroom was complicated for families from low-income, Hispanic backgrounds to understand and the book series used did not connect to familiar topics and contexts. Fortunately, in preschool, the Tools curriculum does have shared reading experiences that include children's picture books and is linked to relatable themes for students and families.

RBK Curriculum. The RBK curriculum gives administrators, teachers, and support staff guidance and resources needed to effectively implement the components of high-quality kindergarten instruction. The RBK curriculum reflects the pedagogy and instructional planning that brings current research and developmentally appropriate kindergarten practices in the twenty-first century together in one usable document. Providing developmentally appropriate environments and learning experiences that stimulate and engage children in Red Bank so as to significantly improve their academic skills, especially in literacy, is our goal. Red Bank seeks to provide the highest quality of learning for all children. The RBK curriculum seeks to be childcentered, cost effective to the district, and intended to better meet our students' linguistic needs. The RBK curriculum was designed to provide students with the appropriate content and skills they need to learn with particular attention to their English language development needs.

Shared picture book reading and promoting positive attitudes toward literacy have a significant impact on children's literacy learning (Morrow, 1992). The RBK curriculum incorporates shared book reading and builds home-school literacy connections by sending home books for children to build at-home libraries. The RBK curriculum built a home-school bridge to develop meaningful ways to engage families in Red Bank to develop their children's literacy development. A key component of this home-school literacy effort was to provide print materials that the children were familiar with to build motivation, participation, and parental interest. The texts chosen for in school and at home are developmentally appropriate, culturally sensitive, and connected to the skills being taught in the classroom. Additionally, monthly newsletters in English and Spanish were sent home to keep parents informed about the topics and skills being taught in the classroom each month.

Key Differences. Some of the key differences between Tools and RBK are with respect to explicit phonics instruction, theme choice, and shared reading experiences. With the design of our own teacher-created curriculum, we were in full control of the daily schedule with guidance from the New Jersey Kindergarten Implementation Guidelines (NJDOE, 2011). We created a "word work" block in the schedule where teachers had the time to implement a phonics frame adapted from the Wilson model (Wilson Language Training Corporation, 2014). An explicit focus on phonics was a major change that came from this new curriculum design. The RBK curriculum includes a systematic scope and sequence for phonics instruction with emphasis on the essential components of reading instruction – phonemic awareness, phonics, vocabulary development, reading fluency, and reading comprehension strategies (Antunez, 2002; Wilson Language Training Corporation, 2014). The systematic phonics plan provides teachers with an instructional plan for teaching phonics and helps students develop meaningful phonological awareness. Tools did not include a systematic scope and sequence for these critical components of reading instruction.

Theme choice was another key difference between Tools and the RBK curriculum. The Tools themes included fairy tales and themes related to books one through twelve from Magic Tree House chapter book series. Kindergarten teachers, ESL teachers, and administration felt that the themes were not easily accessible for our student population and that too much time was being spent building background knowledge for themes that were not critical to learn about during the kindergarten year (e.g. Egypt). A basic feature of appropriate curriculum for diverse learners is the use of culturally relevant teaching examples and illustrations to teach subject matter content (Gay, 1988). The RBK curriculum incorporates themes that connect to the

environment and therefore are meaningful to students (e.g. seasons, habitats, changes, community).

These new themes and explicit time for phonics instruction are further supported by shared reading time. With the RBK curriculum, shared reading now occurs throughout the kindergarten day during the literacy and phonics instructional blocks. Text themes and levels for shared reading and read-alouds are both developmentally appropriate and aligned to ELLs' linguistic and background knowledge needs. Shared reading experiences with Tools were limited to chapter book read-alouds that did not offer a print rich experience and included a large amount of complex vocabulary for the age group. For example, the RBK curriculum was designed to offer a balance of non-fiction, picture books, and notable children's literature, to provide children with more opportunities to reap the benefits of the shared reading time. Based on reading and ELL research, these key differences between Tools and the RBK curriculum are predicted to have a significant impact on student's reading development (Genesee, 2006; National Reading Panel, 2000; O'Brien, Paratore, Leighton, Cassano, Krol-Sinclair, & Green, 2014; Rasinski & Padak, 2004).

Analysis

The first step in analysis was to statistically describe the sample and any changes that may have taken place over time in characteristics of children at entry to kindergarten. Based on my experience in the district, I did not expect to see any, but this question was explicitly investigated by comparing baseline characteristics of the students across cohorts with the Fall letter and sound data and demographic data. To the extent that these are stable across the years, the plausibility of the curriculum change as an explanation for any change in Spring scores is increased. The data sets are organized by school year. I calculated frequency distributions, measures of central tendency, and measures of variability of pertinent variables using SPSS software.

The second step was to use inferential statistics, in particular ANCOVA, to test this study's hypotheses while controlling for personal and family background differences among students, as well as prior achievement in literacy. My approach may be viewed as a kind of interrupted time series design or as a comparison of two similar groups in the same context that had a different curriculum, depending on whether there is evidence of any time trend in the outcome variables.

For clarity and brevity, I have used tables and charts to summarize findings followed by explanation and analysis of the findings from both the descriptive and inferential statistical tests. The data analysis and presentation of findings have been done in a manner that best addresses the research questions in my study. I have drawn conclusions from my findings to answer my research questions, reject or retain my hypotheses, and to suggest areas for future research.

Limitations

As with every study, there are limitations. My personal involvement in the topic brings a risk of bias. The circumstances under which the study was conducted imposed some methodological biases. Information is needed for decision making now and it was not feasible to launch a prospective study that could have improved upon this one in terms of design and measurement.

One limitation of this study was that I am not an outsider to this research topic. I have been a kindergarten ESL teacher under both curricula and co-authored the RBK curriculum. I certainly have my own perspective of what it was like teaching reading in kindergarten under both curricula as I am on the inside. This has advantages and disadvantages. I may have more insights into the curricula, their implementation, and how children experienced them than an external evaluator would have. However, I may have biases as a result of my experiences that an external evaluator would not have. To minimize this limitation, I did not include any personal opinions about the curriculum from my experience in my writing. I tried to be as objective as possible. Additionally, I relied on data collected prior to my dissertation proposal and therefore my practice was not influenced in any way other than the curriculum change.

Another limitation of this study was not being able to tease out factors that influenced this particular implementation of the two models. Curriculum change does not happen in a vacuum. There are other factors that could have influenced the way in which the curricula affected reading performance of kindergarten students during these years. Some of the factors include, but are not limited to: leadership, class size, the specific teachers involved, and resources available.

Finally, this study made use of data that had already been collected in a retrospective design. It was not possible to design a prospective randomized trial in with children and teachers randomly assigned to each of the curricula, which would have controlled for differences in these as well as for history. Such a study also could have chosen pre-test and post-test measures based on what was ideal. Unfortunately, opportunities to conduct such studies to inform district decisions are rare. Also, only a limited number of years were available for comparison. Going forward it may be possible to implement further studies in the district that will lead to a better understanding of the Red Bank curriculum and greater confidence in what we think we have learned.

REVIEW OF THE LITERATURE

In this literature review, studies related to English Language Learners, curriculum, literacy development, and *Tools of the Mind* are reviewed as they were necessary to provide context for my study. For my research, a focus was maintained on early childhood, with a specific focus on kindergarten if research was available. I selected and organized the articles for my literature review based on theme. There is a rich body of literature about the teaching of reading (Kamil, Mosenthal, Pearson, & Barr, 2000; Neuman & Dickinson, 2001). Early literacy research continues to be an extremely active area of educational inquiry. However, there is much less research regarding early reading instruction for ELLs per se. Much of the research on the education of young ELLs focuses on language acquisition and the development of other literacy skills (August & Hakuta, 1997; Genesee, Lindholm-Leary, Saunders, & Christian, 2006). Key themes that emerged from a review of the literature were the importance of the home literacy environment, general literacy development for ELLs, and curricular approaches for ELLs. Little or no research has been conducted to assess the quality of reading curricula in meeting the needs of ELLs in the general education classroom setting. In addition to reviewing literature about literacy development for ELLs, I reviewed studies evaluating the Tools curriculum's effects on learning and development with a view toward its efficacy for ELLs (Barnett, Jung, Yarosz, Thomas, Hornbeck, Stechuk, & Burns, 2008; Baron, Evangelou, Malmberg, Melendez-Torres, 2017; Blair & Raver, 2014; Blair, 2016; Bodrova & Leong, 2001; Bodrova, Leong, & Akhutina, 2011; Copple, 2003; Diamond, Barnett, Thomas, & Munro, 2007; Solomon, Plamondon, O'Hara, Finch, Goco, Chaban, Huggins, Ferguson, & Tannock, 2017). The body of literature appears to lack research about the link between curriculum and ELL reading achievement. This literature review explores the role that shared book reading and the

home literacy environment play in literacy development, what effective reading instruction should include and what is known about literacy development for ELLs. It reveals a shortage of research on curriculum design and evaluation for ELLs.

I first used the Rutgers University Libraries' tool, Articles+, which searches across many databases and journals to which the university subscribes. I used the search terms "DE "English Language Learners" OR DE "English (Second Language)" AND Kindergarten", filtering the searches by peer reviewed works and journal articles. Using the same filters, I additionally searched a variety of combinations of terms including "reading, read aloud, shared reading, curriculum, literacy, home literacy". This yielded a significant amount of literature as a starting point for my research. To narrow my findings a bit more, I then utilized the ERIC and Google Scholar databases through the Rutgers University Libraries homepage to search for articles related to my topic. I also chased citations from the literature I was reading both forward and backwards and accessed these articles via Google Scholar.

Next, the National Institute for Early Education Research (NIEER) website was another place where I could find literature related to my topic of research. I went to the research section of the NIEER website and found literature under the topic headings of "English Language Learners" and "Quality and Curriculum". I also used the search feature on the website to search the term kindergarten. These varied search methods helped me obtain meaningful research that will inform my study. Throughout my search and reading process, I reflected and did additional reading and review to deepen my understanding of these topics. The following review focuses on literacy levels, the home literacy environment, reading instruction, ELLs literacy development, curriculum, and *Tools of the Mind*.

Theoretical Framework

A sociocultural perspective of literacy learning suggests that children develop literacy through social interaction and participation in both their home and school settings. A theory based logic model helps tease apart the different variables and factors related to this research study and informs the methodology and theoretical framework that will be used (Figure 1). This study will utilize one theoretical framework, Vygotsky's sociocultural learning theory, to interpret the literature and investigate the effects of the RBK curriculum on the reading performance of ELLs. Vygotsky uniquely informs this study in that student socioeconomic status (SES) and home language are expected to affect how the curriculum affects learning.

Vygotsky's sociocultural learning theory states that cognitive processes are shaped in large part by a social and cultural context (Vygotsky, 1978). Vygotsky's sociocultural learning theory offers a critical lens for understanding student learning in culturally and linguistically diverse settings. The sociocultural lens allows me to view how children develop differently within the family, school, and the community contexts which collectively can have an impact on reading achievement. Some of the factors that are critical to consider when examining student reading achievement include students' home languages, English language proficiency upon kindergarten entry, socioeconomic status, and overall literacy level. These factors can impact each other and have connections as indicated in Figure 1 to motivation and attitudes toward reading, basic skills mastery, and vocabulary and comprehension.



Figure 1. Theory Based Logic Model.

A brief description of the theoretical model in terms of the available variables follows: Kindergarten Literacy Skills = f(curriculum, gender, SES, language and language and literacy at kindergarten entry) which I have operationalized as DRA2 = f(Gender, FRPL, Ethnicity, ESL, Sounds, Letters).

Readiness for Kindergarten

Kindergarten is a time of change, challenge, and opportunity, yet there are education inequalities at the school starting gate (Garcia & Weiss, 2017). The New Jersey Student Learning Standards for English Language Arts (ELA) present the essentials of what children need to know and do by the end of kindergarten. The standards are divided into five strands: reading (literature and informational texts), foundational skills, writing, speaking and listening, and language. The standards outline expectations that teachers strive to have all students meet, yet students may be entering the kindergarten classroom already at a disadvantage. Children are not equally prepared for school when they enter kindergarten; students' social class strongly determines their relative position in the performance distribution (Garcia & Weiss, 2017).

Galindo (2010) used the ECKS-K database to examine ELLs' reading learning trajectories between kindergarten and fifth grade taking into account differences in oral English proficiency, race and ethnicity, and socioeconomic status. Galindo found that compared to NESs, ELLs show important educational disadvantages that remain through fifth grade. Oral English proficiency at the beginning of kindergarten predicts achievement outcomes in subsequent years. The reading achievement gap between ELLs and NESs slightly narrows between the Spring of first grade and the Spring of fifth grade, but it remains quite large (about three-fourths of a standard deviation). Galindo's findings suggest that improving ELLs' English proficiency prior to kindergarten may be a critical way to improve their later educational outcomes. Given the dramatic achievement gaps already observed at the beginning of kindergarten and the strong association between oral English proficiency and reading achievement over time, preschool and home literacy environments prior to kindergarten entry need attention. Increased efforts should be made to support Hispanic families' early home and early education environments (preschool) to improve children's early skill development prior to school entry (Padilla & Ryan, 2018).

These troubling trends point to critical implications for policy development, states, and school districts. The failure to narrow gaps between 1998 and 2010 suggests that districts need to develop district-level strategies to address these gaps by learning from other diverse communities who are succeeding in reducing achievement gaps (Garcia & Weiss, 2017). The communities studied in the report from the Economic Policy Institute (2017) all employ comprehensive educational approaches that align enriching school strategies with a range of supports for children and their families. The most effective strategies begin very early in children's lives and are sustained throughout their K–12 years and beyond.

Role of the Home Literacy Environment in Literacy Development

One of the most important factors in school success is the extent to which parents actively participate in their children's education prior to their entry into formal preschool or kindergarten (Llagas, 2003). Some of the supportive elements of a strong home literacy environment include access to materials (e.g. books) and verbal interactions (Snow, Burns, & Griffin, 1998). National data from the U.S. Department of Education's Digest of Educational Statistics (2011) indicate that from 1993 to 2007, Hispanic children age 3 to 5 were less likely to be read to compared with non-Hispanic children (Snyder & Dillow, 2012). Families in which parents' primary language at home is Spanish had especially low rates of participation in literacy activities. Hispanic households also were less likely than white, non-Hispanic households to participate in other prekindergarten literacy activities, such as telling their child a story or visiting a library (Snyder & Dillow, 2012).

Specific activities, such as reading to children, have been shown to enhance children's language acquisition, early reading performance, social development, and later success in school (Loeb, Fuller, Kagan, & Carrol, 2004; Snow et al., 1998). Shared book reading is a key component of learning to read (O'Brien et al., 2014). At home, shared book reading is a jointly constructed social activity that occurs between parent and child (Neuman, 1996). Several quantitative and qualitative studies on shared book reading have examined the impact this practice has on emergent literacy skills (Dudley-Marling, 2009; Neuman, 1996; O'Brien et al., 2014; Reese & Cox, 1999; Whitehurst, Falco, Lonigan, Fischel, DeBaryshe, Valdez-Menchaca, & Caulfield, 1988). They find that engaging in shared book reading with children has long been considered an important means of literacy acquisition and is a significant predictor of literacy skill development and school success (Senechal & LeFevre, 2002).

Despite the breadth of research about the benefits of shared reading in early childhood and the societal understanding of its benefits, a substantial number of children in the United States enter kindergarten with low level literacy skills. Specifically, many ELLs and children living in poverty begin school with substantially less English vocabulary knowledge than their native English-speaking, economically advantaged peers (O'Brien et al., 2014). While shared book reading is a common event for many young children and their families, there are differences in the quantity and quality of these shared experiences due to factors such as access to resources (Duncan & Magnuson, 2005; Neuman, 1996), reader vocabularies (O'Brien et al., 2014), quality of dialog (Whitehurst et al., 1988), and reading style (Reese & Cox, 1999). It is
well known that the gap between children from affluent families and those from low-income families in academic achievement, including literacy, does not start with entrance to grade school (Korat, Klein, & Segal-Drori, 2007). This gap emerges in early childhood because of significant social class differences in oral language and pre-literacy which may be associated with differences in shared book reading practices in the home (Lonigan & Whitehurst, 1998).

Engaging Hispanic families in their children's early learning needs to be responsive and sensitive to their culture (Figueras-Daniel & Barnett, 2013). Reciprocal relationships between home and school are critical to strengthening the home literacy environment (Dudley-Marling, 2009). This cooperative link between school and home is critical to fostering children's literacy development in early childhood (Korat, 2001). Schools should foster positive reading habits for young children. Shared book reading both in school and at home can enhance the development of positive feelings towards reading. Reading should not be something imposed upon the family; schools should strive to involve families in the education of their children in culturally sensitive ways (Ansari & Crosnoe, 2018; Dudley-Marling, 2009).

Kindergarten Curriculum

Research comparing half-day and full-day kindergarten shows that children benefit from a developmentally appropriate, full-day program, most notably in terms of early academic achievement - a foundation for school and life success. Full-day kindergarten can afford children the academic learning time needed to prepare for mastery of primary-grade reading and math skills. In doing so, such programs help circumvent subsequent needs for remediation or grade retention (Villegas, 2005). In the state of New Jersey, there are currently 519 public school districts. During the 2018-2019 school year, 30 of these districts offered only half-day kindergarten, 7 offered half-day and full-day kindergarten, and the remainder offered full-day kindergarten (NJDOE, 2019). This means that approximately 93% of kindergarten programs in the state of New Jersey are currently full-day.

Publications shared by the NJDOE and NAEYC highlight critical aspects of the kindergarten school day and experience. Some of the critical components of kindergarten include: developmentally appropriate practice, classroom environment, home and school connection, standards, and assessment (Copple, Bredekamp, Koralek, & Charner, 2014; NJDOE, 2011; Villegas, 2005). Most publications, websites, and articles neglect to share what effective kindergarten curriculum and programs are.

Curriculum is the entire range of experiences that children have at school. Content objectives and learning outcomes, knowledge of child development and careful observation of the needs and interests of individual children should guide curriculum (NJDOE). There is no one "best" curriculum. Curriculum can vary in numerous ways. They might be locally developed or commercially published; comprehensive or focused on a single subject area; highly scripted or flexible; or complete packages, curriculum guides, or something between the two (Copple, 2014). The RBK curriculum was locally developed (teacher created), is comprehensive, flexible, and is in between being a guide and a complete package.

According to the NJDOE, for preschool, there are many excellent curriculum models that meet the guidelines for developmentally appropriate practice and the Division of Early Childhood Education's (DECE's) Preschool Teaching and Learning Standards. The Division supports preschool curricula that meet the following criteria:

- The curriculum is aligned with the Preschool Teaching and Learning Standards;
- Methods for inclusion of students with disabilities are provided;
- The content and teaching strategies are clear, and research-based;

- The curriculum content is taught with focus and integration;
- The curriculum relies on child initiation and engagement;
- All curriculum components are developmentally appropriate; and
- Show evidence of benefits.

If the same is true for kindergarten, the RBK curriculum was written with these intentions in the forefront and therefore, could be supported by the DECE. The *New Jersey Kindergarten Implementation Guidelines* from the NJDOE (2011), the book *Developmentally Appropriate Practice: Focus on Kindergarteners* from NAEYC (2014), and the Kindergarten learning standards were referenced, used, and considered throughout the development of the RBK curriculum.

Reading Instruction

Literacy scholars appear to have reached a consensus that a balanced approach to reading instruction holds the greatest promise for improving reading achievement among students (Kamil et al., 2000; National Reading Panel, 2000; Neuman & Dickinson, 2001; Rasinski & Padak, 2004). Curricular components of a balanced approach to literacy include excellent models of reading and writing behavior, systematic skill instruction, rich and varied literature, authentic reading and writing activities, and ongoing assessment and evaluation. A balanced literacy program supports ELLs' literacy growth and suggests that their emergent literacy behaviors develop to resemble more conventional forms in much the same way this process evolves for NESs (Araujo, 2002).

One study by Lesaux and Siegel (2003), examined the development of reading in children who speak English as a second language. They conducted a quantitative, longitudinal study to investigate the impact that phonological awareness instruction in kindergarten and phonics instruction in first grade had on ELLs' reading skills in English. They concluded that kindergarten phonological awareness instruction in the context of a balanced early literacy program is as effective for ELLs as it is for NESs in the early grades of school.

Chiappe and colleagues (Chiappe, Siegel, & Wade-Woolley, 2002) conducted a longitudinal study that examined whether the same component processes are involved in English reading development for children with different levels of English language proficiency. They found that although the ELLs' performance was well below that of the NESs on measures of phonological and linguistic processing in both kindergarten and first grade, the literacy development of the two groups followed similar patterns. For both NESs and ELLs, phonological processing and alphabet knowledge were the two most robust predictors of literacy development.

Muter and Diethelm (2001) reported similar findings in a longitudinal study with a kindergarten cohort consisting of children from multiple language backgrounds, all being educated in English. The researchers found that letter knowledge and phonological segmentation ability were significant predictors of both concurrent and later reading success, regardless of the children's primary languages. Letter knowledge was found to be the most robust predictor for both NESs and ELLs. The benefits of a balanced literacy approach for the reading instruction are evident, but I feel it is critical to review literature about the overall literacy development of ELLs.

Literacy Development of ELLs. Most of the research that has investigated children's reading development has concentrated largely on children who are NESs (Lesaux, Rupp, & Siegel, 2007). Studies about the literacy development of ELLs have examined optimal literacy practices and interventions for working with this population. Studies demonstrate that providing

interventions (e.g., phonological awareness intervention) for ELLs during the kindergarten year is highly beneficial (Giambo, & McKinney, 2004). The research synthesis by Richards-Tutor, Baker, D.L., Gersten, Baker, S.K., & Smith (2016) thoroughly examined how interventions can be responsive to the needs of students. This synthesis noted key aspects including group size, duration, personnel delivering instruction, content of interventions, and methods of intervention delivery. When considering these crucial aspects of intervention for ELLs, school districts with high percentages of ELLs (e.g. Red Bank Borough), may find these aspects as obstacles because of budgetary and time considerations. Accordingly, curriculum designed to embed such interventions into the fabric of the kindergarten school year would be a feasible way to target the needs of this group.

There is rich literature exploring the development of vocabulary, oral language, and preliteracy skills for ELLs (August et al., 2014; Ballantyne et al., 2008; Castro, Páez, Dickinson, & Frede, 2011; Genesee et al., 2006; Silverman, 2007). Pre-literacy skills refer to the collection of skills and understandings that all students must develop before reading can emerge (Ballantyne et al., 2008). Oral language proficiency and vocabulary development are important precursors to literacy, but are relatively unexamined in the literature about ELLs (August, Carlo, Dressler, & Snow, 2005; Ballantyne et al., 2008; Teale, Whittingham, & Hoffman, 2018). There is some literature that highlights the role that language plays in supporting reading development (Dickinson, McCabe, Anastasopolous, Peisner-Feinberg, & Poe, 2003) and the meta-analysis from the National Early Literacy Panel (2008) found associations between early language and reading at the end of first and second grades (Dickinson & Porche, 2011), but this research was not focused on children developing literacy in a second language. Howard et al. found that English oral vocabulary is a significant predictor of English reading accuracy and comprehension once SES and home and school language and literacy factors have been considered (Howard, Páez, August, Barr, Kenyon, & Malabonga, 2014). Silverman (2007) found that vocabulary intervention through storybook discussions is found to be an effective means for increasing ELLs' vocabularies.

The literature connects pre-literacy skills for ELLs to the home language, parent literacy, and the complex relationship between native and second languages. Several studies focus on ELLs' literacy development and interplay of their native and second languages (August, Shanahan, & Escamilla, 2009; August, Snow, Carlo, Proctor, Rolla de San Francisco, Duursma, & Szuber, 2006; Hammer, Hoff, Uchikoshi, Gillanders, Castro, & Sandilos, 2014; Hawkins, 2004). There appears to be consensus that first language literacy positively impacts second language literacy development. August, Shanahan, and Escamilla (2009) assert that languageminority students instructed in both their native languages and English perform better, on average, on measures of English reading proficiency than language-minority students instructed only in English. Research with Spanish-speaking bilingual children has shown that first language skills and growth in Spanish contribute to the development of reading skills in English (Hammer, Lawrence, & Miccio, 2007; Páez & Rinaldi, 2006; Rinaldi & Páez, 2008). Many cognitive skills associated with reading are known to transfer across languages, making it possible to assess foundation skills in the native language as a way of predicting later second language reading success. August et al. (2014) clarify that for cross-linguistic transfer to occur, students must have literacy skills in their native language, meaning, you cannot transfer skills you do not yet have. Consideration of the sociocultural context in which ELLs develop second language literacy is a critical aspect of the transfer of literacy skills. From a sociocultural perspective, language learning and teaching must be examined as being part of a larger context

(Hawkins, 2004). Second language learning does not happen in isolation. This dual-literacy ideal presented in the literature is preferred and reflects the value of bilingualism, but it can be difficult for school districts to staff and maintain such programming (August & Hakuta, 1997).

Additionally, August, McCardle, and Shanahan's research commentary (2014) reviewed the available data on optimal approaches to reading instruction for ELLs. This commentary included a review of the critical aspects of developing literacy in ELLs which include differentiation, repetition, scaffolding, and students' first languages. This commentary, like that of Lesaux & Siegel (2003), was not exclusively focused on kindergarten reading achievement. Their commentary discussed the components of literacy: decoding, fluency, vocabulary, and writing. In their commentary, they argue that ELLs benefit from explicit instruction in phonological awareness, phonics, vocabulary, oral reading fluency, reading comprehension, and writing. They explain these instructional components are not specialized for ELLs, but with greater intensity of effort, these teaching topics and practices will help enhance the literacy learning of ELLs.

Curriculum Design and Evaluation for ELLs

In addition to thinking about reading instruction, it is critical to think about how people put what has been learned about principles and practices together into a curriculum. "Without question learning to read is a desirable educational goal and a fundamental component of educational excellence. If excellence is an expectation held for all students, then ethnically and culturally different learners must be held equally accountable for learning to read" (Gay, 1988, p. 331). To understand how to best educate linguistically and culturally diverse students, studies have examined curriculum planning, instruction, and evaluation in classrooms serving diverse students. Much of this research focuses on proactive planning with a strong language focus to best meet students' complex needs. Some of the curriculum approaches included in the literature that I reviewed are content based instruction (Bigelow et al., 2006), explicit and differentiated phonics instruction (Martínez, 2011), language-focused classroom instruction (Nielson et al., 2012), and culturally responsive differentiated instruction (Santamaria, 2009). There is a such a wide range of ideas about how to best instruct ELLs, that educators likely are left overwhelmed with uncertainty about the most effective way to proceed regarding curriculum and pedagogy.

Senechal (2011) writes about how curriculum can enliven classroom and school culture. Senechal did not discuss how curriculum may look different or have different purposes when there is a high percentage of ELLs in the general education classroom. It is critical that schools use curriculum reflection and evaluation to improve and inform the education of ELLs in the school because program evaluation has the potential to be conducted and communicated in ways that could meaningfully affect the education of ELLs in the complicated environment of K-12 education in the United States (Llosa, & Slavton, 2009). Snow and Matthews (2016) suggest that to improve young children's success with literacy, it may be better to introduce and evaluate promising practices that can be mixed and matched, rather than complex programs that are implemented as a package because it can be hard to maintain quality and consistency when implementing complex programs over time (Snow & Matthews, 2016). Packaged programs consist of curriculum, resources, and materials that are published for any school district to use, rather than a curriculum created by the district the needs of its own student population. Llosa and Slayton (2009) contend that despite the widespread implementation of programs that will meet the needs of low-income and language minority students, there is a lack of research and evaluation documenting the effectiveness of programs. There is a void in the literature, yet again, for curriculum to meet the needs of ELLs in the kindergarten general education classroom.

Tools of the Mind Curriculum. The Tools curriculum is based on the work of Vygotsky, and focuses on the development of self-regulation while teaching literacy and mathematics skills in a way that is driven by dramatic play scenarios (Barnett, Jung, Yarosz, Thomas, Hornbeck, Stechuk, & Burns, 2008). The Tools curriculum emphasizes children's development of self-regulation and the cognitive and metacognitive foundations of literacy (Copple, 2003). Self-regulation is a critical component of Tools because Vygotsky's theory says that underlying cognitive processes such as attention and working memory are essential for learning to read.

The Tools curriculum is child-centered and emphasizes the teacher's role in guiding and supporting the child's learning process. Using teaching strategies that relate to ideas including scaffolding, play planning, zone of proximal development, external mediators, private speech and shared activities, students are guided towards developing the self-regulation skills needed to attend to academic tasks (Bodrova & Leong, 2001). Vygotsky theorized that children needed to do more than just memorize facts; they needed to develop underlying cognitive skills that he referred to as mental "tools". His social development theory defined the zone of proximal development (ZPD), the areas in which learning occurs, as the distance between the students' ability to perform a task with support and the ability to perform it independently. Rooted in Vygotsky's theories, the Tools curriculum is based on the belief that the underlying cognitive skills that impact later academic success are learned better during play than in a traditional preschool class (Bodrova & Leong, 2007). Teachers in Tools classrooms scaffold their students, providing the supports necessary for success during learning tasks that remain the same as the teacher decrease their level of support as the students develop independence.

Despite recent and growing interest in empirical assessment of Tools, very little research has been conducted related to its impact on academic achievement. Diamond, Barnett, Thomas, & Munro (2007) examined the impact of Tools on the development of executive function. This study was conducted in a low-income, urban school district. Teachers and students were randomly assigned to either the Tools or standard curricula. Children in the Tools classrooms performed better on measures administered to both groups. However, academic measures were only obtained for students in Tools during year two, and therefore could not be compared with the control group.

A study by Barnett, Jung, Yarosz, Thomas, Hornbeck, Stechuk, & Burns (2008) involved a randomized controlled trial of teachers and students to investigate the effects of the Tools preschool curriculum in a low-income, urban school district. Participants were 3 and 4 year-old preschool children in a New Jersey community of whom 80% of the district qualified for free and reduced lunch and of whom 70% spoke a language other than English at home as their primary language. This study assigned students to either a Tools curriculum classroom or to a control group which included a school district curriculum classroom (Barnett et al., 2008). Both teachers and students were randomly assigned to either curriculum yielding 88 children participating in Tools and 122 in the control. Of these participants, 47% were females, 53% were males, and 93% identified themselves as Hispanic or Latino. At entry to the program, parent questionnaires were given to obtain demographic information, which revealed no differences in the family backgrounds of the two groups. The participating students were observed and assessed with six different instruments in the Fall (October and November) and the Spring (April through June). The results of the study concluded that a developmentally appropriate curriculum with an emphasis on play, such as Tools, could enhance both the academic and social learning of young children (Barnett et al., 2008). Results suggested that Tools was more effective than the control in promoting language development. A limitation may be that the study took place in the first year of implementation of Tools. Tools is not just a program; it is an entire curriculum that challenges the traditional, teacher directed teaching style of many existing teachers. Some traditional teaching methods may have still been present in the classroom.

Blair and Raver (2016) did a similar study that experimentally evaluated Tools in kindergarten. Approximately 15 percent of the schools in the sample were considered high-poverty schools as defined by the National Center for Education Statistics as schools with greater than 75 percent of students eligible for free or reduced-price lunch. There was no indication of the percentage of ELL students included in the sample. They were interested in how support for self-regulation, particularly executive functions, is embedded into literacy, mathematics, and science learning activities. They assert that neuroscience research suggests that a focus on self-regulation in education can enhance children's engagement in learning and establish beneficial academic trajectories in the early elementary grades. The results from this study demonstrated improvements in reading, vocabulary, and mathematics at the end of kindergarten that increased into the first grade. Several effects were specific to high-poverty schools, suggesting that a focus on executive functions and associated aspects of self-regulation in early elementary education holds promise for closing the achievement gap (Blair & Raver, 2016).

In sum, Tools has been the subject of research studies, ranging from single district evaluations to multi-site, nation-wide implementations ("History: How We Came to Be", 2018). Tools was named an "exemplary educational intervention" by the International Bureau of Education, a UNESCO program (2001). The Tools kindergarten program has been found to have a positive effect on executive functions, reasoning ability, the control of attention and improvements in reading, vocabulary and mathematics at the end of kindergarten that increased into first grade (Blair & Raver, 2014; Blair, 2016). There appears to be some consensus that the Tools curriculum is effective in building children's social-emotional and self-regulation skills which are critical areas of executive function (Barnett et al., 2008; Baron, Evangelou, Malmberg, Melendez-Torres, 2017; Blair, McKinnon, & Daneri, 2018; Blair & Raver, 2016; Bodrova, Leong, & Akhutina, 2011; Copple, 2003; Diamond, Barnett, Thomas, & Munro, 2007; Solomon, Plamondon, O'Hara, Finch, Goco, Chaban, Huggins, Ferguson, & Tannock, 2017). While components of Tools have been associated with increased self-regulation, and while selfregulation and executive function have been associated with higher academic achievement, the evidence that Tools enhances achievement remains quite limited, and especially so for ELLs.

Conclusion

I have included a table which highlights the linkages about what is known about curriculum design for young children, best practices for teaching ELL's, literacy instruction in the kindergarten years, and how all of this relates to Tools and RBK curricula (see Table 1). The studies reviewed jointly reflect the complexities of educating ELLs. There are certainly differences in discourse, research, and opinion of how to best educate ELLs and what "best practices" and "best programs" look like (Hawkins, 2004). In addition, there is a lack of clarity on how kindergarten reading curricula can optimally meet the needs of all learners. Much of the literature reviewed linked ELLs and reading together. However, many of the studies were not kindergarten specific and did not focus on ELL populations whose native language is Spanish. This absence lends support to my study because exploring how curriculum can impact reading achievement for ELLs will contribute to the kindergarten research field, the understanding of ELLs' reading achievement, and will, hopefully, generate interest in this neglected and critical area of research.

Curriculum Design for	Best Practices for	Literacy Instruction in	Tools	RBK
Young Children	Teaching ELLs	Kindergarten	Curriculum	Curriculum
 proactive planning with a strong language focus content based instruction thematic instruction language-focused classroom instruction culturally responsive differentiated instruction 	 balanced literacy phonological awareness explicit and differentiated phonics instruction oral language development vocabulary development explicit instruction differentiation, repetition, & scaffolding intervention 	 NJSLS are divided into five strands which guide curriculum & instruction reading (literature & informational texts) foundational skills writing, speaking and listening language 	 research-based early childhood model emphasis on play as learning vehicle emphasizes development of self- regulation no explicit phonics instruction daily read-aloud is complex un-relatable themes for kindergartners & ELLs 	 teacher designed curriculum for kindergarten explicit phonics instruction systematic scope and sequence for instruction use of thematic instruction that is connected to environment which is meaningful for students shared reading experiences with a balance of non- fiction, picture books, and notable children's literature interventions and modifications

Figure 2. Critical Linkages Across the Literature

METHODOLOGY

Many curricula adopted by states, districts, and schools continue to be purchased and used without outcome-based, empirically derived evidence of effectiveness. As school districts transition from pre-packaged curriculum programs into teacher designed curriculum with the intent of better meeting the needs of the district student population, significant attention needs to be given to assessing curriculum effectiveness in a formative way. District investments in curriculum development hours, resources, and professional development and the impact on student achievement warrants improved evidence-based selections of curriculum and instructional materials.

The intent of this study is to use research-based methodology to provide valid, informative, and credible data on curricular effectiveness, specifically data on the effectiveness of the RBK curriculum presented within this study. Within the larger body of research on curriculum impact, this study may provide indications for future study. This study examines the differences between the reading achievement scores of one curriculum, *Tools of the Mind* (written by Bodrova & Leong, 2007), and one teacher developed curriculum, RBK (written by Lakata & May, 2014), on reading achievement as measured by the DRA2 scores from the kindergarten year. This study compares gains in DRA2 scores for general education kindergarten students between the two curricula, which varied across the kindergarten cohorts included in the study.

Theoretical Model

Vygotsky's sociocultural learning theory is the frame of this study because his work is highly regarded and referenced in early childhood education literature and supports both Tools and RBK curricula. Vygotsky defines sociocultural factors as contributing to learning and achievement which is aligned with the data I will be collecting. I will collect data on reading performance in kindergarten for ELLs and NESs in the Red Bank Borough School District. When using this sociocultural lens to understand and analyze the data, I will seek to understand how the reading performance in kindergarten for ELLs and NESs is influenced by family background characteristics and prior achievement. Vygotsky's sociocultural learning theory is relevant to the conversation about reading achievement in kindergarten because data reveals a significant achievement gap between Hispanic and non-Hispanic white students (Llagas, 2003). Vygotsky's theory emphasizes the influence of culture, peers, and adults on the developing child and, therefore, can be extended to inform research on language and literacy.

Recognizing the sociocultural context that children in Red Bank develop and learn within is critical when examining their academic achievement in school. Sociocultural learning theory will inform my understanding of the sociocultural context in which kindergarten students in Red Bank are learning to read. Viewing reading achievement within a sociocultural context accounts for the differences in experiences and literacy practices which will help me to better understand the complexity of reading achievement for kindergarten students in the Red Bank Borough School District. The sociocultural lens will help me examine the importance of curriculum in children's literacy learning, as curriculum contributes to the children's experiences and learning during the school day.

The theoretical model for literacy development of ELLs which is constructed based on my review of the literature includes a critical combination of a balanced literacy approach, emphasis on the home-school connection, and ELD embedded practices. The studies that I reviewed about the Tools curriculum did not add to my understanding of this curriculum's efficacy for Spanish-speaking ELLs in reading during the kindergarten year. While by no means do I intend to discredit the research on Tools or the theoretical foundation it was developed upon, I think the Tools curriculum missed the mark for kindergarten ELLs in one major way. The themes and books chosen are an inappropriate match for the academic, social, and linguistic needs of our district population. The decision to depart from Tools and introduce a teacherdeveloped curriculum was a district level decision with input from classroom teachers who used Tools in kindergarten and from PARCC data for students who experienced the Tools curriculum in preschool and kindergarten. The purpose of this study is to obtain evidence regarding the possible effects of the RBK curriculum had on the reading performance of kindergarteners in the Red Bank Borough School District to examine the extent to which the new curriculum addressed the district administration's concerns about Tools and reading achievement.

The Curriculum Change

It is critical to include information about how the RBK curriculum was developed, implemented, and supported. As stated, district administration in Red Bank were dissatisfied with Tools due to the decline in reading performance. To enhance student learning and thereby improve outcomes, a colleague and I were selected to develop a kindergarten curriculum to meet the unique needs of our district's school population. The need for a new kindergarten curriculum stemmed from low student achievement in literacy, attributed to a lack of some of the key components of balanced literacy and ELD practices of the previous curriculum. A colleague and I wrote the *Kindergarten Curriculum Guide* during the 2014-2015 school year. Implementation of the curriculum went grade-wide (in four additional classrooms) for the 2015-2016 school year and was well supported.

In January of 2015, the Red Bank Borough Public School board approved the district's request to pilot a teacher developed kindergarten curriculum, RBK, thereby replacing the

kindergarten Tools program within the two pilot classrooms. The district's intention in piloting the new curriculum during the writing of it was to identify strengths and weakness while still in the development phase. In September of 2015, the Red Bank Borough Public School District launched the RBK curriculum in all kindergarten classrooms. Initial selection of the two pilot classrooms was based upon that these two settings were taught by the authors of the curriculum and provided student characteristics that were varied. One classroom was the bilingual classroom and the other had a mix of ELLs and NESs.

The RBK curriculum incorporates many of the methods, practices, and interventions highlighted in the literature. The RBK curriculum was written with intent to bring clarity to the school's endeavor of increasing student achievement and to provide kindergarten teachers with room to make professional judgments, employ creativity, and to be able to differentiate instruction to best meet the needs of learners in their classrooms.

District and School Factors

District and school factors certainly impacted the development, implementation, and support processes for the RBK curriculum and should not be overlooked.

Setting for the Study

This study takes place within the Red Bank Borough Public School District. The context of the school influences the process of change. The Red Bank Borough School District has a student population that currently is about 80% Hispanic, 10% Black, and 10% White. More than 90% of our students are reported to be socioeconomically disadvantaged (NJDOE, 2015). Forty-two percent of students in grades P-8 are identified as ELLs based on their ACCESS test scores (S. Sherwood, personal communication, October 27, 2016). This percentage does not reflect the number of students who speak another language at home. It represents the percentage of

students eligible to receive ESL support in school. Sixty-nine percent of kindergarten students are identified as ELLs; the percentage of ELLs decreases by grade level as students exit the ESL program.

The Red Bank Primary School is the only elementary school in the Red Bank Borough School District serving children in grades P-3. The school itself has one principal, one vice principal, a district superintendent, a district supervisor of curriculum and instruction, a district ELL coach, and a contracted math coach. The Red Bank Primary School has six general education kindergarten classrooms and one LLD class with kindergarten level students. Four of the classrooms are together in one hallway and the remaining three are in another hallway nearby. The physical proximity of the classrooms allows for more collaboration between teachers before and after the school day, during prep periods, and to join classes for special collaborative projects. Physical space is an important aspect of the organizational system to consider when examining the change process. Teachers tend to reach out to those who are physically close by (Coburn & Russell, 2008). During the curriculum change process in kindergarten, teachers and instructional assistants could use each other as a resource.

Leadership

First and foremost, change is a process; not an event (Hall & Hord, 2006). The Red Bank district leadership team made their understanding of this process clear from day one. They encouraged my colleague and I to take our time writing, reflecting, piloting, and communicating with our colleagues. They did not set an unrealistic deadline and did not make us feel pressured to provide drastic improvements in student learning overnight. I think it is safe to say that the district leadership team had a firm understanding of the change process (Fullan, 2001). They were not expecting to see perfection overnight. They understood the necessity for time, revision,

collaboration, and support. They understood that there could be an implementation dip when the curriculum first went "live" in all kindergarten classrooms and that provisions would be in place for teachers to feel supported and successful.

Resources and Support

Professional development was offered before, throughout, and following the curriculum change process and can be attributed to making the change process more successful. Coherent professional development is necessary for teacher support (Baker-Doyle & Yoon, 2010; Firestone, Mangin, Martinez, & Polovsky, 2005). Professional development should reflect a more-teacher centered perspective (Baker-Doyle & Yoon, 2010). By allowing teachers to run PD in house on topics of high interest to them, we strengthened our capacity to leverage the hidden knowledge in our school (Fullan, 2001). My colleague and I would run workshops about components of the curriculum that teachers wanted more help with. We had strong program coherence, professional learning communities (PLCs), and utilized our technical resources (Fullan, 2001). We used each other as resources to build knowledge and meaningfully collaborate during the implementation process.

For change to be successful, development of individuals is not enough, the organization must change along with the individuals (Fullan, 2001). For the organization and individuals to both change, communication and building relationships were key. In Red Bank, a truly collaborative culture emerged during this curriculum change process. Ideas were shared during PLCs, staff meetings, impromptu office meetings, late nights, and digitally through Google Drive by teachers, instructional assistants, coaches and administrators. By clarifying the change for those who did not author the curriculum and involving them in the change process, the kindergarten team grew closer than ever before and resistors came on board to support the new curriculum (Hall & Hord, 2006).

The professional community we built and the social support for achievement certainly made an impact on student experience. With the new curriculum in motion, the kindergarten team engaged in peer observations, peer coaching, and even team teaching on science days which contributed to improved pedagogy and teacher relationships. Communication between team members was stronger than ever before. Teachers were no longer doing the same thing they had done for several years, but rather, were engaging in fresh, stimulating professional experiences.

District Vision

Our district superintendent's focus and communication of our district's vision and moral purpose throughout this change process was a critical factor. The Red Bank Borough district is looking towards long-term success rather than focusing on short-term improvements (Fullan, 2001). Our moral purpose is to act with the intention of making a positive difference in the lives of our colleagues, students, their families, and our community by believing that all students can learn and focusing on helping them succeed. Our district motto is, "Dream BIG, we'll help you get there!" Our superintendent encourages all staff to be committed to betterment and to dream big dreams. We have our own district hashtag on Twitter (#RBBisBIA) which stands for Red Bank Borough is Best in America. This hashtag is not because we think we are best in America now, but rather that we are focused on long-term success and continuing to grow. This curriculum change process is evidence of one more step forward to becoming "Best in America". The purpose of our change process was directly aligned with strategies for attainment, informed by data, and was well communicated (Fullan, 2001).

Participants

The sample consists of all kindergarten students entering five general education classrooms from 2013 to 2016 who completed both mid-year and end-of-year DRA2 assessments as located through school data available from the Red Bank Borough School District. The sample consists of students only from five classrooms because the teachers in these five settings remained consistent throughout the four school years. The sample consists of kindergarten students in general education classrooms; kindergarten students in self-contained special education classrooms are not included in the sample. From a broader perspective, this is a convenience sample, but it is one that is uniquely relevant to my problem of practice. Special education students in self-contained special education classrooms are not included in the sample because of the level of curriculum modification this population requires. Special education students mainstreamed in the general education setting are included in the sample. The sample consists of students who completed kindergarten in general education classrooms.

The students in the sample are separated into two groups for comparison: those who experienced the Tools curriculum and those who experienced the RBK curriculum. The Tools sample consists of 232 kindergarten students who experienced the Tools curriculum in years 2013-2015 and the RBK sample consists of 206 kindergarten students who experienced the RBK curriculum in years 2015-2017. Characteristics of the samples are outlined in Table 1. Table 1.

Sample	n	Male	Black	White	Hispanic	Multiple	ELL
Tools	222	115	24	20	176	12	181
10015	232	49.57%	10.34%	8.62%	75.86%	5.17%	78.02%
DDV	206	93	18	7	170	11	178
KDK	200	45.15%	8.74%	3.40%	82.52%	5.34%	86.41%
TOTAL	120	208	42	27	346	23	359
IUIAL	438	47.49%	9.59%	6.16%	78.99%	5.25%	81.96%

Sample Characteristics

Research Questions

This research seeks to determine if the implementation of a teacher created curriculum, RBK, is related to differences in performance on the DRA2 for kindergarten students in the general education stetting in comparison to students who experienced the prior curriculum, Tools, and asks the question "What are the effects of the RBK curriculum on the reading performance of ELLs?" To answer this question, this research study will address the following specific questions:

Research Question 1: Do the students experiencing the RBK curriculum have higher reading scores on the DRA2 at the end of kindergarten when compared to the students that experienced the Tools curriculum, after adjusting for student family background? **Research Question 2:** How do ELLs' reading scores (DRA2) compare to the reading scores on the DRA2 of NESs under both curricula, adjusting for student family background?

Research Question 3: Did the reading performance gap on DRA2 between ELLs and NESs decrease after the adoption of the RBK curriculum, adjusting for student family background?

The hypotheses for my study follow:

Hypothesis 1: The students experiencing the RBK curriculum have higher reading scores on the DRA2 than students that experienced the Tools curriculum, after accounting for student family background.

Hypothesis 2: The reading scores of ELLs are lower than the reading scores of NESs under both curricula.

Hypothesis 3: The difference (gap) between the reading scores for ELLs and NESs narrowed after the introduction of the RBK curriculum.

Research Design

To study if the RBK curriculum has improved reading outcomes for ELLs in Red Bank, I have analyzed reading achievement data for four cohorts of children. Two cohorts experienced the Tools curriculum and two subsequent cohorts experienced the RBK curriculum. I have collected reading levels at two points in the school year (Winter and Spring) from the Diagnostic Reading Assessment 2nd Edition (DRA2) (Beaver, 2006) for kindergarten students entering kindergarten from 2013 to 2016. I will be comparing the data from year to year to see if the change to the curriculum for students entering kindergarten in 2015 and beyond resulted in changes to students' (particularly, ELLs') reading performance gains. This analysis will help determine whether the introduction of the RBK curriculum positively influenced reading performance in the Red Bank Borough School District. If the change in curriculum resulted in an improvement in reading achievement, there should be an abrupt increase in Winter to Spring gains on the DRA2 for the 2015-16 year that is continued in the following year.

Data Collection

The data to assess the effects of the RBK curriculum on the reading performance of ELLs was obtained from the district's standardized assessment data base that includes DRA2 reading scores. Data was obtained from two sources: archived excel data sheets and exports from the Genesis data management system. The DRA2 is used in many school districts to determine students' reading levels. The District DRA2 data provide an indicator of student reading achievement. I have ensured confidentiality by removing identifiers from the data sets. As noted above, it was feasible for me to access this data because of my position as a kindergarten

teacher, curriculum author, and informal teacher leader in the Red Bank Borough School District. I received IRB approval and board approval from my district to conduct this study. The data I have collected from the sample outlined above is as follows:

- 1) Letter and sound knowledge at the beginning of each kindergarten school year
- 2) DRA2 levels at the middle and end of each kindergarten school year
- Demographic information on students including whether they receive free or reduced price lunch as an indicator of each family's socioeconomic status, ethnicity, race, ESL status, and gender

I have compared the DRA2 scores of students who experienced the Tools curriculum with students who experienced the RBK curriculum to determine the effect of each curricula on reading achievement.

Measures

Demographics. Demographic information on students collected included whether they receive free or reduced price lunch as an indicator of each family's socioeconomic status (FRPL), ethnicity, ESL status (ELL), and gender. FRPL had two categories (coded free/reduced = 1, pay = 2). Ethnicity had four categories (coded Hispanic = 1, White = 2, Black = 3, Multiple = 4). ESL status had two categories (coded ELL = 1, not ELL = 2). Lastly, gender had two categories (coded male = 1, female = 2)

Pretests. Letter and sound knowledge at the beginning of each kindergarten school year is collected via a district created ELA assessment that is administered to students one-on-one. The assessment includes a mat that presents uppercase and lowercase letters in a random order for students to name and produce the sound for. This assessment is administered by the kindergarten ELA instructional assistant. Students can receive a score between 0 and 52 for

letters and 0 to 33 for sounds. Letters include both uppercase and lowercase. Sounds include 23 consonant sounds (including hard and soft c, g), 10 vowel sounds (long and short).

Post-tests. DRA2 levels at the middle and end of each kindergarten school vear are collected for all students as a measure of reading performance. A student's DRA2 independent reading level reflects the student's oral reading fluency (95% accuracy) and comprehension (90%) at independent performance levels (Beaver & Carter, 2006). A rubric is included to guide the scoring of the student's fluency and comprehension. The DRA2 is a formative reading assessment system that allows teachers to assess their reading level, then observe, record, and evaluate changes in student reading performance for children in grades K-8 (Beaver, 2006). The DRA2 has undergone rigorous field-testing and is supported by evidence of validity and reliability (McCarty & Christ, 2010). The following reliability analyses were performed during DRA2 development: internal consistency reliability, passage equivalency, test-retest reliability, and interrater and expert rater reliabilities. The developers disaggregated reliability coefficients by reading level. Reliabilities for Oral Reading Fluency and Comprehension at all levels ranged from .50 to .80. Correlation coefficients for test-retest reliability were all above .90, indicating consistent evaluations across administrations. The DRA2 is a valid measure of accuracy, fluency, and comprehension, as evidenced by criterion-related validity, construct validity, and content validity. Correlations between test scores were in the .60 to .70 range. Predictive validity was calculated by comparing teacher ratings to students' scores on the DRA2, yielding correlations of .63 and .60 for Oral Reading Fluency and Comprehension, respectively.

Data Analysis

The first step in analysis was to conduct a descriptive statistical analysis of the data collected to describe the sample and any changes that may have taken place in characteristics of

children at entry to kindergarten over time. Based on my experience in the district, I did not expect to see any, but this question has been explicitly investigated with the Fall letter and sound data and demographic data. To the extent that these are stable across the years, the plausibility of the curriculum change as an explanation for any change in Spring scores is increased. The data sets are organized by school year. I have calculated frequency distributions, measures of central tendency, and measures of variability of pertinent variables using SPSS software.

The second step was to use inferential statistics, in particular ANCOVA, to test this study's hypotheses while controlling for personal and family background differences among students, as well as prior achievement in literacy. My approach may be viewed as a kind of interrupted time series design or as a comparison of two similar groups in the same context that had a different curriculum, depending on whether there is evidence of any time trend in the outcome variables.

I have been sure to discuss whether the assumptions of ANCOVA are met so that the interpretations of the results make sense. Before conducting the ANCOVA, I verified that all assumptions for the procedure were met. The assumptions of ANCOVA are: (1) the observations are independent of each other; (2) the scores in populations are normally distributed; and (3) the variances in the populations are homogeneous (Moore, McCabe, & Craig, 2014).

Separate ANCOVAs were conducted for Hispanic and non-Hispanic students after initial analyses indicated complex interactions for curriculum effects by ethnicity and home language. Additionally, separate ANCOVAs were conducted for DRA2 as the outcome in Winter and Spring. For the Hispanic group, factors were ELL and curriculum. Covariates were letters and sounds. For the non-Hispanic group, the factor was curriculum. Covariates were letters and sounds.

FINDINGS

As stated in Chapter 1, the goal in analyzing the DRA2 reading data was mainly to investigate the effects of the RBK curriculum on the reading performance of ELLs. The research questions for this study were: 1) Do the students experiencing the RBK curriculum have higher reading scores on the DRA2 at the end of kindergarten when compared to the students that experienced the Tools curriculum, after adjusting for student family background? 2) How do ELLs' reading scores (DRA2) compare to the reading scores on the DRA2 of NESs under both curricula, adjusting for student family background? and 3) Did the reading performance gap on DRA2 between ELLs and NESs decrease after the adoption of the RBK curriculum, adjusting for student family background?

To best address these research questions, quantitative methods were employed to examine the impact of the RBK curriculum on the reading performance of ELLs. The collected data were analyzed using descriptive and inferential statistics (ANCOVA). The findings of this study support the hypothesis that the RBK curriculum indeed had positive impacts.

Descriptive Statistics

I performed descriptive statistics to describe the independent and dependent variables. Tables 3 and 4 provide descriptive statistics of all the demographic variables and assessment variables, respectively. Tests of group differences by curriculum model indicate that the students were reasonably comparable across curriculum with respect to gender, ethnicity, and percent eligible for ESL services. However, the RBK group had a significantly higher percentage of children who qualified for free and reduced price lunch (FRPL) and significantly lower scores at kindergarten entry on the sounds portion of the ELA assessment. In other words, the RBK group appears somewhat more disadvantaged at kindergarten entry than the Tools group. Table 5 reports correlations for all of the dependent and independent variables except ethnicity (for

which correlation is not appropriate).

Table 2.

Descriptive Statistics of Independent Variables

1 2	1		
Variable	Tools (n=232)	RBK (n=206)	p-value
Gender			
% Male	50%	55%	0.14
Ethnicity			0.125
Hispanic	76%	83%	
White	9%	3%	
Black	10%	9%	
Multiple	5%	5%	
FRPL	88%	95%	0.02
ELL	70%	72%	0.72

^a t-test of group differences for all variables except ethnicity for which chi-square test was used.

Table 3.

Descriptive Statistics of Covariates and Dependent Variables

Test —	Tools	(n=232)	RBK ((n=206)	p-value
Test	Mean	(SD)	Mean	(SD)	
Letters	27.36	(17.89)	28.40	(18.08)	0.54
Sounds	8.21	(8.03)	4.50	(7.07)	<.001
DRA2 Winter	.41	(.88)	2.57	(1.48)	<.001
DRA2 Spring	4.60	(1.60)	5.15	(2.17)	0.003

While descriptive statistics do not allow me to draw conclusions or assertions regarding outcomes, they help to describe the dataset, initial comparability of the students across the two curriculum groups, and provide context for interpretation of the inferential statistics. I have included charts that provide a clear view of differences in means for pertinent variables. The first chart provides a visual of the differences in reading means for the entire sample under both curricula (Figure 2) while the second chart breaks down this information further by subgroup, ELL or NES (Figure 3).

Table 4.

	/ 1								
Variables	Curriculum	ELL	Letters	Sounds	FRPL	Ethnicity	Gender	DRA2 (Winter)	DRA2 (Spring)
Curriculum	-								
ELL	.017	-							
Letters	.029	346**	-						
Sounds	237**	333**	.717**	-					
FRPL	112*	286**	.219**	.280**	-				
Ethnicity	.082	.782**	285**	307**	379**	-			
Gender	.044	013	.073	.027	.033	053	-		
DRA2 (Winter)	.668**	125**	.470**	.241**	.009	028	.072	-	
DRA2 (Spring)	.143**	286**	.624**	.469**	.134**	183**	.022	.588**	-

Note. *Correlation is significant at the .05 level (2-tailed). **Correlation is significant at the .01 level (2-tailed). Ethnicity was recoded as Hispanic/non-Hispanic for the correlation analysis only.



Figure 3. Reading Level Means for Tools and RBK Students



Figure 4. Reading Level Means for Tools and RBK Students by ELL and NES Group

ANCOVA and Graphical Analysis

Inferential statistical analyses were conducted to determine whether outcomes on the dependent variables differed significantly by curriculum. This analysis focused on answering the primary research question: What are the effects of the RBK curriculum on the reading performance of ELLs? The statistical procedure included one-way analysis of covariance (ANCOVA). The initial descriptives and t-tests made it clear that the groups are not entirely similar to start with and this works against the RBK curriculum group. However, the initial comparison of outcomes indicates that despite this, the RBK curriculum group did better on the DRA2 in both Winter and Spring. To take into account both skill levels at kindergarten entry and critical demographics, I conducted ANCOVA. This test revealed that there are complex interactions of ethnicity and home language. The ANCOVA models do not include FRPL or gender as they were dropped after the first complex model found that they did not have statistically significant effects. The independent variables of primary interest were ESL status (ELL) and curriculum. The covariates were letters and sounds. The following section presents the results of ANCOVA for both the DRA2 Winter and DRA2 Spring outcomes. ANCOVA was conducted separately for Hispanic and non-Hispanic students after initial analyses indicated complex interactions for curriculum effects by ethnicity and home language.

Table 5.

X7 11	S	SS		1S	F	F Sig.		g.
Variable	Winter	Spring	Winter	Spring	Winter	Spring	Winter	Spring
ELL	.292	9.606	.292	9.606	.353	5.789	.553	.017
Curriculum	200.051	63.342	200.051	63.342	242.109	38.173	.000	.000
Letters	39.773	131.025	39.773	131.025	48.135	78.962	.000	.000
Sounds	9.839	.035	9.839	.035	11.907	.021	.001	.884
ELL* Curriculum	6.978	47.806	6.978	47.806	8.445	28.810	.004	.000

ANCOVA Results: Tests of Between-Subjects Effects for Hispanic ELL and NES Sample

As shown in Table 5, for the Hispanic ELL and NES Sample, the ANCOVA [F = 149.154, p = .000] for Winter DRA2 found significant effects for curriculum type and the interaction of curriculum with ESL status, as well as for both pre-tests (covariates). The main effect of curriculum was higher scores in both Winter and Spring for the RBK curriculum group. Letter and sound scores were positively related to DRA2 scores, but only letters predicted the Spring DRA2. Table 6 reports observed and ANCOVA adjusted means separately for Hispanic NES and Hispanic ELL groups by curriculum.

Table 6.

Observed and Adjusted Means for Hispanic ELL and NES Sample – Winter DRA2

Longuaga	n	1	Observed	Mean (SD)	Adjusted Mean (SE)		
Language	Tools	RBK	Tools	RBK	Tools	RBK	
NES	14	23	.21 (.579)	3.57 (1.409)	032 (.244)	3.023 (.194)	
ELL	162	147	.31 (.784)	2.37 (1.415)	.343 (.074)	2.451 (.077)	
All	176	170	.31 (.769)	2.54 (1.468)	.155 (.128)	2.737 (.105)	

As show in Table 7, for the Hispanic ELL and NES Sample, the ANCOVA [F = 53.945, p = .000] for Spring DRA2 found statistically significant effects for curriculum type, ESL status, curriculum by ESL status, and the letters portion of the baseline assessment. The RBK curriculum group had higher scores adjusting for family background. As can be seen in Table 7, adjusted means for the RBK Hispanic ELL group are approximately the same as for the Tools Hispanic ELL group and lower than for the RBK Hispanic NES group.

Table 7.

Observed and Adjusted Means for Hispanic ELL and NES Sample – Spring DRA2

	3		J 1		1 1 0	
Longuaga	r	1	Observed 1	Mean (SD)	Adjusted N	Mean (SE)
Language	Tools	RBK	Tools	RBK	Tools	RBK
NES	14	23	4.07 (1.207)	7.26 (2.200)	3.804 (.346)	6.497 (.275)
ELL	162	147	4.36 (1.284)	4.67 (1.748)	4.479 (.104)	4.692 (.110)
All	176	170	4.34 (1.277)	5.02 (2.015)	4.142 (.181)	5.594 (.148)

	2		7	30 3				
Variable	SS	S	М	S	F	1	Si	g.
variable	Winter	Spring	Winter	Spring	Winter	Spring	Winter	Spring
Curriculum	102.726	25.230	102.726	25.230	100.883	8.716	.000	.004
Letters	14.544	59.481	14.544	59.481	14.283	20.548	.000	.000
Sounds	5.428	22.163	5.428	22.163	5.330	7.656	.023	.007

ANCOVA Results: Tests of Between-Subjects Effects for Non-Hispanic NES Sample

Table 8 shows ANCOVA results for the non-Hispanic NES sample [F = 49.555, p = .000] for Winter DRA2. The ANCOVA found significant effects for curriculum type and for the letters portion of the baseline assessment. As can be seen in Table 9, the RBK mean for the Non-Hispanic NES sample for Winter DRA2 was higher adjusting for covariates.

Table 9.

Table 8.

Observed and Adjusted Means for Non-Hispanic NES Sample – Winter DRA2

1	1	Observed	Mean (SD)	Adjusted	Mean (SE)
Tools	RBK	Tools	RBK	Tools	RBK
56	36	.73 (1.120)	2.72 (1.560)	.559 (.142)	2.991 (.181)

For the non-Hispanic NES Sample, the ANCOVA [F = 30.648, p = .000] for Spring DRA2 (Table 8) found statistically significant effects for curriculum type and for both pre-tests (covariates). Table 10 reports observed and adjusted means which show a higher adjusted mean for Spring DRA2 for the non-Hispanic NES sample.

Table 10.

Observed and Adjusted Means for Non-Hispanic NES Sample – Spring DRA2

1	1	Observed]	Mean (SD)	Adjusted 1	Mean (SE)
Tools	RBK	Tools	RBK	Tools	RBK
56	36	5.41 (2.156)	5.72 (2.742)	5.061 (.239)	6.266 (.305)

To help readers understand the results of this analysis for both Winter and Spring DRA2, results are presented in both an adjusted means table (Table 11) and a graph (Figure 5). The graph was created to visually display the outcomes for each subgroup in Winter and Spring. The

table and graph (profile plot) report the estimated marginal means of the dependent variables from ANCOVA (adjusted for covariates). The inclusion of covariates in the model controls for differences in initial literacy abilities related to subsequent scores on the DRA2. The estimated marginal means are adjusted for letters and sounds pre-tests. As the analyses reveal complex interactions, the visualization helps to clarify the different patterns for each curriculum by ethnicity and home language.

Table 11.

I un Lener Score	una majasica .	means jor.		i spring			
Curriculum —	Hispanic ELL		Hispanic NES		Non-Hispa	Non-Hispanic NES	
	Winter	Spring	Winter	Spring	Winter	Spring	
Tools	.34	4.5	03	3.8	.56	5.1	
RBK	2.5	4.7	3.0	6.5	3.0	6.3	
Note *Effect is significant at the 05 lowel **Effect is significant at the 01 lowel							

Fall Letter Score and Adjusted Means for DRA2 Winter and Spring

Note. *Effect is significant at the .05 level. **Effect is significant at the .01 level

As can be seen in Table 11, all student groups had higher DRA2 scores under the RBK curriculum in the Winter. Also, all groups increased their DRA2 scores from Winter to Spring. However, in the Spring only the two NES groups had higher scores with the RBK curriculum than with Tools. Together these findings for DRA2 Winter and Spring indicate that students within the RBK curriculum group had greater success reading than their counterparts in the Tools curriculum group. The RBK curriculum was equally or more effective than Tools in raising DRA2 scores in Winter and Spring for all 3 groups (Hispanic ELL, Hispanic NES, and Non-Hispanic NES).

From Figure 5, The RBK curriculum produced much larger gains up to the Winter DRA2 assessment period and smaller from Winter to Spring as the RBK group started at the same (Letters) or lower (Sounds) literacy skill level in the Fall. The Tools group makes up ground between the Winter and Spring assessment periods for all groups as indicated by the steeper

slopes for the Tools group lines from Winter to Spring. With the RBK curriculum, the Hispanic ELL group has a far lower growth rate (flatter slope) than the other groups. As a result, by Spring assessment, the Tools and RBK Hispanic ELL groups end up at about with roughly the same adjusted DRA2 scores.


Figure 5. Profile Plot for All Estimated Marginal Means

To investigate the possibility that the convergence of DRA2 scores in the Spring for Hispanic ELL students was an artifact of assessment, a scatter plot was conducted to investigate potential ceiling effects. As can be seen in Figure 6, there is no large concentration of scores at a ceiling for the NES or ELL groups. This suggests convergence of Spring DRA2 scores for Hispanic ELLs under both curricula are likely due to the curricula and their implementation rather than an artifact of the DRA2 Reading Assessment.



Figure 6. Scatter Plot of Spring DRA2 Scores by ELL Status

Summary

The study found that the RBK curriculum was associated with higher scores on the DRA2 mid-year and at the end of kindergarten controlling for measures of reading ability at kindergarten entry. The RBK curriculum advantage appeared stronger mid-year. All student groups examined scored substantially higher under the RBK curriculum than under Tools on the

Winter DRA2 assessment. The RBK curriculum advantage appeared stronger mid-year. Results varied by language and ethnicity, with the smallest advantage for the largest student group, Hispanic ELLs (71% of the students). By the end of kindergarten, there was little difference in DRA2 scores relating to curriculum for Hispanic ELLs. This seems entirely due to Hispanic ELL students making less progress than other students from Winter to Spring when experiencing the RBK curriculum. The other student groups (representing 29%) of the student body maintained more of an advantage from Winter to Spring with the RBK curriculum.

DISCUSSION

This chapter sets out limitations, discusses the implications of key findings, presents a synopsis of a proposed stakeholder meeting, and makes recommendations for the formation of a NIC to address issues raised by the study. In addition, it presents concluding thoughts regarding improvement for our district in the future.

Methodological Limitations

This study made use of data that had already been collected in a retrospective design. It was not possible to design a prospective randomized trial in with children and teachers randomly assigned to each of the curricula, which would have controlled for differences in these as well as for history. Such a study also could have chosen pre-test and post-test measures based on what was ideal. Unfortunately, opportunities to conduct such studies to inform district decisions are rare. Also, only a limited number of years were available for comparison. Going forward it may be possible to implement further studies in the district that will lead to a better understanding of the Red Bank curriculum and greater confidence in what we think we have learned.

The measures used in this study were what was available and may not fully measure all that could inform this study. Additional data that could be collected in the future are subscale scores for each of the aspects measured by DRA2. For this study, only the final independent DRA2 reading level for Winter and Spring were collected as the district does not require teachers to input subscale scores into the data management system. If subscale scores were collected, we would be able to analyze components such as comprehension separately. In addition, this study did not collect any data in the areas of math and motivation. These areas could influence reading outcomes. Researchers studying preschool and kindergarten curriculum might want to look out

for the kinds of interactions seen in this study and for different patterns depending on when outcomes are measured.

Summary and Implications of Key Findings

This research study addressed the questions: 1) Do the students experiencing the RBK curriculum have higher reading scores on the DRA2 at the end of kindergarten when compared to the students that experienced the Tools curriculum, after adjusting for student family background? 2) How do ELLs' reading scores (DRA2) compare to the reading scores on the DRA2 of NESs under both curricula, adjusting for student family background? and 3) Did the reading performance gap on DRA2 between ELLs and NESs decrease after the adoption of the RBK curriculum, adjusting for student family background? While the results of the study found positive results of the RBK curriculum, it drew more questions than conclusive findings. The following key findings support further examination of curriculum and instruction in our school district:

- Curriculum is significantly correlated with DRA2 reading performance scores for the Winter and Spring reading assessments. Students experiencing the RBK curriculum have higher reading scores on the DRA2 at the middle and end of kindergarten when compared to the students that experienced the Tools curriculum after adjusting for student family background.
- 2. ELLs' reading scores on the DRA2 under both curricula are below the scores of NESs.
- The reading performance gap on DRA2 between ELLs and NESs slightly increased after the adoption of the RBK curriculum.

Having implemented Tools as a teacher and having written and implemented the RBK curriculum, I feel as though I can speculate on what about the curricula might account for this

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and what RBK curriculum might do to sustain pace of growth to Spring for Hispanic ELLs so that they end up around 6 rather than 4.7 as they are not that far behind in Winter. The first half of the kindergarten year follows a very explicit sequence for phonics (letters and sounds) that have texts aligned that really support vocabulary development and early reading strategies simultaneously. Currently, the second half of the kindergarten year also follows a very explicit sequence for phonics (word patterns) that have texts aligned, but these texts become more complex. I think these texts could provide opportunities for more targeted reading instruction based on student needs. I think there needs to be greater emphasis on building schemata, comprehension, and oral language development throughout the school year, especially during the second half of the year.

Despite the complexity of the themes and texts used in Tools, the curriculum did a good job placing emphasis on building schemata and comprehension throughout the year which could account for the Tools gains from Winter to Spring for Hispanic ELLs. Under Tools, teachers had explicit time for "background building" and comprehension was modeled using mediators during read-alouds. For the RBK curriculum, non-fiction texts are used to help build students background knowledge, but the pace may be too fast for our Hispanic ELLs. The RBK curriculum has built in comprehension strategies to the ELA scope and sequence, but they may not be sufficiently taught through mini-lessons or emphasized using the mediators during readalouds.

In addition, the area of writing should not be overlooked. Writing is a key component of the Tools curriculum, but has been a work in progress for the RBK curriculum. Since the adoption of the RBK curriculum, writing has been an area we have continued to improve. Initially, the RBK curriculum included writing units and daily writing, but has since evolved to more of a Writer's Workshop model. Additionally, it is possible that better self-regulation and attention skills kick in to affect reading in the second half of kindergarten. Tools prides itself on students' development of self-regulation and working memory. This is not an explicit component of the RBK curriculum, but it is still being developed in many ways. Students in this study were not assessed regarding writing or self-regulation, but would be areas to investigate in relation to reading in the future. The transition to the RBK curriculum was a significant change process and these areas could benefit from some revisiting and discussion. These findings and my speculations about what aspects of the curricula might account for this are the starting place for the recommendations that follow for the RB school district.

Stakeholder Meeting

To capitalize on the practical utility of the study findings, I plan to present the results at a stakeholder meeting where I engage district administration and staff in scholarly dialog about this study and my recommendations for our district. A vision is like a dream – it will disappear unless we do something about it (Sinek, 2009). My main recommendation is for our district to create an implementation plan for our schools to rethink their use of PLCs to support curriculum and instruction to increase student achievement. Without a structured plan, there could be too much potential for implementation variability when done system wide. Rather than focusing on fads that claim to be the best thing for increasing student achievement, I suggest that we create a plan that focuses our attention on devoting time and effort to developing our personnel resources internally to improve student outcomes. Had it not been for this dissertation, would this data that the district collects have been analyzed? We need to strengthen our use of data analysis to drive curriculum and instruction.

We need to accomplish more with what we already know and the resources we already have (Bryk et al., 2015). Strengthening instructional coherence and professional communities has improved test scores (Payne, 2008). Teacher professional learning should be continual, developmental, and collaborative. Teachers should lead learning for their colleagues. Education system should be organized to support teacher development and growth (Darling-Hammond, Burns, Campbell, Goodwin, Hammerness, Ling Low, & Zeichner, 2017).

Professional development (PD) that is collaborative, teacher-led, and data driven has the potential to increase both teacher and student learning. PD is a term teachers often associate with workshop trainings they are required to attend, which tend to be centered on the curriculum they teach, new state mandates, or district initiatives. Teachers often discuss PD as a singular event they attend, not as an ongoing process. The common themes across the research on effective PD include: collaboration, duration of learning extended overtime, content based, aligned to school initiatives, promoting active learning, and fostering teacher autonomy so teachers are both consumers and makers of knowledge (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Darling-Hammond et al., 2017; Garet, Porter, Desimone, Birman, & Yoon, 2001; Little, 2012).

Dana & Yendol-Hoppey (2008) outline recommendations for developing healthy inquiryoriented PLCs:

- Establish and maintain a vision for our work
- Build trust among group members
- Pay attention to the ways power can influence group dynamics
- Understand and embrace collaboration
- Encourage, recognize, and appreciate diversity within the group

- Promote the development of Critical Friends
- Hold the group accountable for and document learning
- Understand change and acknowledge the discomfort it may bring to some PLC members
- Have a comprehensive view of what constitutes data, and be willing to consider all forms and types of data
- Collaboration is key between teachers and administrators

Although teachers may have opportunities to collaborate with colleagues in professional learning communities (PLCs), they often do not associate these meetings as having potential to elicit powerful PD. For these collaborative sessions among teachers to truly impact teacher and student learning, they must encompass effective components as described in the literature (Darling-Hammond et al., 2009; Garet et al., 2001; Little, 2012).

NIC Formation and Planning

I recommend that there are several critical, steps that the district must consider before making any change. First and foremost, the leadership team needs to be fully committed to this being a top priority towards improving student achievement. It is critical that leadership team focus on fewer things and doing them well. To do this well, I believe a NIC should be formed. I recommend that the NIC include the following key stakeholders: district superintendent, assistant superintendent of curriculum and instruction, principals, vice principals, supervisor of pupil personnel services, coaches, and grade level teacher leaders. The NIC would be responsible for creating the logic models necessary in advance of implementation and clearly defining the plan/vision. A logic model should be developed in advance of anything starting. With specified targets, short term goals, and long term goals, I believe the NIC could more effectively work to develop a plan for moving forward. To successfully build on what was started with kindergarten, I believe it is important to expose members of the NIC to the research on effective, data-driven PLCs. A viable first step would be to share the reading, *Establishing and Maintaining a Healthy Inquiry-Oriented PLC*, and use a protocol to discuss the reading and the implications that it has for PLC work in Red Bank. This would allow us to establish a shared vision and understanding of the essential elements recommended to sustain this work even when procedural tasks come up that may shift our focus. Currently our PLCs reflect more congeniality than collegiality. Implementing the ten elements provided by Dana and Yendol-Hoppy (2008) to evaluate our PLC moving forward can help us bridge this gap and help us move towards collegiality.

The NIC would need to develop a definition of success and parameters for measuring such success. Goals need to be measurable or we have no way of knowing if we are achieving these goals. We need to integrate this into what we do. We need to know if goals are being met and whether teacher practice and student performance has changed. Guskey (2002) presents five levels of evaluation for PD that could help the NIC think about levels of evaluation that go deeper than the surface level (see Figure 6). Additionally, the NIC would need to develop a system for documenting the process and progress. We need to keep monitoring data and data points need to be good predictors of our long-term outcomes. We need leading indicators not lagging indicators. We are always going to be in trouble if we take a long time to know if we are improving.

	gathered?	assessed?	
 Was the facilitator knowledgeable and helpful? Did you have the opportunity during the session to effectively practice or apply the concepts provided? Did the session activities facilitate the sharing of work experiences among participants? Did the session materials contribute to your learning during the session? Were the facilities and equipment conducive to learning? Were the stated session objectives met? In terms of preparing you to do your job better, how would you rate the overall quality of the session? 	 Questionnaires administered at end of a session Focus groups Interviews Personal learning logs 	 Initial satisfaction with the experience 	 To improve program design and delivery
 Did the participants acquire the intended knowledge & skills? Did participants' attitudes, beliefs or dispositions change? 	 Paper-and-pencil instruments, including self assessments and tests Simulations & demonstrations Participant reflections Participant portfolios Case study analyses 	 New knowledge and skills of participants 	 To improve program content, forma and organization
 Was implementation advocated, facilitated, and supported? Was the support public and overt? Were problems addressed quickly & efficiently? Were sufficient resources allocated? Were successes recognized and shared? What was the impact on the organization? Did it affect the organization's climate and procedures? 	 District and school records Minutes from follow-up meetings Questionnaires Structured interviews with participants and district/ school administrators Participant portfolios 	 The organization's advocacy, support, accommodation, facilitation, and recognition 	 To document and improve organizational support To inform future change efforts
 Did participants effectively apply the new knowledge and skills? Did teachers' instructional practice change? Are the teachers consistently applying the knowledge & skills? 	Questionnaires Structured interviews with participants and their supervisors Participant portfolios Participant reflections Direct observations Video or audio tapes	 Degree and quality of implementation 	 To document & improve the implementation of program content
 What was the impact on students? Did it affect student performance or achievement? Did it influence students' physical or emotional well-being? Are students more confident as learners? Is student attendance improving? Are dropouts decreasing? 	 Student records School records Questionnaires Structured interviews with students, parents, teachers, and/or administrators Participant portfolios 	Student learning: Cognitive (performance & achievement) Affective (attitudes & dispositions) Psychomotor (skills & behaviors) Student participation & attendance	 To focus & improve all aspects of program design, implementation, an follow-up To demonstrate the overall impact of professional development
	 Did the session activities facilitate the sharing of work experiences among participants? Did the session materials contribute to your learning during the session? Were the facilities and equipment conducive to learning? Were the stated session objectives met? In terms of preparing you to do your job better, how would you rate the overall quality of the session? Did the participants acquire the intended knowledge & skills? Did participants' attitudes, beliefs or dispositions change? Was implementation advocated, facilitated, and supported? Was the support public and overt? Were problems addressed quickly & efficiently? Were sufficient resources allocated? What was the impact on the organization? Did participants effectively apply the new knowledge ad skills? Did teachers' instructional practice change? Are the teachers consistently applying the knowledge ad skills? What was the impact on students? Did it affect student performance or achievement? Did it affect student performance or achievement? Did it influence students' physical or emotional well-being? Are students more confident as learners? Is student attendance improving? Are dropouts decreasing? 	 Did the session activities facilitate the sharing of work experiences among participants? Did the session materials contribute to your learning during the session? Were the facilities and equipment conducive to learning? Were the stated session objectives met? In terms of preparing you to do your job better, how would you rate the overall quality of the session? Did participants acquire the intended knowledge & skills? Did participants' attitudes, beliefs or dispositions change? Was implementation advocated, facilitated, and supported? Was implementation advocated, facilitated, and supported? Was implementation advocated, facilitated, and supported? Was implementation advocated facilitated, and supported? Was the support public and overr? Were problems addressed quickly & efficiently? Were successes recognized and shared? What was the impact on the organization? Did participants effectively apply the new knowledge and skills? Did participants effectively applying the knowledge & skills? Old participants effectively applying the knowledge & skills? Old it affect student performance or achievement? Did it influence students' physical or emotional well-being? Are thous the simpact on students? Did it influence students 'physical or emotional well-being? Are dropouts decreasing? Interviews with students, participant portfolios Student records Student attendance improving? Are dropouts decreasing? 	 Did de session activities facilitate de sharing of work experiences among participants? Did de session materials contribute to your learning during the session? Were the facilities and equipment conducive to learning? Were the facilities and equipment conducive to learning? Were the facilities and equipment conducive to learning? Did de participants acquire the intended knowledge & kills? Did participants acquire the intended knowledge & simulations & demonstrations and tests change? Was implementation advocated, facilitated, and supported? Was support public and overt? Ware successer recognized and shared? Did affect the organization's climate and participants and district 's chool administrators Participant portfolios Participant portfolios Participant portfolios Did raffect the organization's climate and participants and district 's chool administrators Participant portfolios Participant portfolios Participant at portfolios Participant portfolios Participant portfolios Did affect the organization 's climate and participants and district 's chool administrators Participant portfolios Participant portfolios Participant portfolios Participant portfolios Participant portfolios Structured interviews with students, parenti, teachers, and/



The NIC must focus their attention on the process of implementation and be willing to take time, step back, and revise design for improvement as needed. The implementation plan needs to be viewed as part of a continuous learning and improvement system (Bryk et al., 2015) where teachers hold themselves accountable for this work (see Figure 7). I propose that the new PLC model be piloted with a select grade level/group as system wide implementation right away would certainly be a wrong step.



Figure 8. Improvement Cycle Illustration.

To effectively use our time and to establish and maintain a healthy inquiry-oriented PLC, we need to determine the extent of collegiality that is present in our setting, assess our existing learning culture, and intentionally select and introduce activities that will encourage a shift from cultural norms that may be inhibiting our collegiality and inquiry-driven PLC work. Some of the essential elements of a healthy PLC already exist in our district and further support why moving in the direction of inquiry-oriented PLCs is the right move for us.

Conclusion

How can Red Bank Borough Public Schools learn faster? I argue that we need to cultivate our system to be a true learning organization. Learning needs to be embedded in the institutions themselves. Not only learning for our diverse students, but for teachers and leaders as well. We do not need to look for big solutions, but rather, get the small things right (Bryk et al., 2015). We must stop constantly changing policies and practices to improve. Rather, we can begin to learn from other people's success and failures and can most certainly learn from each other. I hope I have provided a clear explanation of my rationale for why inquiry-oriented PLCs should be considered and the importance of such work. If we can analyze and understand what we, or others, are doing well and create plans that reflect a continuous improvement cycle for our context, I truly believe we can get better at getting better. Together is better.

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