Restructuring
Elementary Literacy Instruction
in Hamilton County Schools

Lena Jensen and Annie Ng

**Peabody College of Education and Human Development
Vanderbilt University**

FOREWORD

This study was a one-year investigation into the implementation of two pilot literacy curricula in Hamilton County Schools in Chattanooga, Tennessee. Surveys, interviews, and student performance data were analyzed to evaluate the process of curricular implementation and current literacy practices in elementary schools across the district. This study was conducted by two doctoral students to fulfill the requirements of the doctorate of education degree from the Peabody College of Education and Human Development at Vanderbilt University in Nashville, Tennessee.

About the Authors

Lena Jensen is a Teacher III at the Susan Gray School, an inclusive preschool that serves students with and without disabilities at Vanderbilt University. She is a passionate advocate for high quality early childhood education for all children and received her master's degree from Vanderbilt University in Early Childhood Special Education.

Annie Ng is a 4th Grade Lead Teacher at Washington Yu Ying Public Charter School, an International Baccalaureate World School that provides an inquiry-driven, Chinese-English dual language immersion environment for students Pre-K to 5th. She received her M.Ed. in Language and Literacy and reading specialist licensure from the Harvard Graduate School of Education.

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1 EXECUTIVE SUMMARY

Hamilton County Schools (HCS), a school district located in southeastern Tennessee, has recently identified significant gaps in students' literacy performance, with only one in three third graders testing at or above grade level on the state's standardized assessment for literacy, as measured by the TNReady English Language Arts assessment (Tennessee Department of Education, 2019a). In response, HCS has selected elementary literacy as one of its five performance targets in its district plan entitled "Future Ready 2023!" The district's first performance target is a reading goal that aspires toward ensuring that, by 2023, at least half of all third graders will demonstrate on-track or mastery-level performance on the TNReady English Language Arts assessment. In order to achieve this target, Hamilton County Schools is working to create a district-wide support model that effectively institutionalizes a high-quality, research-based literacy curriculum.

As a component of this process, Hamilton County Schools is piloting two research-based literacy curricula, Core Knowledge Language Arts (CKLA) and Expeditionary Learning (EL) Education, at 19 elementary schools across the district during the 2019-2020 school year. HCS is interested in discerning which literacy curriculum will better promote students' literacy performance. Therefore, to support HCS in reaching its "Future Ready 2023" literacy target and to extend the body of literature around literacy curriculum implementation, we present three research questions:

1. **To what extent is the new literacy curricula being implemented within schools? More specifically, which school supports increase the degree of implementation?**

2. **To what extent do teachers' current practices align with the new curricular frameworks? Are teachers more likely to implement the new curriculum, if their existing literacy practices align with the new curriculum?**

3. **To what extent do the new literacy curricula impact student achievement? More specifically, what impact will the Expeditionary Learning Education (EL Education) and Core Knowledge Language Arts (CKLA) curricula have on students' literacy performance on district benchmarks?**

These questions led to a discussion with Hamilton County Schools around the process of curricular implementation. Mixed-methods analysis was utilized to examine the curricular implementation process through the use of surveys and interviews with teachers and administrators at pilot schools.

An analysis of elementary teachers' literacy practices was conducted using survey data from elementary teachers across the district. In addition to this, a tool was created to analyze current and prior district benchmark data for English Language Arts at the school level to assess the impact of the pilot curricula on students' literacy performance over time.

Key Findings

1. **Variation in the implementation of pilot curricula is present within and across schools.** Data from surveys of and interviews with pilot teachers and administrators indicate that pilot schools have yet to achieve full fidelity of implementation for CKLA and EL Education. Teachers and administrators report struggles with implementing all components of pilot curricula, including challenges with instructional materials, time, and pacing.

2. **Administrators and teachers identify several school supports that help facilitate the implementation of pilot curricula, including grade-level collaboration and adequate time and material resources.** Data from the teacher and administrator surveys for CKLA and EL Education highlight perceptions that grade-level planning and collaboration among pilot teachers have proven crucial in the process of curricular implementation. Teachers also indicate the need for more time to plan and prepare for instruction. Teachers and administrators report a lack of prescribed and supplemental materials for curricular instruction.

3. **Administrators and teachers underscore the need for ongoing trainings that are more grade-specific and hands-on.** Data from teacher and administrator surveys indicate that teachers would like more professional development and training for their pilot curriculum. Moreover, such professional development and training should be more hands-on and grade-specific, in order to effectively support the process of curricular implementation.

4. **Teachers' current literacy practices align with pilot curricula to varying extents.** Data from the literacy survey indicate that teachers' current literacy practices align with components of both CKLA and EL Education. Teachers may be more likely to implement the new curriculum if they perceive it to be developmentally appropriate and standards aligned, with strategies for engagement and differentiation.

Recommendations

1. **In-service training and access to curriculum materials for the adopted literacy curriculum should occur earlier in the summer.** In order to promote fidelity of curricular implementation, teachers need access to curricular materials and trainings sooner, so that they have adequate time to become acquainted with the curriculum and prepare for implementation.

2. **Trainings and professional development for the adopted literacy curriculum should be active, on-going, and differentiated.** To ensure impact on teachers' practices and curricular implementation, such trainings and professional development should incorporate research-based best practices, including methods that are active, on-going, and differentiated.

3. **The scheduled length of the English Language Arts block should match the time allotted for literacy instruction as designated by the adopted literacy curriculum.** A program needs to be implemented as designed in order to achieve intended outcomes. Therefore, it is crucial that teachers have adequate time to implement all components of the adopted literacy curriculum.

4. **Collaborative learning communities should be developed and supported within schools.** A strong network of collaborative learning communities is essential for the implementation of a new literacy curriculum. It can be developed by strengthening school supports that connect pilot teachers with experts beyond their grade-level colleagues, including mentor teachers, reading specialists, and literacy coaches. The ideal network of collaborative learning communities is adept at facilitating teacher collaboration and communication, both of which are important for the success of curricular implementation.

5. **Collaborative learning communities should be developed and supported across schools, through networked improvement communities that help accelerate learning.** Collaborative learning communities play important roles in accelerating systems learning as schools can network with one another to identify, adapt, and scale up promising interventions in education. These networked improvement communities should be leveraged to promote curricular implementation across the district.

6. **The process of curricular adoption and implementation must be informed by evidence that illuminates the particular needs of each school community. The curriculum of best fit may look differently across and within participating sites.** When selecting the curriculum of best fit, the needs of each school and the strengths of each curriculum must be taken into consideration. CKLA may support schools who seek to address variation in phonics instruction among their teachers and background knowledge among their students, and EL Education may better support schools who seek to differentiate instruction for diverse learners, including English language learners. A single school might utilize CKLA for its lower grades where students are learning to read, and EL Education in its upper grades where students are reading to learn. In order to identify and implement the curriculum of best fit, participating schools must repeat cycles of experimentation and adaptation to test out the impact of the selected curriculum on teaching and learning.

2 INTRODUCTION

For the last two centuries, literacy instruction in America has primarily consisted of two methods: a phonics approach and a whole-language approach (Sousa, 2014). The phonics approach to literacy focuses on teaching children to read by "getting meaning from certain combinations of letters" (Flesch, 1955, p. 2), while the whole-language approach suggests that reading instruction should focus on recognizing words and sentences from sight in order to devote more time to comprehension and meaning (Lauritzen, 2007). However, in 2000, the National Reading Panel published a report which highlighted the need for a balanced literacy approach to reading instruction. This led the U.S. Department of Education to define effective reading instruction as containing five essential components: (a) phonemic awareness, (b) phonics, (c) fluency, (d) vocabulary, and (e) comprehension (Learning Point Associates, 2004).

With the U.S. Department of Education's call to improve instruction through balanced literacy, a push for ensuring that classrooms across the nations were implementing literacy instruction based on these guidelines was born. This led to the development of several different types of literacy curricula, with the aim to provide teachers and schools with a prescribed approach to teaching children how to read. Research directed at understanding the skills needed for children to become good readers indicates that high-quality teacher instruction plays a significant role in supporting children to read (Mihai, Butera, & Friesen, 2017). Furthermore, research by Dickinson, Darrow, Ngo, and D'Souza (2009) suggests that providing teachers with a good curriculum has the potential to increase their focus on literacy skills. With the push for accountability and the need to increase student achievement, many schools and districts have placed an emphasis on selecting a high-quality literacy curriculum or program in order to achieve this goal.

Purpose of Study

This one-year study in partnership with Hamilton County Schools (HCS) aims to understand the implementation process of two new literacy curricula, identify current literacy practices in use, and analyze the impact of the new curricula on student performance in order to provide a set of recommendations for curricular adoption. Our process evaluation approach is designed to help us understand the degree of fidelity in the implementation process of the two pilot curricula; identify resources, supports, or barriers to implementation; and understand current teacher literacy practices and their level of alignment with the new curricula. This study is intended to support HCS in adopting a new literacy curriculum that supports students' literacy performance at the elementary level.

Context

Hamilton County Schools (HCS) is a school district located in southeastern Tennessee that serves over 44,500 students across grades Pre-K through 12. Spanning 576-square miles, it comprises 79 schools that are staffed by nearly 2,800 full-time teachers. In total, it divides into five learning communities: Rock Point, Missionary Ridge, North River, Harrison Bay, and Opportunity Zone. Hamilton County schools serves a diverse student population: Caucasian/White (52%), African American/Black (30.2%), Latinx (14.4%), Asian (2.8%), Native American/Alaskan (.5%), and Native Hawiian/Pacific Islander (.1%) (Tennessee Department of Education, 2019b).

Hamilton County Student Race/Ethnicity

Asian
2.8%
Latinx
14.4%

Caucasian/White
52.0%

African American/Black
30.2%
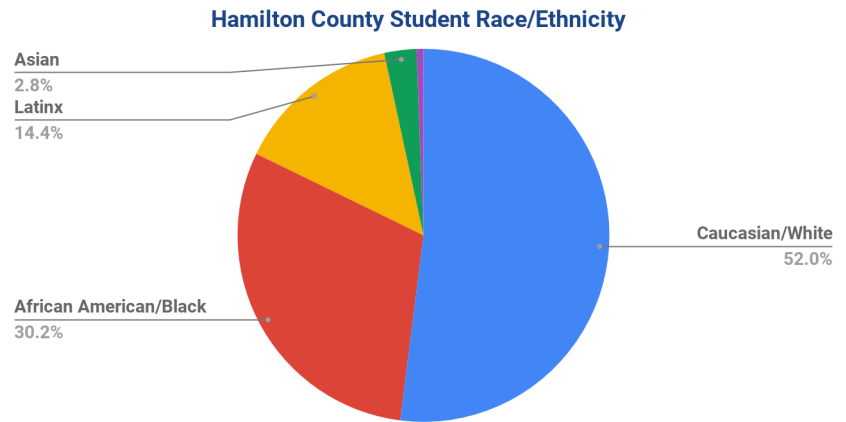
In recent years, Hamilton County Schools has identified significant gaps in literacy approaches across the district. Currently, only 2 in 5 kindergarteners are deemed "ready" for school, while only 1 in 3 third graders are at or above grade level on the state literacy assessment. Moreover, comprehensive reform efforts over the past 12 years, including district-wide literacy frameworks, have yet to yield consistent and viable reading progress.

As such, Hamilton County Schools has centered elementary literacy as one of its five performance targets in its district plan entitled "Future Ready 2023!" The district's first performance target is a reading goal that aspires toward ensuring that, by 2023, at least half of all third graders will demonstrate on-track or mastery-level performance on the TNReady English Language Arts assessment. In order to achieve this target, Hamilton County Schools is working to create a district-wide support model that effectively institutionalizes a high-quality, research-based literacy curriculum.

Research Questions

To support Hamilton County Schools in reaching its "Future Ready 2023" literacy target and extend on the body of literature around literacy curriculum implementation, we present three research questions:

1. **To what extent is the new literacy curricula being implemented within schools? More specifically, which school supports increase the degree of implementation?**

2. **To what extent do teachers' current practices align with the new curricular frameworks? Are teachers more likely to implement the new curriculum, if their existing literacy practices align with the new curriculum?**

3. **To what extent do the new literacy curricula impact student achievement? More specifically, what impact will the Expeditionary Learning Education (EL Education) and Core Knowledge Language Arts (CKLA) curricula have on students' literacy performance on district benchmarks?**

Definitions of Terms

The terms listed below will be utilized throughout this report. Due to the complex nature of literacy and curricular implementation, we have defined the the following terms to be used as a reference:

Term	Definition
Core Knowledge Language Arts (CKLA)	*A K-5 literacy curriculum that is designed to cultivate students' literacy through daily exposure to rich read-alouds that are structured to promote comprehension and vocabulary development*
Curricular implementation	*The process of implementing the multiple components or elements of a curriculum*
English Language Arts (ELA)	*Instructional focus on basic reading, writing and communication skills*
Expeditionary Learning Education (EL Education)	*A K-5 literacy curriculum that is designed to engage students through real-world content, using rich and authentic texts that allow students to build content knowledge on compelling topics related to science, social studies, or literature*
Fidelity of implementation	*The extent to which a curriculum is implemented as intended by design*
Literacy	*One's ability to read and write*
Pilot curriculum	*A literacy curriculum that is being implemented by a sample set of schools in Hamilton County Schools for the first year, in this case, either CKLA or EL Education*
TNReady English Language Arts (ELA)	*Tennessee's standardized assessment that assesses Tennessee Academic Standards for literary and informational texts by requiring students to demonstrate the ability to read closely, analyze text, answer text-dependent questions, provide a written response to a prompt, and demonstrate command of the English language. TNReady ELA is administered annually to students in grades 3-8*

3 DATA AND METHODS

To answer our first question, we interviewed and surveyed teachers and administrators across several pilot schools. This allowed us to evaluate the process of curricular implementation and to identify school supports that promote fidelity of implementation. To address our second research question, we surveyed elementary teachers across the district to understand which literacy practices are currently in practice and to assess the degree of alignment between these existing practices and those required by the two piloted literacy curricula. Lastly, to answer our third research question, we set up parameters for examining current and prior student data on district benchmarks for English Language Arts (ELA).

Sample

For research question 1, we utilized a non-probability convenience sample for the selection of the pilot schools. As reported by Hamilton County Schools (HCS), all pilot schools volunteered to implement the piloted curricula and were able to choose which of the two curricula to adopt and which grade levels to begin implementation. In total, 19 pilot schools participated in year one of curricular implementation: 10 adopted the Core Knowledge Language Arts (CKLA) curriculum, while 9 adopted the Expeditionary Learning Education (EL Education) curriculum. See Table 1 and Table 2 for the participating pilot schools of each curriculum.

Table 1

Pilot Schools of the Expeditionary Learning Education (EL Education) Curriculum

Elementary School	Grade Levels	Learning Community	Teachers	Administrators
Alpine Crest	K - 5th	Rock Point	13	1
Battle Academy	3rd - 5th	Rock Point	7	2
Bess T Shepherd	2nd - 3rd	Harrison Bay	8	2
Clifton Hills	K - 5th	Opportunity Zone	27	2
East Brainerd	3rd - 5th	Missionary Ridge	12	3
East Lake	K - 5th	Opportunity Zone	29	2
Ooltewah	3rd=5th	Harrison Bay	9	3

Elementary School	Grade Levels	Learning Community	Teachers	Administrators
Normal Park	2nd, 5th	Rock Point	8	2
Thrasher	K	Rock Point	6	2

Table 2

Pilot Schools of the Core Knowledge Language Arts (CKLA) Curriculum

Elementary School	Grade Levels	Learning Community	Teachers	Administrators
Barger Academy	K - 5th	Opportunity Zone	18	2
Daisy	K - 5th	North River	18	2
Donaldson	K - 5th	Opportunity Zone	22	2
Hardy	K - 5th	Opportunity Zone	23	2
Hillcrest	1st, 2nd, 5th	Harrison Bay	8	2
Lakeside Academy	2nd, 5th	Harrison Bay	6	2
Orchard Knob	K - 5th	Opportunity Zone	28	2
Red Bank	K, 2nd - 5th	Rock Point	19	2
Wallace A Smith	K - 2nd	Harrison Bay	16	2
Woodmore	K - 5th	Opportunity Zone	16	2

Across the 19 piloted schools, we sent implementation surveys out to 293 teachers and 39 administrators. Of those surveyed, 103 teachers and 25 administrators participated, yielding a response rate of 35% for teachers and 64% for administrators. Teachers included only those who were implementing a pilot curriculum in their classroom during the 2019-2020 school year. Administrators included principals and assistant principals from across the pilot school sites. See Table 3 for the breakdown of the sample population on curricular implementation.

Table 3

Implementation Survey Respondent Sample

	CKLA	EL Education	Total
Teachers	61	42	103
Administrators	10	15	25

In addition to the implementation surveys, we conducted interviews with 32 teachers and seven administrators from across five of the pilot school sites. We selected our interviewees using non-probability convenience sampling. All participants volunteered to be interviewed. See Table 4.

Table 4

Interviewee Sample

	CKLA	EL Education	Total
Teachers	15	17	32
Administrators	4	3	7

For research question 2, we utilized a non-probability convenience sample. Our sample comprised all teachers who were teaching at the elementary level in Hamilton County Schools during the 2019-2020 school year. We surveyed approximately 1,400 teachers across 42 elementary schools about their current literacy practices. In total, 281 teachers participated in the survey, yielding a response rate of 20%.

To answer research question 3, we began the process for a quantitative analysis of student outcomes on district benchmarks for English Language Arts (ELA). Our sample comprised students from both pilot schools and non-pilot schools. We utilized propensity score matching to identify non-pilot elementary schools in the district that matched our pilot elementary schools on three variables: (a) economically disadvantaged students, (b) race/ethnicity, and (c) ELA benchmark performance. For the pilot schools that did not match strongly with any non-pilot school across the three variables, we created dummy schools, utilizing aggregate student data from non-pilot elementary schools to match our three variables. Demographics of the sample population are presented in Table 5 and Table 6.

Table 5

Descriptive Statistics for EL Education Pilot and Match Schools

Pilot School	Econ Disadv %	ELA 3-5 On-track / Mastered %	African American %	Hispanic %	Match School	Econ Disadv %	ELA 3-5 On-track / Mastered %	African American %	Hispanic %
Alpine Crest	42.70%	30.10%	20.80%	9.90%	Wolftever Creek	43.40%	29.50%	22.70%	24.40%
Battle Academy	44.80%	33.80%	55.20%	3.60%	Harrison	42.10%	34.30%	46.20%	3.90%
Bess Shepherd	59.10%	16%	48.90%	35.80%	Spring Creek	61%	21%	30.90%	31.60%
Clifton Hills	79.80%	5.60%	35.00%	60.50%	Dummy School	75-85%	1-10%	30-40%	55-65%
East Brainerd	36.50%	36%	32.30%	15.90%	Lookout Valley	40%	33%	12.50%	5.60%
East Lake	75.70%	7.90%	30.10%	61.20%	Dummy School	70-80%	3-13%	25-35%	55-65%
Normal Park	12.90%	62.20%	12.90%	5.30%	Westview	11.40%	57.10%	13.20%	3.00%
Ooltewah	16.10%	42.50%	7.60%	6.50%	Allen	22.90%	44.40%	2.10%	4.70%
Thrasher	5.50%	73.10%	1.40%	2.60%	Nolan	8.50%	69.80%	1.10%	3.40%

Table 6

Descriptive Statistics for CKLA Pilot and Match Schools

Pilot School	Econ Disadv %	ELA 3-5 On-track / Mastered %	African American %	Hispanic %	Match School	Econ Disadv %	ELA 3-5 On-track / Mastered %	African American %	Hispanic %
Barger Academy	65.50%	10.20%	88.80%	3.80%	Tommie Brown	68.50%	25.20%	88.40%	2.60%
Daisy	28%	43.70%	2%	2%	North Hamilton	30.20%	44.40%	6%	2%
Donaldson	87.60%	n/a	82.30%	14.70%	Dummy School	83-93%	n/a	77-87%	10-20%
Hardy	87%	n/a	95%	1.2%	Dummy School	83-93%	n/a	90-100%	0-5%
Hillcrest	72.40%	15.60%	82.90%	3.10%	East Side	72.60%	14.60%	29.30%	66.70%
Lakeside	56.40%	18%	89.80%	2.70%	East Ridge	57%	21%	31.20%	28.90%
Orchard Knob	86.60%	5.80%	81.70%	15.20%	Dummy School	82-92%	0-10%	77-87%	10-20%
Red Bank	48.20%	20.20%	20.40%	19.60%	Dupont	46.40%	22.10%	28.20%	28.20%
Wallace A. Smith	15.10%	55.60%	16.90%	7.00%	Westview	11.40%	57.10%	13.20%	3.00%
Woodmore	77.90%	6.40%	92.60%	1.50%	Dummy School	73-83%	0-10%	87-97%	0-5%

Data Collection

The mixed-method approach to data collection consisted of surveys, interviews, student data analysis, and document analysis. The use of surveys allowed us to collect data from the entire population of pilot elementary schools and non-pilot elementary schools in Hamilton County Schools. In-person interviews at several of the pilot school sites permitted access to more nuanced data, which provided rich context to survey findings. Analysis of student data from district benchmarks allowed for a preliminary analysis of the impact of piloted literacy curricula on students' performance in English Language Arts. Lastly, analysis of district documents provided additional insight into students' literacy performance, current literacy supports and resources, and initiatives for improving students' literacy performance across the district. (For a complete list of documents reviewed, see Appendix B.)

Surveys

We developed five surveys to collect information from elementary teachers and administrators across Hamilton County Schools. We designed four surveys to collect information on the process of curricular implementation across the 19 pilot elementary schools. Of these four surveys, we created two for pilot teachers of the new curricula. These two teacher surveys were exactly the same in content, with the curriculum label (CKLA or EL Education) as the only distinction. We create another two surveys for pilot administrators of the new curricula. Like the teacher surveys, the administrator surveys were exactly the same in content, with the curriculum label as the only distinction.

We adapted our teacher and administrator survey questions from the teacher and administrator surveys used by Fowler, Beaird, and Via (2018) in their two-year study on the curricular implementation of CKLA in a school district in Tennessee. Fowler, Beaird, and Via (2018) utilized the Lawshe method to ensure content validity in their survey questions for teachers and administrators. For our teacher surveys, we utilized a similar survey framework to gauge pilot teachers' perceptions of the CKLA and EL Education literacy curricula, assess the level of implementation of the piloted curricula, and identify resources and/or supports that promote curricular implementation. We utilized a mixture of Likert scale, open-ended, and multiple choice questions. We coded and grouped these survey questions into one of three categories that make up our conceptual framework: (a) perceptions and satisfaction, (b) curricular implementation, and (c) trainings and supports. See Table 7 for the overarching framework of our implementation survey for pilot teachers.

Table 7

Implementation Survey Framework for Pilot Teachers

	Perceptions and Satisfaction	Curricular Implementation	Trainings and Supports
Quantitative Analysis	Questions 17, 18, 20-28	Questions 6-8, 10-16, 33	Questions 31, 35, 38
Qualitative Analysis	Questions 19, 29, 30	Questions 9, 34, 43	Questions 32, 39, 40

For our administrator surveys, we also utilized a survey framework similar to that of Fowler, Beaird, and Via (2018). We created questions to further investigate pilot administrators' perceptions of the CKLA and EL Education literacy curricula, determine the level of teacher implementation of the piloted curricula, and understand which resources and supports were provided or needed to fuel the process of curricular implementation. We utilized a combination of Likert scale, open-ended, and multiple choice questions. We coded and grouped survey questions into one of three categories that make up our conceptual framework: (a) perceptions and satisfaction, (b) curricular implementation, and (c) trainings and supports. See Table 8 for the survey framework for pilot administrators.

Table 8

Implementation Survey Framework for Pilot Administrators

	Perceptions and Satisfaction	Curricular Implementation	Trainings and Supports
Quantitative Analysis	Questions 1, 2, 9, & 12	Questions 4, 6, & 8	Questions 5, 14, 16, 18-33
Qualitative Analysis	Question 3	Questions 7, 10-11, 36	Questions 15, 17, 34, 35

We designed a fifth survey to assess the current literacy practices of pilot and non-pilot elementary teachers across Hamilton County Schools. We created survey questions based on two buckets of research: (a) extant literature on the five pillars of literacy instruction by Morrow and Gambrell (2011) and Snow, Griffin, and Burns (2005) and (b) research-based best practices targeted by each pilot curriculum, as outlined in "The Research Foundation for Core Knowledge Language Arts (CKLA)" (Core Knowledge Foundation, 2016) and "Evaluation of the [EL Education] Teacher Potential Project" (Dolfin et al., 2019). To evaluate elementary teachers' current literacy practices, we utilized a mixture of Likert scale, open-ended, multiple choice, and checkbox questions. In addition, we collected basic demographic information on teachers' years of experience and grade level assignments.

Table 9

Literacy Practices Framework for Elementary Teachers in Hamilton County Schools

	General	CKLA	EL Education
Perceptions	Questions 3-5, 16-21	Question 6, 7, 29	Question 8
Student Knowledge & Learning	Questions 40-41	Question 33-37	Questions 38-39
School-Wide Practices	Questions 42-45		
Phonemic Awareness	Questions 9, 10	Question 11[a]	Question 11[a]
Phonics	Questions 12-14	Question 15	Question 15
Comprehension	Questions 30-31	Question 32	Question 32
Vocabulary	Questions 26-27	Question 28	Question 25, 28
Fluency	Questions 22-23	Question 24[a]	Question 24[a]

[a]Open-ended questions

We created and distributed all five surveys electronically through Qualtrics, an online survey platform that complies with the policies for secure data collection outlined by the Vanderbilt University Institutional Review Board. For each survey, we selected the anonymous reporting option, in order to protect individual privacy. In our distribution of the surveys, we included a cover letter inviting recipients to complete the survey, underscoring the voluntary nature and guaranteeing anonymity.

Interviews

Our teacher and administrator interview protocols consisted of a mix of closed and open-ended questions that pertained to the piloted curricula. Similar to the surveys, we developed our interview protocols based on two sources: (a) the survey frameworks used by Fowler, Beaird and Via (2018) in their two-year study on the curricular implementation of CKLA in a school district in Tennessee and (b) the theoretical framework outlined in the extant literature review (see Appendix A). We designed questions to delve into teachers' and administrators' perceptions of the piloted curricula, their experiences with year one of curricular implementation, and feedback on school supports that have

facilitated and/or hindered the endeavor to achieve fidelity of implementation. In sum, we organized our questions into three categories: (a) perceptions and satisfaction, (b) curricular implementation, and (c) trainings and supports. See Table 10 for the overall framework of the interview protocols.

Table 10

Interview Protocols Framework for Pilot Teachers and Administrators

	Perceptions and Satisfaction	Curricular Implementation	Trainings and Supports
Teachers	Questions 3-11	Questions 12-21	Questions 22-30
Administrators	Questions 3-7	Questions 8-15	Questions 16-25

We audio recorded all interviews on portable electronic devices (iPhones), using Otter, an app that electronically records and transcribes voice conversations. At the start of each session, we stated the purpose of the interview and obtained written consent. We also offered interviewees the option to interview individually, as pairs, or in small groups. All participation was voluntary and anonymous.

Student Data

We created a tool that examines current and past student performance on district benchmarks in English Language Arts (ELA). It compares student performance at pilot school sites and match school sites, some of which are dummy schools created using aggregate student data from control groups, the process of which is explained in greater detail in our *Data and Methods* section.

Documents

In addition to surveys and interviews, we examined documents from Hamilton County Schools that would further inform our understanding of curricular implementation (e.g. school profiles, implementation plan, etc.). We captured all data with the intention of recording and preserving the context (Patton, 2015, p. 14). (For a complete list of documents reviewed, see Appendix B.)

Methods

Quantitative

The curricular implementation survey data was imported into the Statistics and Data (STATA) software to complete the quantitative analysis. To analyze the data, we first examined the descriptive statistics of teacher and administrator perceptions on the implementation of pilot curricula.

In addition, we created three scales. First, we created a scale for the construct of curricular implementation, our dependent variable. More specifically, we bundled together three variables: (a) percentage of lessons that incorporate pilot materials; (b) percentage of direct instruction that incorporates pilot materials; and (c) percentage of students' independent work that is designed based on pilot materials. Together, these variables yielded high internal consistency, with a Cronbach's alpha of 0.85 among CKLA teachers and 0.93 among EL Education teachers.

Second, we created a scale for the construct of teachers' satisfaction with ongoing supports, one of our independent variables of interest. We hung together the following variables: (a) satisfaction with in-service training, (b) satisfaction with district-level training and support, and (c) satisfaction with school-led training and support. These variables also yielded high internal consistency, with a Cronbach's alpha of 0.79 among CKLA teachers and 0.88 among EL Education teachers.

Third, we created a scale for the construct of administrators' perceptions on teachers' satisfaction with ongoing supports, another independent variable of interest. For this, we bundled together five variables: (a) administrators' perceptions on teacher satisfaction with inservice training, (b) administrators' perceptions on teacher satisfaction with district-level training, (c) administrators' perceptions on teacher satisfaction with school-led training, (d) administrators' perceptions on teacher satisfaction with grade-level training, and (e) administrators' perceptions on teacher satisfaction with coaching and mentoring. Together, these five variables similarly yielded high internal consistency, with a Cronbach's alpha of 0.94 among CKLA administrators and 0.72 among EL Education administrators.

Given the high Cronbach's alpha of each scale, it is evident that the variables of each scale are reliably measuring the same construct; in other words, each scale is a stable measure that is able to

yield consistent results over multiple times (Babbie, 2017, p. 149). Importantly, despite their high internal consistency, these scales may not necessarily measure what we intend. That is, the scales are measuring *something* with reliability, but this does not mean they are measuring what we intend with validity.

For the data analysis of implementation survey responses from pilot teachers and pilot administrators, we employed several one-way analysis of variance (ANOVA) tests to compare differences among three or more groups of pilot teachers and administrators. First, for each pilot curriculum, we examined differences for pilot teachers and administrators by frequency of ongoing supports on the degree of curricular implementation. We sought to examine whether curricular implementation would vary among pilot teachers and administrators who reported receiving varying amounts of supports. Second, for each pilot curriculum, we examined differences for pilot teachers and administrators by satisfaction with ongoing supports on degree of curricular implementation. We intended to analyze whether the degree of curricular implementation would vary among pilot teachers who reported varying degrees of satisfaction with ongoing supports. A limitation to our use of the ANOVA data analysis technique is the underlying assumption that self-reported data on curricular implementation are accurate, that is, that there will be an agreement between the more subjective self-reported data (i.e. surveys) and the more objective directly-measured data (i.e. outside walkthroughs). Given this limitation, our use of the ANOVA tests may not provide pertinent information into the variance in degree of curricular implementation by frequency of ongoing supports or by satisfaction with ongoing supports.

In addition to the ANOVA tests, we conducted Pearson's correlation coefficient tests, so as to further explore potential relationships between variables pertaining to curricular implementation, trainings, and ongoing supports. We prioritized independent variables, namely (a) frequency of ongoing supports (e.g. coaching, etc.) and (b) overall satisfaction. This is because, according to Darling-Hammond, Hyler, and Gardner (2017), such variables are components of effective professional development that may influence the degree of curricular implementation. A limitation to this data analysis technique is that the resulting models may use simplifying assumptions that may not adequately fit or match the data-at-hand to produce accurate predictions. Moreover, in order to move from correlation to causation, our models need to have been rooted in data gathered through random selection and random assignment; instead, our models have been derived from data collected through convenience and purposive sampling, thus yielding lines of best fit that may not depict the relationship that we intend to capture, in this case, the potential influence of school-level

supports and/or teacher satisfaction on curricular implementation.

Moving forward, our study would be strengthened by further analysis of student achievement outcomes on district literacy benchmarks and the TNReady English Language Arts (ELA) assessment. This would enable us to fully address the third research question under study, which explores the impact of curricular choice on student outcomes. For the data analysis of these student achievement outcomes, we initiated the process of propensity score matching, by matching pilot schools with non-pilot schools across several variables that impact student outcomes. In this way, we hoped to examine whether there are statistically significant differences in student outcomes on district literacy benchmarks across pilot and match schools. We chose PSM to strengthen our comparison group designs because of the two advantages it offers (Rossie, Lipsey, & Henry, 2019):

1. PSM directly addresses selection bias by focusing on the covariates that show the greatest differences between the program and comparison groups.

2. PSM combines information from multiple covariates into a single variable used for matching, often many many more covariates than it is practical to use in strategies such as exact matching. (p. 175)

For pilot schools that did not match with any non-pilot school across the chosen variables, we created dummy schools, using aggregated school data. When pilot and non-pilot comparison groups are matched, the effects of each pilot curriculum can be estimated through the process of stratification, which is described below (Rossie, Lipsey, & Henry, 2019):

> [Stratification] typically involves dividing the propensity score distribution into a number of intervals, such as deciles (10 groups of equal overall size), with members of the participant and comparison groups within each decile, therefore, necessarily having about the same propensity score. Estimates of program effects can then be made separately for each decile group and averaged into an overall effect estimate. (p. 174)

Given the time constraints of the short-term nature of our study, we have yet to initiate the stratification process. Moreover, we would like to underscore the limitations of PSM as a whole. While useful due to the flexibility and efficiency with which it is able to use pre-intervention covariates to reduce selection bias, PSM remains vulnerable to some degree of selection bias, especially if not *all* relevant and critical covariates are included, that is, if we excluded important variables that are "related to the outcome variables and on which the groups have consequential differences at baseline" (Rossie, Lipsey, & Henry, 2019, p. 176 & 208).

In addition to further work on propensity score matching and stratification, it may be helpful to conduct a regression with multiple controls. This would enable us to examine whether there exists a functional relationship between the dependent variable of student outcomes and the independent variable of curriculum type, testing out the overarching hypothesis that, if EL Education and/or CKLA are better curricula, pilot schools will see more improvement in student outcomes, as compared non-pilot schools. Similar to Magnuson et al. (2004), the regression with multiple controls may address differences in students' advantages by presenting results from ordinary least squares (OLS) regressions with increasingly rich levels of controls for factors that may affect student outcomes, such as student and family demographics. This data analysis technique will reduce some bias, by controlling for demographic mix, geographic location, and general social and cultural context. However, similar to PSM, it is not able to control for every covariate and, as such, cannot completely eliminate bias in its estimation of program effects.

Qualitative

Our process for qualitative analysis comprised three levels. This allowed us to separate meaningful data from less meaningful data, in terms of their capacity to illuminate our understanding of research question 1 and research question 2.   (For the concept-clustered matrix used, see Appendix H.)

Level 1 of data analysis entailed listening tours of our interviews. We listened to the audio-recording of each interview, with an aim toward gaining familiarity. Following each listening tour, we created a single matrix for that particular interview, in order to succinctly display any patterns, themes, or other relationships that emerged from the data. In order to accurately describe the data, we utilized "sensitizing concepts" as our main analytical framework approach. We paid particular attention to concepts that directly related to the topics under study (Rubin & Rubin, 1995, p. 194), specifically perceptions toward curricular implementation and the impact on student achievement outcomes.

Level 2 of data analysis entailed deriving themes. We extracted quotes that were notable for their capacity to link together two or more concepts that had been introduced by the interviewees. From these quotes, we strove to reason how certain concepts might pair together and, thereafter, examined our formulation in light of the overall arc of the interviews (Rubin & Rubin, 1995, p. 194).

Level 3 of data analysis entailed combining each of our single interview matrices into a single collective matrix comprising data from across all interviewees, including both teachers and

administrators. In order to display our data in a clear and coherent manner, we utilized a concept-clustered matrix. More specifically, we organized our interview data into three conceptual bins: literacy practices; curricular implementation; and school-level supports, including the availability and use of resources and professional development related to literacy instruction and curriculum. In this way, our organization of the data paralleled our organization of extant literature.

Throughout the data analysis process, from levels 1 through 3, we worked to formulate themes by, first of all, looking for linkages or relationships between two or more concepts introduced by the interviewees. We then made sure that these themes were sufficiently rooted in illustrative and notable interview quotes. From the selected quotes, we once again noted any additional themes that emerge. As before, we rooted these themes in evidence in the form of pertinent quotes. In essence, we worked to discern the overall patterns on curricular implementation that interviewees sought to convey and strove to make meaning from them against the backdrop of extant literature. In addition, we paid close attention to any meaningful quote that may have either complemented or complicated the themes that emerged throughout our data analysis process.

Limitations

For research question 1, the use of two piloted curricula proved to be a major limitation for several reasons: (a) the sample sizes for the treatment groups are smaller than if only one curriculum were selected; (b) the assignment of the treatment groups was not random; and (c) treatment groups received different and not necessarily equivalent training. These create considerable limitations for our study and impacts on the validity and generalizability of our findings.

For research question 2, our survey framework presents several limitations. It attempts to make distinctions between the CKLA and EL Education curricula, using two sources: (a) implementation surveys from past studies and (b) extant literature on research-based best practices in literacy. However, the survey framework does not completely capture the entirety of each curriculum, including some of the prescribed components. As such, it is difficult to discern whether teachers' literacy practices truly align with any given curriculum. Moreover, the framework does not ask teachers to disclose their grade level assignment, making it difficult to discern whether teachers' current literacy practices align with a given curriculum or simply the grade level they teach. Teachers in the lower grades tend to engage more in literacy practices that focus on phonemic awareness and phonics,

which are emphasized in the CKLA curriculum. If these teachers are disproportionately represented in the sample size, it would appear as if CKLA were the curriculum of best fit. Yet another limitation is the timing of our survey release, which occurred after pilot teachers had already been immersed in the implementation process for several months. Given this, teachers' reported beliefs and practices may be vulnerable to contamination. Pilot teachers who took the survey may have reported literacy practices that were acquired during the process of curricular implementation.

For research question 3, we elected not to engage in quantitative analysis of student performance data but, instead, to develop a tool for Hamilton County Schools to use in future analyses of students' literacy performance on district benchmarks and the TNReady ELA assessment. This is because we believe that any analysis using student performance data may be premature and limited. First, the fidelity of implementation of a curriculum requires time beyond the first year. Secondly, students' literacy performance is a compounded set of skills that build off of each other and, therefore, it will be difficult to assess whether current or previous instruction is responsible for literacy growth. Lastly, students acquire and master literacy skills at different rates. Therefore, using such limited student performance data is not without weaknesses and may not accurately portray the actual impact of the piloted curricula on students' literacy performance.

4 FINDINGS

We organize our findings from across the quantitative and qualitative analyses by theme, under each of the research questions that comprise this study. We describe our limitations in the *Data and Methods* section.

Research Question 1

To what extent is the new literacy curricula being implemented within schools? More specifically, which school supports increase the degree of implementation?

Finding 1A: Variation in implementation exists within and across schools, with pilot teachers and administrators striving toward higher levels of curricular implementation.

Pilot teachers report high levels of curricular implementation both in the amount of pilot materials incorporated and the frequency of their use. In the survey data, 93.44% of surveyed CKLA teachers and 90.48% of surveyed EL Education teachers report that they incorporate materials from the pilot curriculum in 75-100% of their lessons. In addition, 90.16% of CKLA teachers and 90.48% of EL Education teachers state that they use curricular materials in 75-100% of their direct instruction. Moreover, 80.33% of CKLA teachers and 83.33% of EL Education teachers indicate that 75-100% of their students' independent work is designed based on materials from pilot curricula.

Pilot teachers also report using material from pilot curricula with high frequency. A vast majority of teachers, 95.08% of CKLA and 97.62% of EL Education, report using pilot materials every day for direct instruction. Similarly, 91.80% of CKLA and 78.57% of EL Education teachers report using pilot materials every day for students' independent work. The teacher-reported data on the high levels of curricular implementation remains even within and across schools. See Table 11 for more details.

Table 11

Descriptive Statistics on Pilot Teachers' Perceptions of Curricular Implementation

	CKLA Teachers (n=61)		EL Education Teachers (n=42)	
Q8: Overall, what percentage of your lessons incorporates material from the pilot curriculum?	1.64% 3.28% 1.64% 93.44%	(0-24%) (25-49%) (50-74%) (75-100%)	0% 2.38% 7.14% 90.48%	(0-24%) (25-49%) (50-74%) (75-100%)
Q10: What percentage of your direct instruction incorporates material from the pilot curriculum?	1.64% 4.92% 3.28% 90.16%	(0-24%) (25-49%) (50-74%) (75-100%)	4.76% 2.38% 2.38% 90.48%	(0-24%) (25-49%) (50-74%) (75-100%)
Q11: What percentage of your models or examples utilizes material from the pilot curriculum?	3.28% 0% 11.48% 85.25%	(0-24%) (25-49%) (50-74%) (75-100%)	0% 4.76% 11.90% 83.33%	(0-24%) (25-49%) (50-74%) (75-100%)
Q12: What percentage of your students' independent work incorporates material from the pilot curriculum?	4.92% 1.64% 13.11% 80.33%	(0-24%) (25-49%) (50-74%) (75-100%)	0% 4.76% 11.90% 83.33%	(0-24%) (25-49%) (50-74%) (75-100%)
Q13: How often do you use material from the pilot curriculum for direct instruction?	0% 1.64% 3.28% 95.08%	Never 1-2 day per week 3-4 days per week Daily	0% 0% 2.38% 97.62%	Never 1-2 day per week 3-4 days per week Daily
Q14: How often do you use materials from the pilot curriculum as models or examples for your students?	0% 1.64% 6.56% 91.80%	Never 1-2 day per week 3-4 days per week Daily	0% 0% 9.52% 90.48%	Never 1-2 day per week 3-4 days per week Daily
Q15: How often do you use material from the pilot curriculum to design students' independent work?	0% 0% 8.20% 91.80%	Never 1-2 day per week 3-4 days per week Daily	0% 2.38% 19.05% 78.57%	Never 1-2 day per week 3-4 days per week Daily

Qualitative data from open-ended survey questions and from interviews shed light on the variation of implementation within and across school sites. Notably, CKLA teachers report placing priority on the "Listening and Learning" strand over the "Skills" strand, devoting much of their attention to the

Read-Aloud component of the curriculum. We highlight a few notable quotes from CKLA teachers about their experiences with the implementation process:

❖ "Our school is really pushing for complete implementation so I try my best to do all. Reading is the major focus as we do writing units in addition to CKLA."

❖ "I'm implementing the read aloud, incorporating word work, and differentiating some type of application piece daily."

❖ "The students are using every component given except for the application in knowledge. There is not a lot of time to finish the lessons with the application."

❖ "We are following with fidelity and trying to fit everything in - read alouds, chapter reading, grammar, etc. It's too much and none of it is being implemented effectively."

❖ "The phonics is good but the way they approach long videos so quickly is ineffective when children do not even know their letters. The knowledge piece of the curriculum is confusing and frustrating for the children. We are made to teach CKLA but I will likely leave the county because of it. It is ineffective and goes against everything I know about growing amazing phonics readers."

Meanwhile, EL Education teachers report prioritizing the whole-group "Modules" block over the small-group "Lab" and "All Block." We highlight a few notable quotes from EL Education teachers about their experiences with the implementation process:

❖ "We use modules and ALL block components."

❖ "The whole class instruction is what I am using most."

❖ "I implement the lessons in the teacher guide and the worksheets from the student workbook the most".

❖ "We implement all of it but we do cut out some of the turn and talks and independent work. We

might change to whole group and vice versa."

❖ "I implement the module and the skills block with fidelity to the curriculum. The labs have been modified and shortened."

❖ "We are doing the module lessons with an adapted ALL block when it fits in, due to the severely limited amount of time for our literacy block."

Our data collection draws from across surveys and interviews. This is because a majority of our open-ended survey responses from both pilot groups were brief, therefore we compiled survey responses along with interview responses. Our findings summarize the main themes and highlights that emerged. See Table 12 for a trend analysis of pilot teachers' perceptions of implementation.

Table 12

Qualitative Trend Analysis on Pilot Teachers' Perceptions of Curricular Implementation

	CKLA Teachers (surveys n=61; interviews n=15)	EL Education Teachers (surveys n=42; interviews n=17)
Degree of implementation	Able to implement "Skills"	Able to implement "Modules" more consistently than "Skills or "ALL Block"
Pacing	Cut out some of the curriculum, due to challenges with pacing	Cut out some of the curriculum, due to challenges with pacing
Materials	Do not have access to basic materials (e.g. image cards, etc.), which impedes full implementation	Do not have access to supplementary materials, which impedes robust implementation
Other	Have concerns that the teacher-centered nature of the curriculum does not provide adequate opportunities for students to build independence	

On the administrators' implementation survey, 90% of surveyed CKLA administrators report that their teachers are "always" implementing the piloted curriculum and 10% report that their teachers implement the piloted curriculum "very often." Similarly, 93.33% of surveyed EL Education administrators report that their teachers are "always" implementing the piloted curriculum and 6.67%

report that their teachers implement the piloted curriculum "very often."

Although administrators for both CKLA and EL Education report high levels of teacher implementation of piloted curricula, they express more variable levels of satisfaction with the implementation of piloted curricula at their respective school sites. Only 70% of CKLA administrators and 71.43% of EL Education administrators report to be at least moderately satisfied with the implementation of the piloted curricula at their school. See Table 13 below for more details.

Table 13

Descriptive Statistics on Pilot Administrators' Perceptions of Curricular Implementation

	CKLA Administrators (n=10)		EL Education Administrators (n=15)	
Q6: How satisfied are you with the implementation of the pilot curriculum at your school?	0%	Extremely dissatisfied	0%	Extremely dissatisfied
	10%	Moderately dissatisfied	0%	Moderately dissatisfied
	0%	Slightly dissatisfied	0%	Slightly dissatisfied
	10%	Neither satisfied nor dissatisfied	7.14%	Neither satisfied nor dissatisfied
	10%	Slightly satisfied	21.43%	Slightly satisfied
	60%	Moderately satisfied	42.86%	Moderately satisfied
	10%	Extremely satisfied	28.57%	Extremely satisfied
Q8: How often are your teachers implementing the pilot curriculum?	0%	Never	0%	Never
	0%	Rarely	0%	Rarely
	0%	Sometimes	0%	Sometimes
	10%	Very often	6.67%	Very often
	90%	Always	93.33%	Always

Data from the open-ended survey questions and administrator interviews provide more detailed information about curricular implementation. Administrators across CKLA and EL Education pilot sites highlight school-wide efforts toward implementation to fidelity. At the same time, they acknowledge that, due to challenges with pacing, some of the curriculum was cut out. One CKLA administrator commented, *"I believe teachers find the skills block to be the most beneficial to students in K-2, therefore it is implemented with the most fidelity."* Similar comments were found by EL Education administrators. One commented, *"All components, skills block, all block with Labs being missed a couple of times,"* while another stated, *"All but if I have to choose one it would be modular whole group lessons!"*

Our data collection on administrators' perceptions draws from across surveys and interviews. This is because, similar to the open-ended survey responses from pilot teachers, a majority of the open-ended survey responses from pilot administrators were brief, therefore we compiled survey responses along with interview responses. Our findings summarize the main themes and highlights that emerged. See Table 14 for a trend analysis of pilot administrators' perceptions.

Table 14

Qualitative Trend Analysis on Pilot Administrators' Perceptions of Curricular Implementation

	CKLA Administrators (surveys n=10; interviews n=4)	EL Education Administrators (surveys n=15; interviews n=3)
Degree of implementation	Believe that there is an effort toward fidelity of implementation	Believe that there is an effort toward fidelity of implementation
Pacing	Aware that teachers are cutting out some of the curriculum, due to challenges with pacing	Aware that teachers are cutting out some of the curriculum, due to challenges with pacing
Materials	Believe that lack of basic materials impedes full implementation (e.g. lack of image cards, etc.)	Believe that lack of supplementary materials impedes robust implementation

Finding 1B: Pilot teachers report spending *less* time *searching* for instructional materials, but *more* time *preparing* them for implementation.

Survey data from pilot teachers indicate variation in teachers' experiences with curricular preparation, specifically in regards to searching, creating, and preparing instructional materials. According to survey data, 70.18 % of CKLA teachers and 55% of EL Education teachers report spending less time searching for instructional materials as a result of implementing the pilot curricula, with 70.17% of CKLA teachers and 58.54% of EL Education teachers reporting that they spend two hours or less searching for instructional materials. However, only 59.65% of CKLA teachers report spending less time creating instructional materials, while 53.66% of EL Education teachers report spending more time creating instructional materials, with 63.16% of CKLA teachers 51.22% of EL Education teachers spending two hours or less creating materials.

However, a majority of teachers from both pilot curricula report spending more time preparing instructional materials with 56.14% of CKLA and 73.17% EL Education teachers reporting an increase in time, with 66.67% of CKLA teachers spending four hours or less preparing materials as compared to 75.61% EL Education teachers reporting spending three or more hours a week. See Table 15.

Table 15

Descriptive Statistics on the Pilot Teachers' Perceptions of Curricular Preparation

	CKLA Teachers (n=61)		EL Education Teachers (n=42)	
Q41: How has the amount of time you spend searching for instructional materials changed, as a result of implementing pilot curriculum?	42.11%	Decreased to great extent	27.50%	Decreased to great extent
	28.07%	Decreased to some extent	27.50%	Decreased to some extent
	12.28%	No change	10.00%	No change
	10.53%	Increased to some extent	17.50%	Increased to some extent
	7.02%	Increased to great extent	17.50%	Increased to great extent
Q42: How has the amount of time you spend creating instructional materials changed, as a result of implementing the pilot curriculum?	35.09%	Decreased to great extent	17.07%	Decreased to great extent
	24.56%	Decreased to some extent	21.95%	Decreased to some extent
	7.02%	No change	7.32%	No change
	21.05%	Increased to some extent	26.83%	Increased to some extent
	12.28%	Increased to great extent	26.83%	Increased to great extent
Q43: How has the amount of time you spend preparing instructional materials changed, as a result of implementing the pilot curriculum?	8.77%	Decreased to great extent	4.88%	Decreased to great extent
	28.07%	Decreased to some extent	9.76%	Decreased to some extent
	7.02%	No change	12.20%	No change
	33.33%	Increased to some extent	34.15%	Increased to some extent
	22.81%	Increased to great extent	39.02%	Increased to great extent
Q44: How much time do you spend searching for instructional materials, with the implementation of the pilot curriculum?	45.61%	0-1 hours per week	34.15%	0-1 hours per week
	24.56%	1-2 hours per week	24.39%	1-2 hours per week
	19.30%	3-4 hours per week	21.95%	3-4 hours per week
	3.51%	4-5 hours per week	17.07%	4-5 hours per week
	7.02%	6 or more hours per week	2.44%	6 or more hours per week
Q45: How much time do you spend creating instructional materials, with the implementation of the pilot curriculum?	35.09%	0-1 hours per week	24.39%	0-1 hours per week
	28.07%	1-2 hours per week	26.83%	1-2 hours per week
	14.04%	3-4 hours per week	19.51%	3-4 hours per week
	8.77%	4-5 hours per week	21.95%	4-5 hours per week
	14.04%	6 or more hours per week	7.32%	6 or more hours per week

Q46: How much time do you spend preparing instructional materials, with the implementation of the pilot curriculum?	10.53% 29.82% 26.32% 15.79% 17.54%	0-1 hours per week 1-2 hours per week 3-4 hours per week 4-5 hours per week 6 or more hours per week	9.76% 14.63% 24.39% 24.39% 26.83%	0-1 hours per week 1-2 hours per week 3-4 hours per week 4-5 hours per week 6 or more hours per week

Qualitative data from teacher interviews and open-ended survey questions indicate that some teachers from both pilot curricula spend significant time in curricular preparation, in terms of creating and preparing instructional materials for implementation. CKLA teachers report needing to find either additional or more appropriate materials to support instruction because as one teacher stated, *"Students aren't able to read the content. And some of the subject matters have been a bit much for them to comprehend."* Many CKLA teachers also report having to spend additional time in lesson planning to connect to TN State standards. As one CKLA teacher shared, *"The standards have to be searched and rewritten because we don't use Common Core. Some concepts are not second grade standard."* Similarly, another teacher commented, *"We are now having to create new assessments and find practice that is related to the standards in third grade."*

EL Education teachers also report spending time creating and preparing additional materials. According to one EL Education teacher, "*This curriculum hinges on the assumption that most students are reading on or above grade level. That is not the case in so many classrooms. Many scaffolds are needed just to help students understand the complex vocab."* Several EL Education teachers also report that the curriculum requires a lot of preparation time, which is highlighted by one teacher who shared, *"It has been a ridiculous amount of time to put into preparing for each lesson. I am not positive that all teachers would be willing to do what we have done."* Another teacher commented, *"I really like EL, but it takes forever to plan. 3 hours a day. An hour for the module, hour for labs, and an hour for skills. It is getting easier, but it is a lot. We've had to use TPT [Teachers Pay Teachers] module PowerPoints and plan from those because of the amount of time it takes."*

The table below contains our findings from a qualitative trend analysis of curricular preparation from the teacher interviews and open-ended survey questions. We found that many teachers from both pilot curricula made comments similar to their peers. In Table 16, we provide a summary of our key findings on teacher's perceptions on curricular preparation.

Table 16

Qualitative Trend Analysis on Pilot Teachers' Perceptions of Curricular Preparation

	CKLA Teachers (surveys n=61, interviews n=15)	EL Education Teachers (surveys n=42, interviews n=17)
Searching for instructional materials	Spend time searching for more appropriate materials, particularly for history units which, at best, may not be connected with state standards and, at worst, inaccurate	Spend time searching for additional materials, including more simple or more challenging materials, to enhance ALL block
Creating instructional materials	Spend time making adjustments and modifications to existing materials, in order to fully accommodate the needs of all students	Spend time making adjustments and modifications to existing materials, in order to fully accommodate the needs of all students
Preparing instructional materials	Spend time aligning materials, both worksheets and assessments, to state standards	Spend significant time locating materials, which are spread across several different books. It sometimes requires looking across 3-4 books to plan just 1 hour of the day

Finding 1C: Administrators and teachers identify several school supports as conducive to the implementation of piloted curricula, including adequate time and material resources.

Pilot teachers identify their grade-level team as the most helpful in the implementation process. Some hold reservations on the effectiveness of their literacy coaches. In terms of material resources, CKLA teachers express a need for basic materials, with one teacher commenting, *"Our grade level just needs to make sure to order enough materials for ALL of our students and to have extra in the event that we get extra students."* In contrast, EL Education teachers express a desire not for basic materials, but rather supplementary materials, with one teacher sharing, "*The district needs to supply our classrooms with the extra materials needed for full implementation."* This is echoed by another teacher who stated, "*The curriculum says to use the supplemental picture card for the activity, but I don't have the supplemental materials and I don't have time to print off all the pictures needed for the lesson."* Table 17 summarizes trends in the qualitative data on teachers' perceptions on school supports.

Table 17

Qualitative Trend Analysis on Pilot Teachers' Perceptions of School Supports

	CKLA Teachers (surveys n=61, interviews n=15)	EL Education Teachers (surveys n=42, interviews n=17)
Staff	The grade-level team has been the most helpful in the implementation process	The grade-level team has been the most helpful in the implementation process
	The literacy coach has not played a significant role; either did not mention the coach or shared that the coach was unfamiliar with the new curriculum and did not have enough expertise	The literacy coach has not played a significant role
Time	There should be additional planning time	There should be additional planning time
Training	There should be grade-specific professional development	There should be grade-specific professional development

Pilot administrators underscore the efforts undertaken by their respective school communities to implement new curricula to fidelity. They identify literacy coaches as most helpful in the implementation process. One CKLA administrator commented, *"Our literacy coach has been so helpful, the teachers go to her if they have questions."* This was similar to an EL Education administrator who commented, *"Having a literacy coach and coach from EL provide professional development based upon our school needs was so helpful for my teachers."*

Administrators also acknowledge teachers' desire for additional planning time. One CKLA administrator said that her teachers need *"enhanced planning and resources."* This was echoed by an EL Education administrator, *"Teachers need extra planning time and more preparation time in the beginning."* In addition, pilot administrators refer to school-specific trainings as helpful levers in moving teaching teams in the same direction. They express some reservations toward the utility of online trainings, with one EL Education administrator commenting, *"I really hope the district doesn't pay for another set of online trainings, they are a complete waste of time, I'd rather they spend that money to send an EL coach here."* Table 18 highlights the major themes found when analyzing pilot administrators' perceptions of school supports.

Table 18

Qualitative Trend Analysis on Pilot Administrators' Perceptions of School Supports

	CKLA Administrators (surveys n=10, interviews n=4)	EL Education Administrators (surveys n=15, interviews n=3)
Staff	Literacy coach supports the implementation process	Literacy coach supports the implementation process
Time	There is adequate planning time	Additional planning time is needed
Training	School-specific trainings are adequate	School-specific trainings are adequate

Finding 1D: Administrators and teachers express the need for ongoing trainings and supports that are grade-specific and hands-on.

At least 63.15% of CKLA teachers and 68.29% of EL Education teachers report that they are "adequately equipped" to "very equipped" to implement the pilot curriculum. Both administrators and teachers, however, report the need for ongoing trainings and supports that are more grade-specific and hands-on. One CKLA administrator commented, *"Anything you can give the teachers from CKLA staff would benefit teachers. They need more support from the experts - not just me who is learning along with them."* Another one said*, "Teachers need additional grade-specific trainings and general implementation training."* EL Education administrators had similar comments. One stated, *"We need opportunities for school visits both within Hamilton County and to other schools who have been implementing the EL curriculum. Also, providing coaching to all schools."* Another administrator commented, *"We really need more training, and not promotional ones, I love EL, I've bought into it, so they don't need to keep on selling it to us. We need more training on the curriculum because it's a lot for our teachers and they need more in-depth training and support."*

Current trainings and supports have yet to have considerable impact on curricular implementation. For each pilot curriculum, we conducted analyses of variance (ANOVA) to compare curricular implementation among pilot teachers reporting differing levels of ongoing support. The tests indicate no statistically significant differences in the implementation means of teachers receiving differing levels of ongoing supports. This suggests that the current levels of ongoing supports have yet to have significant impact on curricular implementation. (See Appendix I.)

In addition, we conducted ANOVAs to compare curricular implementation among pilot teachers reporting differing levels of satisfaction with ongoing supports. For the following groups, the tests indicate that no statistically significant differences in the implementation means of teachers reporting differing levels of satisfaction with ongoing supports: (a) CKLA teachers, (b) CKLA administrators, and (c) EL Education administrators. (See Appendix J.) This suggests that, for these groups, teachers' satisfaction with ongoing supports has no significant impact on their curricular implementation.

Importantly, uniquely among the sample of EL teachers, there *are* statistically significant differences in the implementation means of teachers who report varying satisfaction with ongoing supports. The F-statistic of the ANOVA test indicates that the variability of curricular implementation *between* the teacher groups at each level of satisfaction is larger than the variability *within* each teacher group. The results of this ANOVA are presented below in Table 19.

Table 19

One-Way ANOVA of EL Education Teachers' Satisfaction with Ongoing Supports by Curricular Implementation

Source	SS	dF	MS	F	Prob > F
Within groups	75.308	16	4.707	5.29**	0.000
Between groups	20.467	23	.890		
Total	95.775	39	2.456		

*Notes: n=42; *p<0.1; **p<0.05; ***p<0.001*

Although these results reveal that statistically significant differences in the implementation means exist, they do not identify where the differences lie for each group. In order to determine this, post-hoc tests would need to be run. To further examine the relationship between curricular implementation and satisfaction with ongoing supports among EL Education teachers, we conducted a Pearson's correlation coefficient test. It reveals a positive correlation between curricular implementation and teachers' satisfaction with ongoing supports, with the strongest correlation between curricular implementation and district-level trainings and supports, at an *r value* of 0.39, which is considered medium. For in-service support and district-level support, the correlation coefficient is statistically significant at the .05 level or greater than 0.178. See Table 20.

Table 20

EL Education Teachers' Curricular Implementation by Satisfaction with Ongoing Supports

	Curricular Implementation	Satisfaction with In-service	Satisfaction with district-level support	Satisfaction with school-led support
Curricular Implementation	1.000			
Satisfaction with In-service	0.363**	1.000		
Satisfaction with district-level training & support	0.387**	0.847**	1.000	
Satisfaction with school-led support	0.079	0.697**	0.568**	1.000

*Notes: n=42; *p<0.1; **p<0.05; ***p<0.001*

To further explore these findings, we examine descriptive and qualitative data on trainings and supports. Across both curricula, pilot teachers report varying levels of satisfaction with in-service training, district-level training and support, and school-led trainings. Overall, CKLA teachers report less satisfaction with school-wide trainings than EL Education teachers, with only 37.26% reporting satisfaction, as compared to 62.50% of EL Education teachers. Moreover, CKLA teachers report less frequent support than EL Education teachers, with only 47.37% receiving at least monthly support for curricular implementation, as compared to 78.04% of EL Education teachers. See Table 21 for more details.

Table 21

Descriptive Statistics on Pilot Teachers' Perceptions of On-going Supports

	CKLA Teachers (n=61)		EL Education Teachers (n=42)	
Q31: How satisfied are you with the in-service training you have received for the pilot curriculum?	14.04%	Extremely dissatisfied	14.63%	Extremely dissatisfied
	7.02%	Moderately dissatisfied	7.32%	Moderately dissatisfied
	7.02%	Slightly dissatisfied	21.95%	Slightly dissatisfied
	19.30%	Neither satisfied nor dissatisfied	14.63%	Neither satisfied nor dissatisfied
	21.05%	Slightly satisfied	14.63%	Slightly satisfied
	26.32%	Moderately satisfied	21.95%	Moderately satisfied
	5.26%	Extremely satisfied	4.88%	Extremely satisfied
Q33: How equipped do you feel in implementing the pilot curriculum?	3.51%	Not at all	2.44%	Not at all
	33.33%	Somewhat equipped	29.27%	Somewhat equipped
	45.61%	Adequately equipped	53.66%	Adequately equipped
	17.54%	Very equipped	14.63%	Very equipped
Q36: Describe your satisfaction with district-level training and support on the pilot curriculum.	8.77%	Extremely dissatisfied	7.32%	Extremely dissatisfied
	15.79%	Moderately dissatisfied	21.95%	Moderately dissatisfied
	15.79%	Slightly dissatisfied	12.20%	Slightly dissatisfied
	21.05%	Neither satisfied nor dissatisfied	14.63%	Neither satisfied nor dissatisfied
	21.05%	Slightly satisfied	12.20%	Slightly satisfied
	15.79%	Moderately satisfied	31.71%	Moderately satisfied
	1.75%	Extremely satisfied	0%	Extremely satisfied
Q37: Describe your satisfaction with school-led training and support on the pilot curriculum.	7.84%	Extremely dissatisfied	5%	Extremely dissatisfied
	11.76%	Moderately dissatisfied	2.5%	Moderately dissatisfied
	11.76%	Slightly dissatisfied	12.5%	Slightly dissatisfied
	31.37%	Neither satisfied nor dissatisfied	17.5%	Neither satisfied nor dissatisfied
	13.73%	Slightly satisfied	5%	Slightly satisfied
	15.69%	Moderately satisfied	45%	Moderately satisfied
	7.84%	Extremely satisfied	12.5%	Extremely satisfied
Q38: How frequently are you receiving ongoing support for implementing the pilot curriculum?	7.02%	None	4.88%	None
	45.61%	Just during in-service training(s)	17.07%	Just during in-service training(s)
	19.30%	Monthly	41.46%	Monthly
	5.26%	Bi-weekly	21.95%	Bi-weekly
	19.30%	Weekly	14.63%	Weekly
	3.51%	A couple times a week	0%	A couple times a week

Overall, across the two pilot curricula, teachers perceive existing in-service trainings to be insufficient in content and duration. Teachers from both CKLA and EL Education reported that the inservices felt promotional. One CKLA teacher reported, "*We did not plan any lessons together. It was more of a sales pitch and a waste of my precious planning time!*" Similarly, an EL Education teacher stated, "*I*

believe the first training we went to the EL people were trying to sell us on EL not giving me the training on the curriculum I needed. The second inservice was much more helpful with examples of what a lesson would look like and how it would flow."

Teachers from both curricula report wanting training that was specific to their grade. One EL Education teacher commented, *"I would like to see lessons in action as well as specific to my grade level, kindergarten."* This parallels a comment by a CKLA teacher who wrote, *"I would like to go to a professional development that is grade level specific. It would help each grade level to understand the activities and how to teach the lessons based on the age group and levels."* Teachers from both curricula also report wanting to have more hands-on experience with the materials during their in-service trainings. Several teachers from both pilot curricula share similar sentiments. Table 22 summarizes the trends that emerged.

Table 22

Qualitative Trend Analysis on Pilot Teachers' Perceptions of On-going Supports

	CKLA Teachers (surveys n=61; interviews n=15)	EL Education Teachers (surveys n=42; interviews n=17)
On-going	Insufficient in content and duration	Insufficient in content and duration
	Training feels like sales pitch	Training feels promotional and should be more instructional
Grade-specific	No grade-level differentiation; should delve into grade-specific content	No grade-level differentiation; should delve into grade-specific content
Hands-on	No hands-on experience; should include opportunities to see lessons in action	No hands-on experience; should include opportunities to see lessons in action
Materials	No materials; should include opportunities to interact with materials during training	No materials; should include opportunities to interact with materials during training

Administrators' perceptions on the in-service and trainings for the pilot curricula are mixed. Approximately 60% of CKLA administrators perceive their teachers to be satisfied with summer in-service training, as compared to only 40% of the EL Education administrators. In addition, at least half of the administrators for both curricula report that they perceive their teachers as being dissatisfied with district-led trainings. However, at least 70% of the administrators for both curricula

perceive their teachers to be satisfied with both school-led trainings and grade-specific trainings. Furthermore, over 70% of administrators for both curricula report that they perceive their teachers to be satisfied with mentoring or coaching on the pilot curricula. See Table 23.

Table 23

Descriptive Statistics on Pilot Administrators' Perceptions of Teachers' Satisfaction with On-going Supports

	CKLA Administrators (n=10)		EL Education Administrators (n=15)	
Q14 - Describe your teachers' satisfaction with the in-service training they received on how to implement the pilot curriculum.	10%	Extremely dissatisfied	0%	Extremely dissatisfied
	10%	Moderately dissatisfied	13.33%	Moderately dissatisfied
	10%	Slightly dissatisfied	33.33%	Slightly dissatisfied
	10%	Neither satisfied nor dissatisfied	13.33%	Neither satisfied nor dissatisfied
	40%	Slightly satisfied	13.33%	Slightly satisfied
	20%	Moderately satisfied	26.67%	Moderately satisfied
	0%	Extremely satisfied	0%	Extremely satisfied
Q30 - How satisfied are your teachers with district-level training on the pilot curriculum?	10%	Extremely dissatisfied	0%	Extremely dissatisfied
	10%	Moderately dissatisfied	14.29%	Moderately dissatisfied
	30%	Slightly dissatisfied	42.86%	Slightly dissatisfied
	10%	Neither satisfied nor dissatisfied	14.29%	Neither satisfied nor dissatisfied
	20%	Slightly satisfied	14.29%	Slightly satisfied
	20%	Moderately satisfied	14.29%	Moderately satisfied
	0%	Extremely satisfied	0%	Extremely satisfied
Q31 - How satisfied are your teachers with school-led training on the pilot curriculum?	10%	Extremely dissatisfied	0%	Extremely dissatisfied
	0%	Moderately dissatisfied	0%	Moderately dissatisfied
	20%	Slightly dissatisfied	0%	Slightly dissatisfied
	0%	Neither satisfied nor dissatisfied	21.43%	Neither satisfied nor dissatisfied
	30%	Slightly satisfied	28.57%	Slightly satisfied
	40%	Moderately satisfied	42.86%	Moderately satisfied
	0%	Extremely satisfied	7.14%	Extremely satisfied
Q32 - How satisfied are your teachers with grade-specific training on the pilot curriculum?	10%	Extremely dissatisfied	0%	Extremely dissatisfied
	10%	Moderately dissatisfied	0%	Moderately dissatisfied
	10%	Slightly dissatisfied	0%	Slightly dissatisfied
	0%	Neither satisfied nor dissatisfied	14.29%	Neither satisfied nor dissatisfied
	20%	Slightly satisfied	35.71%	Slightly satisfied
	50%	Moderately satisfied	35.71%	Moderately satisfied
	0%	Extremely satisfied	7.14%	Extremely satisfied
	0%	Not applicable	7.14%	Not applicable

Q33 - How satisfied are your teachers with coaching/mentoring on the pilot curriculum?	0%	Extremely dissatisfied	0%	Extremely dissatisfied
	0%	Moderately dissatisfied	7.14%	Moderately dissatisfied
	10%	Slightly dissatisfied	7.14%	Slightly dissatisfied
	10%	Neither satisfied nor dissatisfied	14.29%	Neither satisfied nor dissatisfied
	30%	Slightly satisfied	28.57%	Slightly satisfied
	40%	Moderately satisfied	28.57%	Moderately satisfied
	10%	Extremely satisfied	7.14%	Extremely satisfied
	0%	Not applicable	7.14%	Not applicable

Administrators from both pilot curricula report that over a majority of their teachers received district training on the pilot curriculum, but only primarily during the summer in-service. A majority of the administrators for both curricula reported that at least half of their teachers receive grade-specific trainings. However, when surveyed about the frequency of grade-specific trainings, 92.86% of EL Education administrators report that their teachers never receive grade specific trainings and only 40% of CKLA administrators report that their teachers receive grade-specific trainings at least monthly. All CKLA administrators report that their pilot teachers receive mentoring or coaching at least once a month, compared to only 85.71% of EL Education administrators. See Table 24.

Table 24

Descriptive Statistics on Pilot Administrators' Perceptions of On-going Trainings and Supports

	CKLA Administrators (n=10)		EL Education Administrators (n=15)	
Q19 - What percentage of your pilot teachers receives district-level training on the pilot curriculum?	20%	(0-24%)	13.33%	(0-24%)
	0%	(25-49%)	20%	(25-49%)
	10%	(50-74%)	13.33%	(50-74%)
	70%	(75-100%)	53.33%	(75-100%)
Q20 - How often do your pilot teachers receive district-level training on the pilot curriculum?	0%	Never	0%	Never
	100%	Just during in-service trainings	73.33%	Just during in-service trainings
	0%	Monthly	26.67%	Monthly
	0%	Bi-weekly	0%	Bi-weekly

Q22 - What percentage of your pilot teachers receives school-led training on the pilot curriculum?

20%	(0-24%)		35.71%	(0-24%)
0%	(25-49%)		0%	(25-49%)
0%	(50-74%)		14.29%	(50-74%)
80%	(75-100%)		50%	(75-100%)

Q23 - How often do your pilot teachers receive school-led training on the pilot curriculum?

10%	Never		13.33%	Never
40%	Just during in-service trainings		20%	Just during in-service trainings
50%	Monthly		53.33%	Monthly
0%	Bi-weekly		13.33	Bi-weekly

Q25 - What percentage of your pilot teachers receives grade-specific training on the pilot curriculum?

50%	(0-24%)		35.71%	(0-24%)
0%	(25-49%)		0%	(25-49%)
20%	(50-74%)		28.57%	(50-74%)
30%	(75-100%)		35.71%	(75-100%)

Q26 - How often do your pilot teachers receive grade-specific training on the pilot curriculum?

30%	Never		92.86%	Never
30%	Just during in-service trainings		7.14%	Just during in-service trainings
30%	Monthly		0%	Monthly
10%	Bi-weekly		0%	Bi-weekly
0%	Weekly		0%	Weekly
0%	A couple times a week		0%	A couple times a week

Q28 - What percentage of your pilot teachers receives coaching/ mentoring on the pilot curriculum?

0%	(0-24%)		28.57%	(0-24%)
10%	(25-49%)		21.43%	(25-49%)
20%	(50-74%)		7.14%	(50-74%)
70%	(75-100%)		42.86%	(75-100%)

Q29 - How often do your pilot teachers receive coaching/mentoring on the pilot curriculum?

0%	Never		14.29%	Never
40%	Monthly		50%	Monthly
40%	Bi-weekly		7.14%	Bi-weekly
20%	Weekly		21.43%	Weekly
0%	A couple times a week		7.14%	A couple times a week
0%	Daily		0%	Daily

Qualitative data gleaned from administrator interviews and open-ended survey questions indicate that administrators from both piloted curricula perceive that their teachers would like more training. One CKLA administrator commented, *"All our teachers expressed there was not enough training before*

beginning implementation of the program." Another administrator from EL Education commented, *"They would have utilized more in-service if it had been available."*

Administrators for both curricula also report that teachers would have preferred the in-service training to occur at the beginning of the summer. One CKLA administrator shared, *"Some feel like they weren't given enough information from the beginning. However, the curriculum is SO overwhelming, I'm not sure if giving them everything they need from the beginning is realistic or wise. I also don't have a suggestion for how they should have done it differently."* Similarly, an EL Education administrator commented, *"They would have preferred that the trainings occurred earlier in the summer so that they had more time before the beginning of the year to digest the new curriculum. They do appreciate the virtual PLCs, but I believe that they would be more valuable if they were differentiated on needs rather than clumping schools together."* Table 25 summarizes common responses from administrators.

Table 25

Qualitative Trend Analysis on Pilot Administrators' Perceptions of On-going Trainings and Supports

	CKLA Administrators (surveys n=10, interviews n=4)	EL Education Administrators (surveys n=15, interviews n=3)
On-going	Believe that trainings are helpful but there should be more	Believe that trainings are helpful but there should be more
	Believe that In-service should occur sooner in the summer	Believe that In-service should occur sooner in the summer
Hands-on		Believe that trainings should be more hands-on
Other		Believe that trainings should parse out information; initial trainings provided too much information all at once

Research Question 2

To what extent do teachers' current literacy practices align with the new curricular frameworks? Are teachers more likely to implement the new curriculum, if their existing literacy practices align with the new curriculum?

Finding 2a: Teachers' current literacy practices align with pilot curricula to varying extents.

The vast majority of teachers, or 66%, have no experience with either pilot curriculum. A little over 20% of teachers have some experience with either or both of the curricula. See Table 26.

Table 26

Descriptive Statistics of Elementary Teachers' Literacy Practices

Surveyed Elementary Teachers in Hamilton County Schools (n= 281)					
Q7: Describe your experience with CKLA.	66.18%	No experience	Q4: I believe the type of literacy curriculum that promotes student reading success is _.	0.73%	Unstructured
	20.96%	Some experience		16.42%	Somewhat structured
	12.13%	Enough experience to feel confident		69.71%	Structured
	0.74%	Enough experience to train others		13.14%	Very structured
Q8: Describe your experience with EL Education.	66.30%	No experience	Q5: I believe that _ are effective at developing students' literacy skills. *Check all that apply.*	24.90%	Direct instruction
	21.61%	Some experience		22.82%	Project-based
	9.89%	Enough experience to feel confident		28.16%	Interdisciplinary
	2.20%	Enough experience to train others		24.12%	Inquiry-based

In alignment with both the CKLA and EL Education curricular frameworks, most teachers expressed that the following literacy practices are effective at developing students' literacy skills: direct instruction (67.97%) and interactive read-alouds (76.87%). The vast majority of teachers, 76.87%, expressed a belief in interdisciplinary learning opportunities, which are integral to both curricula.

Teachers' report of their current instructional practices indicate that there is some alignment with both the CKLA and EL Education curricula. In alignment with CKLA, 64.77% of surveyed elementary teachers shared that they are able to implement lessons that deepen students' knowledge base. In alignment with EL Education, 56.94% of surveyed elementary teachers shared that they are able to implement lessons that help students develop inquiry skills and 46.98% shared that they implement lessons that help students develop research skills. Less in alignment with EL Education, only 38.43% of teachers shared that they implement lessons that help students develop habits of scholarship that motivate them to persist with their work until it is of high quality and only 20.28% indicated that they create learning expeditions that have an audience beyond the classroom. See Table 27.

Table 27

Alignment between Elementary Teachers' Literacy Practices and Pilot Curricula Practices

	Surveyed Elementary Teachers in Hamilton County Schools (n= 281)				
	CKLA & EL Education Practices		**CKLA Practices**		**EL Education Practices**
Q5: __ is effective at developing students' literacy skills. Check all that apply.	76.87% (216/281)	Interdisciplinary learning opportunities			65.84% (185/281) Inquiry-based learning opportunities
	67.97% (191/281)	Teacher-centered direct instruction methods			62.28% (175/281) Projects-based learning opportunities
Q15: Describe your general approach to phonics instruction.			36.65% (81/221)	Synthetic phonics (i.e. smallest sound unit)	63.35% (140/221) Analytic phonics (i.e. larger sound units)
Q28: Describe your general approach to vocabulary instruction. Check all that apply.	59.07% (166/281)	Explicit vocabulary learning			
	53.38% (150/281)	Implicit vocabulary learning			
Q32: Describe the reading comprehension practices in your classroom. Check all that apply.	68.68% (193/281)	Interactive Read-Aloud	64.77% (182/281)	Lessons that deepen students' knowledge base	56.94% (160/281) Lessons that help students develop inquiry skills
					46.98% (132/281) Lessons that help students develop research skills
					38.43% (108/281) Lessons that help develop habits of scholarship that motivate them to persist with their work to high quality
					20.28% (57/281) Learning expeditions that have an audience beyond the classroom

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In terms of phonics and vocabulary instruction, degrees of alignment vary. Approximately, 63.35% of teachers teach phonics through the analytic approach, which aligns with EL Education, in comparison to 36.65% of teachers who teach through the synthetic approach utilized by CKLA. Teachers' vocabulary instruction is both explicit and implicit, which is characteristic of both CKLA and EL Education. When asked to check all that apply, 59.07% identified explicit vocabulary learning and 53.38% identified implicit vocabulary learning as vocabulary practices in their classroom.

Importantly, teachers' literacy beliefs and practices diverge at times. In alignment with CKLA, 93.39% of teachers expressed a belief in the interconnectivity of vocabulary, comprehension, and knowledge development in reading instruction. However, in practice, only 35.15% of teachers expressed that there exists vertical alignment at their schools "to an adequate extent" or "to a great extent" in a way that deepens students' knowledge base. In alignment with EL Education, 65.84% of teachers expressed the belief that students can acquire literacy skills through learning expeditions with an authentic audience. However, in practice, only 30.35% of teachers expressed they are able to do so to an adequate or great extent. See Table 28.

Table 28

Descriptive Statistics on Elementary Teachers' Literacy Beliefs and Practices

Surveyed Elementary Teachers in Hamilton County Schools (n= 281)				
Q29: The interconnectivity of vocabulary, comprehension, and knowledge development cannot be overlooked during reading instruction	0.94% Strongly disagree 1.42% Disagree 0% Somewhat disagree 0.94% Neither agree nor disagree 3.30% Somewhat agree 42.45% Agree 50.94% Strongly agree	Q33: At your school, is there vertical alignment across grade levels that deepens students' knowledge base?	8.91% Not at all 16.34% Very little 39.60% Somewhat 26.73% Yes, to an adequate extent 8.42% Yes, to a great extent	
Q38: I believe that students acquire literacy skills through learning expeditions that have an authentic audience beyond the classroom.	0% Strongly disagree 0.50% Disagree 1.98% Somewhat disagree 17.82% Neither agree nor disagree 13.86% Somewhat agree 45.05% Agree 20.79% Strongly agree	Q39: I guide my students to acquire literacy skills through learning expeditions that have an authentic audience beyond the classroom.	10.45% Not at all 22.89% Very little 36.32% Somewhat 21.89% Yes, to an adequate extent 8.46% Yes, to a great extent	

Overall, elementary teachers expressed confidence in their literacy skills, including monitoring students' literacy development, utilizing ongoing assessments, and differentiating literacy instruction based on students' learning needs. See Table 29.

Table 29

Descriptive Statistics of Elementary Teachers' Literacy Skills

Surveyed Elementary Teachers in Hamilton County Schools (n= 281)					
Q3: How confident do you feel in your ability to teach literacy skills to students?	0.37% 0.73% 8.42% 50.18% 40.29%	No confidence Low confidence Some confidence Confidence High confidence	Q44: How well do teachers at your school differentiate literacy instruction based on students' learning needs?	1.98% 2.97% 35.15% 36.63% 23.27%	Very poorly Poorly Adequately Well Very well
Q42: How do teachers at your school support students at their level of instruction?	33.16% 33.16% 33.68%	Assessments Differentiated instruction Progress monitoring	Q45: How well do teachers at your school monitor students' literacy development?	0.49% 2.46% 31.03% 42.86% 23.15%	Very poorly Poorly Adequately Well Very well
Q43: How well do teachers at your school utilize ongoing assessments to track students' literacy performance?	0.99% 4.46% 28.71% 45.54% 20.30%	Very poorly Poorly Adequately Well Very well			

Finding 2B: Teachers' and administrators' perceptions on the piloted curricula are variable. Teachers may be more likely to implement new curriculum if they perceive it to be developmentally appropriate and standards aligned, with strategies for engagement and differentiation.

Based on data from teacher surveys, 67.21% of CKLA teachers and 80.95% of EL Education teachers agree that their pilot curriculum should be expanded district-wide. However only 57.38% of CKLA teachers preferred the pilot curriculum over their prior literacy instruction, compared to 71.43% of EL Education teachers. See Table 30.

Table 30

Descriptive Statistics on Teachers' Perceptions of Pilot Curricula

	CKLA Teachers (n=61)		EL Education Teachers (n=42)	
Q17: The pilot curriculum should be expanded districtwide.	11.48%	Strongly disagree	4.76%	Strongly disagree
	11.48%	Disagree	0%	Disagree
	4.92%	Somewhat disagree	2.38%	Somewhat disagree
	4.92%	Neither agree nor disagree	11.90%	Neither agree nor disagree
	13.11%	Somewhat agree	7.14%	Somewhat agree
	27.87%	Agree	38.10%	Agree
	26.23%	Strongly agree	35.71%	Strongly agree
Q18: I prefer the pilot curriculum over my prior literacy instruction.	19.67%	Strongly disagree	7.14%	Strongly disagree
	11.48%	Disagree	2.38%	Disagree
	8.20%	Somewhat disagree	9.52%	Somewhat disagree
	3.28%	Neither agree nor disagree	9.52%	Neither agree nor disagree
	16.39%	Somewhat agree	11.90%	Somewhat agree
	8.20%	Agree	19.05%	Agree
	32.79%	Strongly agree	40.48%	Strongly agree

Data from the teachers surveys and interviews suggest that, overall, the pilot curricula are well received by teachers. One CKLA teacher commented, *"I know that every student learns differently, but I think the phonetic approach alone with sight words is developmentally correct for my students. I had my doubts when I was first implementing the program. I thought that what I had used the past*

four years was best. However, after spending several months teaching and evaluating the program based on students' work I am very pleased with the progress of my students and the approach of building on skills daily with repetition. My students are also very interested in the Knowledge lessons in CKLA. I like incorporating worthy tasks and information that I feel are beneficial for my students to learn and be exposed to." This sentiment is echoed by an EL Education teacher who stated, *"I prefer EL Education over the prior literacy curriculum because it heavily focuses on Tier I instruction. It also allows for more differentiation during ALL Block. It's standard based with CLTs provided. EL also provides questions to be asked during the lesson and scaffolds in case they are needed. Most importantly, it is research based with data to reflect effectiveness."*

However, not all teachers regard the curricula positively. One CKLA teacher commented, *"With my experience so far, CKLA is inappropriate for students. It does not match our standards, it does not correlate with Science or Social Studies. The knowledge they are imparting is not grade level appropriate. Adults have a max attention span of 20 minutes, but these 8-9 year olds are being asked to sit for 2 hours with almost entirely whole group instruction. I don't know my students as readers, I don't know their strengths and deficits. There is not enough time to fit everything in so everything is rushed and is sloppy. No knowledge is being gained and the questioning is terrible."* This sentiment is echoed by some EL Education teachers, one of whom stated, *"It is a very intensive program. It takes A LOT of Prep work and time that MOST teachers do not have. Unless there will be extensive planning sessions with pay and options to truly learn from each other in a NON EVALUATIVE way for a year? I do not think this program will work. It also doesn't directly align with the TN state standards."* Table 31 summarizes the main trends that emerged from our qualitative analysis.

Table 31

Qualitative Trend Analysis on Teachers' Perceptions of Pilot Curricula

CKLA Teachers (surveys n=61; interviews n=15)	EL Education Teachers (surveys n=42; interviews n=17)
Structured	Structured
Rigorous content and texts	Rigorous and high quality texts
Too teacher-directed/no independent/small group work	Group and hands-on work
Not aligned with state standards	Not aligned with state standards
Long lessons/pacing issues	Long lessons/pacing issues/requires a lot of planning

Data from the administrator surveys suggest that CKLA administrators are less confident about CKLA as a pilot curriculum, with only 40% reporting that they prefer it over previous literacy instruction, compared to 80% of EL Education administrators who report preference for the EL curriculum. See Table 32.

Table 32

Descriptive Statistics on Administrators' Perceptions of Pilot Curricula

	CKLA Administrators (n=10)		EL Education Administrators (n=15)	
Q2: Do you prefer the pilot curriculum over previous literacy instruction at your school?	40%	Yes	80%	Yes
	10%	No	13.33%	No
	50%	Maybe	6.67%	Maybe

Several CKLA administrators commented that it was too soon to pass a judgement about the curriculum. One stated, *"We are seeing some positive changes but I don't believe we have had enough time with the curriculum to see if it is truly better for kids than our last."*

This was different from the responses of the EL Education administrators who appeared to favor the curriculum, with one administrator commenting, *"Our students are engaged in more quality, relevant, and rigorous learning. Benchmark scores have higher increase than grades using other curriculum."*

Research Question 3

To what extent do the new literacy curricula impact student achievement? More specifically, what impact will the Expeditionary Learning Education (EL Education) and Core Knowledge Language Arts (CKLA) curricula have on students' literacy performance on district benchmarks?

Finding 3A: Teachers and administrators express overall positive perceptions of curricular impact on student achievement.

Data from the teacher surveys suggest that teachers from both pilots report an overall positive impact on student achievement. At least 62.29% of CKLA teachers and 78.57% of EL Education teachers agree that their respective pilot curriculum impacts students' love for reading. In addition, 60.65% of CKLA teachers and 80.95% of EL Education teachers agree that their pilot curriculum has an impact on student's literacy achievement. Furthermore, 51.67% of CKLA teachers and 71.43% of EL Education teachers believe that the pilot curriculum is more effective at increasing students' literacy achievement than prior literacy instruction. For students reading below grade level, 60.65% of CKLA teachers and 83.33% of EL Education teachers report that the pilot curriculum has a positive impact. For students reading at grade level, 83.61% of CKLA teachers and 97.62% of EL Education teachers report a positive impact as well. Lastly, 81.36% of CKLA teachers and 85.72% of EL Education teachers report the pilot curriculum to have a positive impact on students who read above grade level. See Table 33 for more details.

Table 33

Descriptive Statistics on Teachers' Perceptions of Curricular Impact

	CKLA Teachers (n=61)		EL Education Teachers (n=42)	
Q20: In my opinion, the pilot curriculum has a positive impact on students' love for reading.	11.48% 6.56% 8.20% 11.48% 22.95% 21.31% 18.03%	Strongly disagree Disagree Somewhat disagree Neither agree nor disagree Somewhat agree Agree Strongly agree	2.38% 2.38% 4.76% 11.90% 16.67% 33.33% 28.57%	Strongly disagree Disagree Somewhat disagree Neither agree nor disagree Somewhat agree Agree Strongly agree
Q21: In my opinion,the pilot curriculum has a positive impact on students' literacy achievement.	4.92% 9.84% 9.84% 14.75% 19.67% 24.59% 16.39%	Strongly disagree Disagree Somewhat disagree Neither agree nor disagree Somewhat agree Agree Strongly agree	0% 2.38% 4.76% 11.90% 11.90% 42.86% 26.19%	Strongly disagree Disagree Somewhat disagree Neither agree nor disagree Somewhat agree Agree Strongly agree
Q22: Based on my expertise, I believe that the pilot curriculum is ____ at increasing students' literacy achievement, as compared to prior literacy instruction.	15% 20% 13.33% 21.67% 30%	Much less effective Slightly less effective Just as effective Slightly more effective Much more effective	2.38% 7.14% 19.05% 33.33% 38.10%	Much less effective Slightly less effective Just as effective Slightly more effective Much more effective
Q25 - In my classroom, the pilot curriculum has (a) ___ impact on students who are reading below grade level.	13.11% 13.11% 6.56% 6.56% 37.70% 22.95%	Very negative impact Negative impact Slightly negative impact No impact Slightly positive impact Very positive impact	2.38% 4.76% 7.14% 2.38% 47.62% 35.71%	Very negative impact Negative impact Slightly negative impact No impact Slightly positive impact Very positive impact
Q26 - In my classroom, the pilot curriculum has (a) ___ impact on students who are reading at grade level.	0% 1.64% 6.56% 8.20% 49.18% 34.43%	Very negative impact Negative impact Slightly negative impact No impact Slightly positive impact Very positive impact	0% 0% 0% 2.38% 45.24% 52.38%	Very negative impact Negative impact Slightly negative impact No impact Slightly positive impact Very positive impact
Q27 - In my classroom, the pilot curriculum has (a) ___ impact on students who are reading above grade level.	0% 1.69% 0% 16.95% 37.29% 44.07%	Very negative impact Negative impact Slightly negative impact No impact Slightly positive impact Very positive impact	0% 4.76% 2.38% 7.14% 38.10% 47.62%	Very negative impact Negative impact Slightly negative impact No impact Slightly positive impact Very positive impact

Q28 - Which subgroup benefits the most from a comprehensive literacy program?	25%	Economically	29.27%	Economically
	0%	Disadvantaged	9.76%	Disadvantaged
	5%	English Language Learner	4.88%	English Language Learner
	70%	Exceptional Education	56.10%	Exceptional Education
		General Education		General Education

Overall, administrators' perceptions on the impact of the pilot curricula on students are positive, with 80% of CKLA administrators and 73.33% of EL Education administrators agreeing that the pilot curricula have positive impacts on students' literacy achievement in their schools. See Table 34.

Table 34

Descriptive Statistics on Administrators' Perceptions of Curricular Impact

	CKLA Administrators (n=10)		EL Education Administrators (n=15)	
Q1: The pilot curriculum has a positive impact on students' literacy achievement at your school.	0%	Strongly disagree	13.33%	Strongly disagree
	0%	Disagree	0%	Disagree
	0%	Somewhat disagree	0%	Somewhat disagree
	20%	Neither agree nor disagree	13.33%	Neither agree nor disagree
	20%	Somewhat agree	13.33%	Somewhat agree
	40%	Agree	20%	Agree
	20%	Strongly agree	40%	Strongly agree

Finding 3b: Teacher perceptions indicate that EL Education may have a more positive impact on student achievement than CKLA.

At least 76.47% of EL Education teachers agreed or strongly agreed that EL Education positively impacts student achievement. In contrast, only 39.54% of CKLA teachers agreed or strongly agreed that CKLA positively impacts student achievement.

Both CKLA and EL Education teachers identified strengths for their respective curriculum. EL Education teachers highlighted the "ELL" section of their curriculum as pertinent for supporting all students' needs. Moreover, they shared that the curriculum helped increase student engagement. CKLA teachers expressed appreciation for the background knowledge and "Skills" section of their curriculum. They shared that students were able to build more background knowledge than in years

past and appreciated the ways in which phonics were taught.

Despite the strengths across both pilot curricula, teachers' perceptions indicate that EL Education may have a more positive impact on student achievement than CKLA. EL Education teachers shared their impression that their curriculum was student-centered, whereas CKLA teachers lamented the teacher-centered nature of their curriculum. Moreover, EL Education teachers considered the curricular materials as an enriching aspect of student learning. In contrast, CKLA teachers expressed reservation toward their curricular materials. They shared that much modification and adjustment were needed, given the misalignment between the curriculum and state standards.

Lastly, instead of engaging in premature analysis of student performance data on district benchmarks for English Language Arts (ELA) or the TNReady English Language Arts (ELA) assessment, we developed a tool for Hamilton County Schools (HCS) to use for future analysis to better understand the impact of pilot curricula on ELA performance. For future data analysis of HCS student achievement outcomes for ELA, we initiated the process of propensity score matching, by matching pilot schools with non-pilot schools across several variables (i.e. race, prior ELA performance, and economically disadvantaged) that impact student outcomes. See Table 5 and Table 6 on pages 12 and 13. For pilot schools that did not match with any non-pilot school across the chosen variables, we created dummy schools with a recommended range for each variable to be created using aggregated student data. When pilot and non-pilot comparison groups are matched, the effects of each pilot curriculum can be estimated through the process of stratification. This will allow HCS to examine whether there are statistically significant differences in student outcomes on district literacy benchmarks among pilot and match schools. Essentially, as HCS receives more performance data over time and as fidelity of implementation increases with teachers' growing familiarity with the curricula, HCS can then utilize the matched schools to track the potential impact of the pilot curricula on students' performance in ELA.

5 DISCUSSION

The findings across our quantitative and qualitative analyses of pilot curricular implementation largely align with extant literature. We organize our observations by theme, under each of the research questions that comprise this study. We describe the limitations in the *Data and Methods* section.

Research Question 1

To what extent is the new literacy curricula being implemented within schools? More specifically, which school supports increase the degree of implementation?

Impact of Time and Resources

Curricular implementation was impeded by elements of time and resources, such as limited time for English Language Arts in the daily schedule and/or lack of access to basic and supplementary materials described by the pilot curricula. As a result, the fidelity of implementation for both of the piloted curricula was greatly impacted. Research by Gersten et al. (2005) identified three factors to measure when assessing the fidelity of implementation: (1) implementation of crucial program components; (2) adequate time for implementation; (3) completion of crucial program components. Based on the data we collected from surveys and interviews with teachers and administrators, we suggest that both piloted curricula, at this point in time, fail to meet these three factors for fidelity of implementation. We found that due to time constraints in the daily schedule, pacing issues, and lack of instructional materials led to crucial components from both curricula not being implemented as teachers adapted to time and resource constraints by implementing certain curricular components over others.

Additionally, as we have begun to understand the different limitations in the curricular implementation of the two pilot curricula we recognize that due to the constraints that have impacted fidelity of implementation, it will be hard to understand the impact of the pilot curricula on student performance. This echoes the research of Duerden and Witt (2012) and Guo et al. (2016), which highlighted the importance of understanding implementation fidelity when assessing student outcomes, because it becomes increasingly difficult to understand what impact a program will have on students when the program is not implemented they way it was designed or intended.

Importance of Training and School Supports

Curricular implementation can be facilitated by ongoing trainings and school supports, including access to cohesive networks of literacy coaches and reading specialists, school leaders and teacher mentors. EL Education teachers reported ongoing trainings that occurred with greater frequency and garnered greater satisfaction than those described by CKLA teachers. Importantly, EL Education teachers also reported greater satisfaction with curricular implementation. This trend contributes to extant literature widely indicating that the implementation of taught skills is facilitated by the ongoing nature of professional development. As Saunders (2014) asserts, teacher learning correlates with "the extended duration of the [PD] program which provided time to build skills and knowledge" (p. 175). Moreover, according to Trotter (2006), Darling-Hammond and McLaughlin (1995), Ingvarson et al. (2005), Joyce and Showers (1995) and Lieberman and Pointer Mace (2008), teacher learning is able to thrive when professional development is extended in duration, in part due to the embedded opportunities for frequent reflection and feedback. In order to support the fidelity of curricular implementation across pilot sites, it is important that trainings are ongoing.

In the identification of school supports that eased curricular implementation, EL Education and CKLA teachers shared notable consensus. Across sites, pilot teachers tended to consider their grade-level team as most helpful in the implementation process. This aligns with existing research on teacher learning environments. As captured by Wells and Feun (2013), professional learning communities that are developed and maintained are able to foster cultures of learning among teachers that then, translates into cultures of learning among students. For EL Education, teachers not only identified grade-level colleagues as invaluable resources throughout the process of curricular implementation but, moreover, reported higher levels of student engagement and greater confidence in the curriculum's capacity for elevating student achievement. In contrast, while CKLA teachers similarly identified grade-level colleagues as pivotal for curricular implementation, they expressed lower confidence in the curriculum's capacity to bolster student engagement and achievement. In short, while professional learning communities contributed to the implementation of both pilot curricula, they brought to bare contrasting views: EL Education teachers largely favored their curriculum, while CKLA teachers underscored the shortcomings that emerged from their curriculum. The professional judgment of both groups of pilot teachers should be heeded. As Spillane and Louis (2002) assert, strong relationships among teachers- evident among both EL Education and CKLA teachers- critically contribute to school improvement, classroom practice, and student achievement. Given this, teacher

feedback on pilot curricula should inform the direction and scope of wider school improvement efforts.

Similar to teachers, EL Education and CKLA administrators shared consensus in the identification of school supports. They identified literacy coaches as most helpful in the implementation process. Importantly, their perception was not widely shared among teachers of either pilot curriculum. Teacher survey and interview data from both pilots indicated that literacy coaches were not seen as knowledgeable or helpful for the implementation process. This finding contradicts current literature on teacher perceptions of literacy coaches as knowledgeable (Marsh et al., 2005) or helpful during demonstration lessons and interpreting assessment data (Alverman, 2005).

This provides some direction in areas of school improvement across pilot sites. McLaughlin and Talbert (2006) identify three stages of developing effective teacher learning environments: (a) the beginning stage is where the school's main objective is to set up the structure and support teacher buy-in; (b) the intermediate stage has a structured process for the teacher learning environment but is divided by those who are invested and those who are not; (c) the advanced stage is when the school has developed a culture that supports student learning and the teachers have a common learning language that is focused on curriculum and student achievement. In the first year of curricular implementation, teacher learning environments may find themselves in the beginning and/or intermediate stages. As they develop, the role of literacy coaches may prove more pivotal. As it stands, at least from teachers' perspectives, literacy coaches have played limited roles in the first year of curricular implementation. However, McLaughlin and Talbert (2006) emphasize that, in order to prevent stagnancy in the teacher learning environment, schools must progress beyond the intermediate stage toward the advanced stage.   As such, literacy coaches might consider taking on responsibilities that contribute toward the expansion of teacher buy-in and common learning language that helps focus teacher collaboration on curricular implementation and student achievement.

Administrator and Teacher Buy-In

Administrators' and teachers' positive perceptions on curricular effectiveness are shaped by the capacity of the pilot curriculum to foster student engagement and facilitate instructional differentiation, rather than by the capacity of the pilot curriculum to reduce time in lesson planning and preparation. Based on the data we analyzed from the surveys and interviews with pilot teachers and administrators from both curricula, we found that a majority of the teachers and administrators were

supportive of their pilot curriculum and had bought into either CKLA or EL Education as an effective literacy program for their students. This aligns with research by Gearing et al. (2010) which found that individuals' level of buy-in into a program may predict how effective they are at implementation. Similar findings by Schechter et al. (2017) also found that the engagement level of teachers implementing a blended reading program positively impacted the amount of work that students could accomplish.

We also found that during almost all of our interviews with classroom teachers for either curriculum, that the teachers appeared to be excited and indicated a willingness to implement the new curricula. In addition to our interview findings when we surveyed the pilot teachers about expanding the literacy curriculum district wide over 80% of EL Education teachers and 67% of CKLA teachers reported in agreement to expand their pilot curriculum district wide. Unfortunately, while the level of support and buy-in for the pilot curricula was evident we found that pilot teachers for both curricula often commented that time, pacing and lack of resources and professional development had an impact on what and how much they could do. This echoes Gersten et al. (2005) research in that while teacher buy-in is important and can increase implementation of a program, it is crucial that teachers are also provided with adequate time and resources in order to successfully implement all the core elements of a program to fidelity.

Additionally, administrators' and teachers' positive perceptions on curricular effectiveness appeared to have been shaped by the capacity of the pilot curriculum to foster student engagement and facilitate instructional differentiation, rather than by the capacity of the pilot curriculum to reduce time in lesson planning and preparation. As a result, teachers and administrators belief in the pilot curricula ability to increase student engagement and learning may have provided additional motivation which may have contributed to increased efforts to implement the pilot curricula with fidelity which extends on the Gearing et al. (2010) findings that buy-in is crucial for implementation. Furthermore, EL Education was reported to be highly time intensive, however it was well-received by teachers and administrators which echoes Schechter et al. (2017) research findings on teacher engagement levels impact on student performance.

However we must note that a limitation to our findings is that all participants voluntarily chose to participate in the pilot curricula. This has the potential to bias our findings on implementation because pilot teachers and administrators chose to undertake the additional workload needed for implementing a new curriculum. This could have impacted participants' level of engagement and

buy-in with the curricula, which has the potential to positively skew the fidelity of implementation.

> ## Research Question 2
>
> To what extent do teachers' current literacy practices align with the new curricular frameworks? Are teachers more likely to implement the new curriculum, if their existing literacy practices align with the new curriculum?

Teachers' Literacy Beliefs and Literacy Practices

Teachers appeared open-minded toward a curriculum that would allow them to bridge their literacy beliefs and literacy practices. There is some indication that EL Education teachers demonstrated more favor toward their curriculum than CKLA teachers toward theirs. At least 59.53% of EL Education respondents indicated that they preferred EL Education over their prior literacy instruction with 61.90% expressing that EL Education has a positive impact on students' love for reading and marked majority of 69.05% expressing that EL Education has a positive impact on students' literacy achievement. In contrast, 40.99% of CKLA respondents indicated that they preferred CKLA over their prior literacy instruction, with 39.34% expressing that CKLA has a positive impact on students' love for reading and 40.98% expressing that CKLA has a positive impact on students' literacy achievement.

The difference in curricular satisfaction between EL Education and CKLA teachers might be because the EL Education curriculum might have been better able to bridge teachers' literacy beliefs and literacy practices in a way that the CKLA curriculum has yet to do, at least in this first year of implementation. According to management and organization experts Jeffrey Pfeffer and Robert Sutton, the "knowing-doing gap" occurs within any organization, whenever there is a gap between knowing some knowledge that is germane to a problem and knowing how to turn that knowledge into action (Bryk et al., 2015, p. 32). Teachers provided some indication of the knowing-doing gap common to their practices. In alignment with CKLA, 93.39% of all surveyed elementary teachers expressed a belief in the interconnectivity of vocabulary, comprehension, and knowledge development in reading instruction. However, in practice, only 35.15% of teachers believe that there exists a vertical alignment at their schools that allows students to deepen their knowledge base

through the years. In alignment with EL Education, 65.84% of all surveyed elementary teachers expressed the belief that students can acquire literacy skills through learning expeditions with an authentic audience. However, in practice, only 30.35% of all surveyed elementary teachers expressed they are able to do so "to an adequate extent" or "to a great extent."

Given the acknowledgement that literacy beliefs and practices sometimes diverge, teachers may perceive an effective curriculum to be one that helps mediate the knowing-doing gap that emerges in the process of teaching, learning, and meeting students' needs. Importantly, teachers seem to also perceive an effective curriculum to be one that increases student engagement. In regards to the EL Education curriculum, teachers may have responded favorably to it because it contributed to learning in their practice and engagement among their students.

Teachers' Literacy Practices and Curricular Framework

Teachers may be more likely to implement the new curriculum, when their literacy practices and literacy beliefs align with those of the curricular framework. EL Education teachers implemented their curriculum with more enthusiasm than CKLA teachers. When asked whether they felt enthusiastic about the implementation of their new curriculum, 64.28% agreed or strongly agreed. Moreover, when asked whether EL Education should be expanded district-wide, 73.81% agreed or strongly agreed. In contrast, CKLA teachers expressed more reservation toward their curriculum. When asked whether they felt enthusiastic about the implementation of the CKLA curriculum, 49.18% agreed or strongly agreed. Moreover, when asked whether CKLA should be expanded district-wide, 54.10% agreed or strongly agreed.

This may have occurred because, perhaps, EL Education teachers' literacy practices and beliefs aligned more with their pilot curriculum than CKLA teachers' literacy practices and beliefs did with theirs. Surveys and interviews indicate that EL Education teachers demonstrated strong preference toward their curriculum, for its capacity to strengthen student engagement. In contrast, surveys and interviews indicate that CKLA teachers' literacy practices and beliefs did not always align with their curricular framework. More specifically, some CKLA teachers found the curriculum to be too teacher-centered. They expressed a desire for learning to be more student-centered, with more opportunities for small group instruction and differentiation than the curriculum seemed to have allowed. More specifically, teachers expressed discontent at the large amount of time spent in

whole-group instruction, specifically during Read-Aloud blocks. Some CKLA teachers felt they could not adjust their instruction to meet student needs because of their desire to contribute to district- and school-wide goals that sought fidelity of curricular implementation.

Teachers' Literacy Practices and Curricular Strengths

The vast majority of teachers, or 66%, have no experience with either pilot curriculum. Even so, their existing literacy practices were enhanced by the new curricular frameworks to varying extents. Teachers strengthened their literacy practices in phonics, vocabulary, and comprehension through the balanced literacy approach of the CKLA curriculum, improving their capacity to teach students to decode and build background knowledge. Teachers strengthened their literacy practices in phonics, vocabulary, and comprehension through the real-world expeditionary learning framework of the EL Education curriculum, improving their capacity to foster student engagement and differentiate small group instruction for all learners, including English language learners.

CKLA teachers strengthened their literacy practices in phonics, vocabulary, and comprehension through the balanced literacy approach of the CKLA framework. More specifically, teachers focused on building students' background knowledge and decoding ability, through the two 60-minute learning blocks of the curriculum: (a) the Listening and Learning (L&L) strand which fosters students background knowledge acquisition through lessons that incorporate read-alouds and listening comprehension activities and (b) Skills strand that provides lessons in phonics, spelling and writing instruction (McGinty & Bevilacqua, 2016). Importantly, CKLA teachers expressed reservations toward the Listening & Learning strand that was intended to build students' background knowledge. Some shared that some of the texts were, at times, neither developmentally appropriate nor historically accurate. Others shared that the Read-Alouds centered instruction on the teacher and whole-group instruction, requiring students to sit for too long and preventing teachers from differentiating instruction through small groups. Although the CKLA curriculum was intended to artfully expose students repeatedly across content domains and grade levels to rich information and knowledge, it seemed to have contributed to some boredom among students and anxiety among teachers in some contexts. Despite these reservations, CKLA teachers expressed enthusiasm toward the Skills strand of the CKLA curriculum, sharing that the phonics approach was easily accessible and understood by students.

EL teachers strengthened their literacy practices in phonics, vocabulary, and comprehension through the real-world expeditionary learning framework of the EL Education curriculum. More specifically, teachers focused on elevating student engagement and differentiating instruction through the two to three 60-minute learning blocks of the curriculum: (a) Modules; (b) K-2 Lab or 3-5 Additional Language and Literacy (ALL) Block; and (c) K-2 Reading Foundations Skills or 3-5 Life Science. Importantly, EL Education teachers expressed enthusiasm toward the Modules component of the curriculum. Many shared that their students had never before been more engaged in learning. They spoke to the hands-on learning and authentic audiences as invaluable opportunities. Many also expressed appreciation for the English language learners component of the curriculum, some sharing that these pedagogical practices helped all learners better access their learning. Despite the many positive experiences with the curriculum, EL Education teachers expressed reservations toward the time intensiveness of curricular planning, which was hampered by the inefficient organization of the curricular materials. Teachers shared that a single lesson would sometimes require looking across multiple teacher guides. Some teachers questioned whether other teaching teams new to the curriculum would be willing to devote so much time and energy to such material preparation.

Research Question 3

To what extent do the new literacy curricula impact student achievement? More specifically, what impact will the Expeditionary Learning Education (EL Education) and Core Knowledge Language Arts (CKLA) curricula have on students' literacy performance on district benchmarks?

Perceptions of Curricular Impact on Students

Despite the strengths across both pilot curricula, it appears that EL Education may have a more positive impact on student achievement than CKLA, according to teacher perceptions. Teachers' perceptions of a curriculum can greatly impact fidelity of implementation. Research by Gearing et al. (2010) found that individuals' level of buy-in into a program may predict how effective they are at implementation. Similar findings by Schechter et al. (2017) noted that the level of engagement by teachers implementing a blended reading program positively impacted the amount students could

accomplish. Therefore, if EL Education is being received more positively and as more impactful by pilot teachers than CKLA, EL Education may have the potential for greater fidelity of implementation.

Students' Literacy Performance During Initial Implementation

During the first year of implementation of a new curriculum, student achievement data has the potential to remain stagnant or even decrease. This is often referred to as an "implementation dip." Research by Fullan (2001) found that many successful schools often experience a dip in test scores during the first year of implementation of a new program and that this may be a result of teachers' needing to learn new skills and strategies to implement a new system, which takes time and can be stressful if not fully supported. Fullan also suggests that, in order to minimize the dip, school leaders need to be prepared to provide a variety of supports to their teachers (2001).

In addition to this, research by Hord and Huling-Austin (1986), found that during the implementation of a new program most school leaders engage primarily in provisional support such as ordering materials and organizing schedules followed by training support, usually in the form of workshop professional development, but were less likely to provide consultation and reinforcement support or evaluation and monitoring support to their teachers which promote higher levels of implementation. Based on our survey and interview data from pilot teachers and administrators, we found that most pilot administrators engaged primarily in what Hord and Huling-Austin identified as provisional support and training support. Therefore when expanding the adopted curriculum district-wide, it will be crucial to provide teachers with a wide variety of supports such as professional development, technical, materials, and curriculum in order to promote not only fidelity of implementation but also minimize the potential for implementation dip. Furthermore when analyzing the student literacy data with the tool we developed for research question 3, we urge that Fullan's "implementation dip" be taken into consideration so as not to deter potential immediate failure or stagnation with potential long-term growth in literacy.

6 RECOMMENDATIONS

Below we provide a set of recommendations for Hamilton County Schools, based on our process evaluation of curricular implementation across the various pilot sites and of current literacy practices at the elementary level. These recommendations are rooted in key findings that contribute to extant literature on curricular implementation, best practices in literacy instruction, and ongoing trainings and school supports that promote educational reform.

Recommendation 1: Offer In-Service Training in Early Summer

Our first recommendation to Hamilton County Schools is to provide in-service training and access to curricular materials for the adopted literacy curriculum at the beginning of the summer. According to the survey and interview data we collected from pilot teachers and administrators from CKLA and EL Education, we found that teachers unanimously wanted access to materials and trainings sooner, so that they could have time exploring the curriculum during the summer.

Providing teachers and administrators with the curriculum in-service training and materials at the beginning of the summer would allow teachers to have adequate time to explore the curriculum and become familiar with instructional materials and lesson structure. In addition to this, teachers and administrators would have time to develop and communicate questions to curriculum coaches prior to having to implement with students. As a result, the fidelity of curricular implementation has the potential to increase due to teachers and administrators having higher levels of familiarity and engagement with the curriculum and instructional materials prior to implementation with students which research by Schechter et al. (2017), has shown to increase student performance.

Furthermore, by moving the curriculum in-service training to the beginning of the summer, teachers will have earlier access to curricular materials, which can increase fidelity of implementation. Research by Gersten et al. (2005) found that when beginning a new program it is crucial that adequate time be allotted for implementation. Therefore, by allowing teachers and administrators to have additional time during the summer to interact with the adopted literacy curriculum could lead to higher fidelity of implementation, which can positively impact student performance.

Recommendation 2: Design On-going, Grade-specific Professional Development

In addition to introducing the adopted curriculum materials and in-service training sooner, HCS should ensure that teachers and administrators are provided with professional development and training that is active and on-going in nature and differentiated to meet teacher and administrator needs. Based on data we collected from surveys and interviews with teachers and administrators for the two piloted literacy curricula, we found that teachers and administrators wished that their professional development for either literacy curricula would have been more active and hands-on, especially in the beginning so that they could become better acquainted with the materials.

Darling-Hammond et al. identifies active learning as engaging "educators using authentic artifacts, interactive activities and other strategies to provide deeply embedded, highly contextualized professional learning" (2017, p. 7). Providing teachers and administrators with professional development that provides them with rich opportunities to engage in curricular materials could positively impact implementation. Much research has shown that active learning is a fundamental method used to ensure effective professional development experiences for educators (Carpenter & Linton, 2016; Darling-Hammond et al., 2017; Garet et al., 2001; Greenleaf et al., 2011; Trotter, 2006).

We also found that teachers and administrators from either curricula reported wanting more professional development opportunities throughout the year. Therefore we recommend that teachers and administrators professional development on the adopted literacy curriculum should occur more frequently and be on-going in nature. Much literature has shown that in order to change a teachers' practices, teachers need professional development that allows for multiple cycles of presentation and assimilation of, and reflection on, knowledge (Blumenfeld et al., 1991 and Kubitskey, 2006 as cited in Penuel et al., 2007, p. 929). In addition to this, Saunders found that teacher learning correlated with "the extended duration of the [PD] program which provided time to build skills and knowledge" (2014, p. 175). Therefore by providing teachers and administrators with professional development for the literacy curriculum that is ongoing nature can promote their development through reflection and inquiry.

Another common theme that we found in the data was that teachers desired their professional development for the piloted curricula to be grade-level specific. Therefore we recommend that

teachers should be provided professional development experiences for the adopted curriculum that are tailored to their grade-level instruction and needs. Research by Garet et al., found that professional development that is able to provide individualization "may be more responsive to how teachers learn, and may have more influence on changing teaching practice," and, further, "may be more responsive to teachers' needs and goals" (2001, p. 921).

Recommendation 3: Allocate Adequate Time for Literacy Blocks

The scheduled length of the English Language Arts block should match the time allotted for literacy instruction as designated by the adopted literacy curriculum. Our analysis on curricular implementation of the piloted curricula found that teachers from both pilots struggled to implement prescribed components of their literacy curriculum due to time constraints in their daily schedules. We found that several schools in HCS only have 90 minutes allotted for ELA instruction each day. CKLA and EL Education both require at least 120 minutes of ELA instruction daily. Furthermore we found that several teachers from both curricula struggled with pacing and as a result often eliminated components of lessons in order to stay on track. Therefore we put forth the recommendation that at minimum, the length of the daily scheduled ELA block should match the prescribed length of the daily literacy instruction as recommended by the adopted curriculum. This is in alignment with findings by Gersten et al. (2005) which identified three factors that are crucial for ensuring fidelity of implementation: (1) implementation of key elements of a program; (2) adequate time for implementation; (3) completion of crucial program components. By ensuring that teachers have enough time in their daily schedule to implement the curriculum as recommended can increase their ability to implement the literacy curriculum with fidelity. This is important because as Duerden and Witt (2012, p. 1) noted, "Without understanding the degree to which a program was implemented as originally planned… it becomes difficult to suggest linkages between outcomes and programs." Thus it becomes crucial for teachers to implement the pilot curriculum as intended in order to best promote intended student outcomes.

Recommendation 4: Identify and Enhance School Supports

Another finding from our study was that teachers prefer to collaborate with their grade level team for lesson planning and curricular support. Collaborative learning communities should be developed and supported within schools through strong school supports that connect pilot teachers with inside and

outside experts, including opportunities for observation and coaching. Research on teacher collaboration in its various forms has shown to be effective in promoting dialogue between teachers (Allen & Calhoun, 1998; Burbank & Kauchak, 2001). During the implementation of a new literacy curriculum it will be important to foster teacher communication and collaboration. To echo this sentiment, research by Spillane and Louis (2002) found that "a strong relationship among teachers within a school can have a significant effect on conversations about school improvement, classroom practice, and student achievement" (p.93). Therefore building and supporting relationships and communication among teachers will be crucial during the district-wide expansion of the adopted literacy curriculum. As Ingersoll and Strong (2011) highlighted, both positive community and cohesion among teachers are important for a school's success. Taking this research into consideration, we recommend that Hamilton County Schools support the development of collaborative learning communities within schools and support opportunities for teachers to collaborate and engage in observations and coaching.

Furthermore, research by Ingersoll and Strong (2011) have found evidence that mentoring can impact teacher learning. However, effective mentoring can be challenging to implement (Fletcher & Barrett, 2004). Therefore, it will be important for HCS to provide support and foster collaborative teacher learning practices, such as mentoring and coaching. As a result, mentoring has the potential to play a crucial role in the implementation of the adopted literacy curriculum because novice teachers will need more support during the beginning stages of implementation. Furthermore, Fletcher and Barrett (2004) note that it is important to support collaborative teacher learning for new teachers because they are in the process of learning what to teach, and not how to teach. Thus, the development of collaborative learning communities within schools will play an important role in supporting teachers during the adoption of a new literacy curriculum.

Recommendation 5: Facilitate Networked Improvement Communities

Often the main goal of school leaders for developing and maintaining professional learning communities in their school is to create and support a culture of learning for teachers which can translate into a culture of learning for students (Wells & Feun, 2013). According to the National Research Council, teacher learning best occurs in "learner-centered" environments that build upon teacher learners' "strengths, interests, and needs" (1999, p. 192).

Collaborative learning communities such as networked improvement communities (NICs) within Hamilton County Schools could play an integral role in supporting teacher learning and accelerating organizational learning. Bryk et al. (2015) assert that schools can learn to improve or, in other words, "get better at getting better" through networked improvement communities (NICs), which are intentionally designed social organizations within which participants have distinct roles, responsibilities, and norms for membership. More specifically, schools can network with one another to identify, adapt, and scale up promising interventions in education (144-145). According to Bryk et al. (2015, p. 144-145), such large networks are "powerful engines for innovation"; they accelerate social learning. This is important because, at least in the context of American education reform, there exists an "extraordinary" and "largely untapped" capacity to improve, including reservoirs of knowledge (i.e. "bright spots" or "positive deviants") that are, unfortunately, trapped in "separate silos." Importantly, Bryk et al. (2015) clarify that effective NICs share the following characteristics:

- Focused on a well-specified common aim
- Guided by a deep understanding of the problem, the system that produces it, and a shared working theory to improve it
- Disciplined by the methods of improvement research to develop, test, and refine interventions
- Organized to accelerate the diffusion of these interventions out into the field and support their effective integration into varied educational contexts (p. 144)

Research by Butler et al. (2004) found that collaboration nurtures learning communities where teachers can experiment and reflect on teaching. Teacher collaboration and learning should not be limited to the walls of a school but rather should be embraced across the district.

Given the importance of collaborative learning communities in accelerating systems learning, we recommend that Hamilton County Schools continue to invest in the development of its existing learning communities. These learning communities can contribute to the development of networked improvement communities across the district, including supporting efforts to strengthen communication and collaboration among teachers and schools. Participating schools might consider convening networks of school leaders and teachers at regular intervals throughout the year, in order to exchange ideas on helping solve problems of practice. Importantly, those with reservoirs of knowledge, perhaps from having implemented the curriculum this past year, might consider showcasing the physical setup of their classrooms or modeling effective instructional strategies, both of which were frequent suggestions among pilot teachers who sought to improve their literacy practices and increase their fidelity of curricular implementation.

Recommendation 6: Allow Flexibility in Curricular Selection

The process of curricular selection, adoption, and implementation must be informed by evidence that illuminates the unique and particular needs of each school community. The curriculum of best fit may look differently across and within participating sites. Lingenfelter (2016) spotlights the role of evidence in improving education. He advocates for strong partnerships among practitioners, researchers, and improvement scientists at local sites. Lingenfelter explains that, in order to improve education, research must balance (a) the insights, initiatives, and motives of practitioners and (b) the disciplined measurement and field-wide perspectives of traditional experimental or rigorous observational research (2016, p. 120).

Accordingly, for Hamilton County Schools, district experts might consider how to leverage the role of evidence to improve educational equity across schools. In order to do so, they might work to strengthen partnerships with inside experts in the field of education, including not only teaching and learning experts such as university researchers, teacher trainers or clinical faculty of alternative certification programs, but also outside systems experts such as improvement scientists and district leaders from neighboring districts who have successfully implemented CKLA and/or EL Education. These partnerships between inside and outside experts might be embedded within larger networked improvement communities described by Bryk et al. (2015).

Importantly, as Lingenfelter (2016, p. 6) points out, "The problem is not that 'nothing works,' but that 'what works' is rarely a replicable, easily testable intervention." As such, in selecting the curriculum of best fit, the needs of each school and the strengths each curriculum must be taken into consideration. The CKLA curriculum may support the growth of school communities who seek to address variation in phonics instruction among their teachers and background knowledge among their students. The EL Education curriculum may support the growth of school communities who seek to improve small group instruction for diverse learners, including English language learners. A single school might utilize CKLA for its lower grades where students are learning to read, and EL Education in its upper grades where students are reading to learn. In order to correctly identify and implement the curriculum of best fit, participating schools must repeat cycles of experimentation and adaptation, changing small and learning fast.

7 CONCLUSION

A literacy curriculum is a valuable tool for teachers to utilize to not only enhance their instruction, but also to ensure that they incorporate best practices in regards to teaching children how to read.

However a curriculum, by itself, cannot ensure that high-quality literacy instruction will occur. As Kane and Blazer (2019) found in their research, curriculum by itself does not ensure better student outcomes but, rather, the curriculum needs to be implemented in conjunction with other reform efforts. In addition to this, recent research by Tom Kane and Morgan Polikoff has found no evidence that better instructional materials lead to stronger achievement gains (L. Booker, personal communication, July 08, 2019). Therefore, we caution Hamilton County Schools in its adoption of a new literacy curriculum to ensure that not only is the curriculum implemented with fidelity, but that it is a part of broader reform efforts.

Furthermore we stress that, in the first year of pilot implementation, student performance outcomes in literacy are premature and insufficient at best. We encourage Hamilton County Schools to focus on the findings and recommendations from our process evaluation of curricular implementation, as these will provide valuable information and insight needed for moving forward. As Rossie, Lipsey, and Henry (2019) explain, process evaluation is an "indispensable adjunct" to impact assessment:

> When no impact is found, process evaluation has significant diagnostic value, indicating whether this was because of implementation failure, that is, the intended services were not provided hence the expected benefits could not have occurred, or theory failure, that is, the program was implemented as intended but failed to produce the expected effects. (p. 23)

Taking into consideration the key findings and recommendations of this research project, Hamilton County Schools will undoubtedly continue its growth as the fastest-improving school district in the state of Tennessee.

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9 APPENDICES

Appendix A: Extant Literature Review

Literacy

For the past 150 years, reading instruction in America has generally involved two methods: a phonics approach and a whole-language approach (Sousa, 2014). The phonics approach to literacy focuses on teaching children to read by "getting meaning from certain combinations of letters" (Flesch, 1955, p. 2). The whole-language approach was developed off of William Gray's research that suggested that reading instruction should focus on recognizing words and sentences from sight in order to devote more time on comprehension and meaning (Lauritzen, 2007). These two approaches to reading instruction have been at odds with each other creating a division in literacy with educators and researchers alike choosing sides (Kim, 2008).

Fortunately, in 2000, the National Reading Panel published a report which highlighted the need for a balanced literacy approach to reading which recognized the importance of phonics instruction but also the need for other reading instruction, such as enriched text. In 2004, the Learning Point Associates, under the direction of the U.S. Department of Education, defined that effective reading instruction should include five critical components: (a) phonemic awareness, (b) phonics, (c) fluency, (d) vocabulary, and (e) comprehension. As Sousa (2014) explains, these five components make up a balanced approach to teaching literacy. Phonemic awareness, phonics and fluency support phonics development, while vocabulary and comprehension contribute to a whole-language approach that supports the development of meaning-making skills and strategies among young readers.

Skilled Reading

Skilled reading is the "fluent execution and coordination of word recognition and text comprehension" (Scarborough, 2001 as cited by Snow, Griffin, & Burns, 2005, p. 19). It comprises many interwoven strands. Strands in word recognition refer to phonological awareness, decoding, and sight recognition, while strands in language comprehension include background knowledge, vocabulary, language structures, verbal reasoning, and literacy knowledge. Over time, word recognition becomes increasingly automatic, and language comprehension becomes increasingly strategic (Snow, Griffin, & Burns, 2005, p. 17 & 19).

Five Pillars of Literacy

In 2000, the National Reading Panel released a seminal report that drew national attention toward five factors of literacy instruction: phonemic awareness, phonics, fluency, vocabulary, and comprehension. Two decades later, these pillars of skill development remain important cornerstones of early literacy and reading instruction, as viewed through the lens of basic reading processes (Gambrell, Mallow, & Mazzoni, 2011, p. 15).

Phonemic Awareness

Phonemic awareness is "an awareness of the smallest units of sound that allow speakers of a language to differentiate among words" (Snow, Griffin, & Burns, 2005, p. 68). It involves "the ability to know that words are made up of different sounds" (Morrow, Tracey, & Del Nero, 2011, p. 75). Phonemic awareness is a precursor to learning phonics and, as such, should be developed as a skill (Castiglioni-Spalten & Ehri, 2003 as cited in Morrow, Tracey, & Del Nero, 2011, p. 75).

Instruction in phonemic awareness highlights phonology and metacognition (Snow, Griffin & Burns, 2005, p. 56). It utilizes songs, nursery rhymes, and games that have "rhyming segments" and "alliterative patterns within and between words" (Snow, Griffin & Burns, 2005, p. 69). Through such activities, students practice identifying sounds in words, segmenting parts of words, blending words
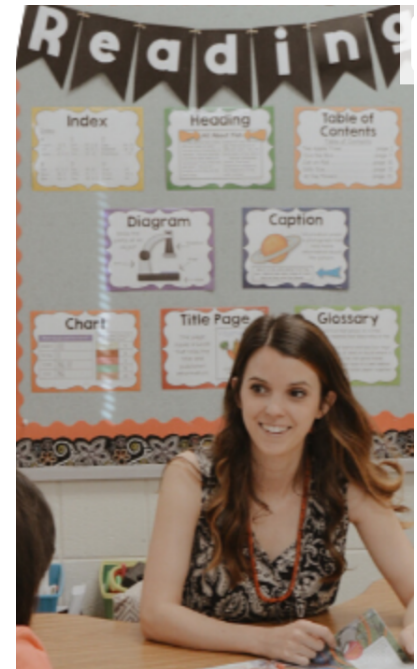
together, substituting new initial sounds with a word ending to make new words, and clapping out parts of words or syllables (Morrow, Tracey, & Del Nero, 2011, p. 75).

Phonics

Phonics is "an instructional approach for developing word-identification proficiency" (Snow, Griffin & Burns, 2005, p. 78). It teaches students to decode and encode printed words that rely on grapheme-phoneme conventions. Systematic phonics instruction begins in kindergarten or grade one and typically extends across two years (National Reading Panel as cited in Snow, Griffin & Burns, 2005, p. 79).

Instruction in phonics focuses on morphology, etymology, and orthography (Snow, Griffin & Burns, 2005, p. 56). It involves lessons that "model and practice decoding, teaching blending and sound-symbol links, promote generalization, integrate skills in context, and aim toward fluent application to reading connected text" (Snow, Griffin & Burns, 2005, p. 79). Importantly, while similar to phonemic awareness instruction, phonics instruction additionally requires students to practice making sound-symbol relationships through the written language, including word families and high frequency words (Morrow, Tracey, & Del Nero, 2011, p. 75). For best effects, phonics instruction is taught in combination with instruction for comprehension, vocabulary, and fluency (National Reading Panel as cited in Snow, Griffin & Burns, 2005, p. 79).

Vocabulary

Vocabulary refers to not only "the accretion of items in a mental dictionary," but also "the refined and deeper knowledge that provides for both wider and more accurately restrictive use of an already-learned word" (Snow, Griffin, & Burns, 2005, p. 89).

Vocabulary instruction focuses on word meaning or semantics (Snow, Griffin, & Burns, 2005, p. 56). It strives to promote student engagement across diverse contexts and different situations, wherein "new words are used, feedback is given, and students make personal connections among new and known vocabulary items" (Snow, Griffin, & Burns, 2005, p. 90). Importantly, for vocabulary growth to have a lasting impact on reading achievement, "well-planned instruction" takes precedence over either "reading a lot" or "making a weekly word list for a Friday quiz," which have become the two

poles of conventional wisdom (Snow, Griffin, & Burns, 2005, p. 90). The following guidelines support effective vocabulary instruction (Blachowicz & Fisher, 2011, p. 225):

1. Build a word-rich environment in which students are immersed in words for both incidental and intentional learning and the development of "word awareness."

2. Help students develop as independent word learners.

3. Use instructional strategies that not only teach vocabulary but also model good word-learning behaviors.

4. Provide explicit instruction for important content and concept vocabulary, drawing on multiple sources of meaning and for relevant high-frequency words.

5. Use assessments that match the goal of instruction.

6. Integrate vocabulary instruction across the curriculum.

Comprehension

Comprehension refers to "the understanding of specific texts" (Snow, Griffin, & Burns, 2005, p. 93). Instruction in comprehension focuses on syntax and pragmatics, especially discourse pragmatics (Snow, Griffin, & Burns, 2005, p. 56). It comprises strategies such as comprehension monitoring, constructing mental images, identifying story grammar components, generating questions while reading, and summarizing (Almasi & Hart, 2011, p. 253). Importantly, teaching comprehension strategies one at a time may not be as effective as teaching them as a set (Almasi & Hart, 2011, p. 253). As such, effective comprehension instruction avoids teaching *strategies* but, rather, teaches students to be *strategic* as they actively process text and make decisions.

Fluency

Fluency comprises three aspects: rate (i.e. words correct per minute), accuracy, and expression (e.g. stress, pitch, timing, intonation, pausing, and text phrasing) (Snow, Griffin, & Burns, 2005, p. 109). Fluency depends on "a reader's knowledge about the topic, vocabulary, and discourse type as well as the reader's purposes and skill with word identification and his or her metacontrol over cognitive and other processes applied in the reading activity" (Snow, Griffin, & Burns, 2005, p. 109). Instruction in fluency involves "choosing appropriate texts, modeling fluent reading, encouraging and providing feedback and support for students, and setting the stage for performance" (Kuhn & Rasinski, 2011,

290). Importantly, newer views of fluency suggest that fluency should be taught alongside other types of instruction (i.e. phonemic awareness, word meaning, and comprehension strategy instruction) and, moreover, merits emphasis and practice from the very beginning of reading education (Snow, Griffin, & Burns, 2005, p. 110). In all, it comprises three tacks: (a) integration with other types of instruction; (b) repeated reading of the same material; and (c) extensive reading of many different things.

Comprehensive Literacy Instruction

Although the five pillars of literacy have endured the test of time, they must be considered alongside evidence-based best practices within a comprehensive literacy framework. Such a framework includes "attention to motivation; opportunities to read and write; differentiated assessment and instruction; and reading, writing, listening, and speaking for wide, authentic, and varied purposes" (Gambrell, Malloy, & Mazzoni, 2011, p. 15). This is because the act of reading is less so "a sum total of discrete processes, whereby instruction in one weak area will magically improve students' reading achievement" (Gambrell, Malloy, & Mazzoni, 2011, p. 15) and, moreso, an active and dynamic process that engages additional aspects of reading and writing extending beyond the traditional five pillars of literacy.

As summarized by Gambrell, Malloy, & Mazzoni (2011), the following are 10 evidence-based practices for comprehensive literacy instruction that are generally accepted by experts in the field:

1. Create a classroom culture that fosters literacy motivation.

2. Teach reading for authentic meaning-making purposes: for pleasure, to be informed, and to perform a task.

3. Provide students with scaffolded instruction in phonemic awareness, phonics, vocabulary, fluency, and comprehension to promote independent reading.

4. Give students time for self-selected independent reading.

5. Provide students with high-quality literature across a wide range of genres.

6. Use multiple texts that build on prior knowledge, link concepts, and expand vocabulary.

7. Build a whole-class context that emphasizes community and collaboration.

8. Balance teacher- and student-led discussions of texts.

9. Integrate technologies that link and expand concepts.

10. Differentiate instruction using a variety of instructionally relevant assessments. (p. 21)

Background Knowledge

The term *background knowledge* refers to the information that a student already possesses about the content. This knowledge is often achieved through previous exposure to content or life experiences. Marzano (2004) noted that "what students already know about content is one of the strongest indicators of how well they will learn new information (p. 1)." Bloom (1956) asserted that background knowledge is a part of the foundation on which learning occurs and theorized that learning starts with basic facts. As a result, a student's background knowledge is an important component of their learning. Furthermore, research by Hambrick (2003) and Marzano (2004) found that a student's pre-existing knowledge was a better predictor of their success in academics than their raw intelligence. Unfortunately, many children, especially those that are socially and economically disadvantaged, often enter school with a lack of life experiences (Page, 2012). Fortunately research by Marzano (2004) found that providing disadvantaged students in the school setting with extensive academic background knowledge has the potential to increase student performance.

Text Complexity

"Text complexity" is a term that comprises multiple meanings. It refers, in part, to the difficulty of content and language. Texts may be complex, because they contain difficult ideas that require high-order thinking (e.g. perspective-taking, questioning the author, etc.) or difficult linguistic characteristics that are challenging to untangle (e.g. "informational density" and "heavy noun phrases").

Beyond text difficulty, however, text complexity also refers to text *variety* and text *bundling*. Texts may be complex not because of content or language difficulty, but because they challenge students to read across a variety of potentially unfamiliar genres, such as fiction and non-fiction, info-graphics and graphic novels, poetry and prose, films and music videos. Such text variety creates opportunities for students to transfer across genres important reading skills, including questioning, making inferences, paraphrasing, and tracing an argument or thought.

Finally, texts may also be complex because of the way they are layered or bundled with other texts. One bundle might compose of a comic strip, an info-graphic, and a journal article, while another comprises a piece of fiction, a music video, and a poem. Within each bundle, the texts might then be compared and contrasted for structure, vocabulary, content and/or concept. Text bundling challenges students not only to transfer reading skills across genres but, also, to look at relationships across texts and, moreover, to come to a deeper understanding of the texts themselves as well as complex ways in which the texts work together. In short, text complexity is a multiple-meaning term that refers to content and linguistic difficulty, genre variety, and readers' tasks.

Over the last half century, the demands placed on readers in college, workforce training programs, and everyday life have held steady or increased. More concretely, the difficulty of college textbooks, as measured by Lexile scores, has increased from 1962 to the present (Stenner, Koons, & Schwartz, 2010). The word difficulty of scientific journals and magazines from 1930 to 1990 has similarly increased (Hayes & Ward, 1992). Meanwhile, from 1963 to 1991, the vocabulary difficulty of newspapers has remained the same (Hayes, Wolfer, & Wolfe, 1996).

Across the landscape of K-12 schooling, however, text complexity appears to have declined over the last half century. According to a study by Chall, Conard, & Harris (1977), texts in grade 1, grade 6, and grade 11 experienced a decrease in difficulty from 1963 to 1975. In a corroborating study by

Hayes, Wolfer, and Wolfe (1996), the average sentence length and vocabulary level of reading textbooks declined across several grades from 1946 to 1962.   More recently, findings by Williamson (2006) indicate a text complexity discrepancy of 350L (Lexile) between end-of-high-school texts and college texts, which is greater than the Lexile difference between 4th and 8th grade texts on the National Assessment of Educational Progress (NAEP). In short, as the demands placed on readers in terms of text complexity have increased across the contexts of college, careers, and citizenship, they have decreased within K-12 schooling.

Research findings suggest that, strategically incorporated into instruction, text complexity may foster greater critical reading and thinking skills of students from across grades and sociocultural contexts. According to Vygotsky (1978, p. 86), students engage in optimal learning when teachers build from students' current level of understanding and teach new ideas, skills, and strategies that are at an appropriate level of challenge or, in other words, within students' "zone of proximal development." Shanahan (2011) and Fisher, Frey & Lapp (2012) suggest that the use of complex text is supported by this notion of the zone of proximal development. Given reasonable levels of instructional support and encouragement, students should be able to access complex texts successfully.

According to Shanahan & Shanahan (2008, p. 2), the only way to acquire the language of literacy is through literacy itself: "Complex texts provide school-age learners reliable access to this language, and interacting with such texts allows them to discover how academic language works." In order to achieve at higher standards, struggling readers need access to and practice with more complex texts. Unfortunately, these students may receive texts that are consistently less complex due to their perceived lack of proficiency with academic English and, as such, may have little to no access to the academic discourse that they are expected to master.   Moreover, current efforts to align instruction with higher standards demonstrate little

understanding of "the role played by language in the process of attaining literacy" (Fillmore & Fillmore, n.d., p. 1). Where any attention is given to language at all, the focus is on word-level complexity (i.e. vocabulary), without sufficient regard to sentence-level and text-level complexity (i.e. grammatical structures and devices of academic texts) (Fillmore & Fillmore, n.d., p. 1). There exists a great need for literacy experts and educators alike to understand the language used in complex texts at the sentence- and text- levels and, moreover, the practices that best support struggling readers in their development as increasingly strategic, independent readers of complex texts.

Teachers must consider the implications of the research on their planning, instruction, and assessment of student learning. They should not expect that placing complex texts in front of students will automatically make them skilled readers. Instead, as they plan and implement instruction, they must consider the nuances of *text complexity,* including conceptual and linguistic difficulty, genre variety, and text bundling. As teachers strive to teach complex texts, they must keep this nuanced understanding of text complexity in mind and, moreover, consider the following approaches to strengthening their practice. First, teachers might work to gain a firmer understanding of their students' reading ability, by assessing students' vocabulary and background knowledge as well as lexile level. Second, teachers might ensure that an intentional, purposeful match exists between text and task, so that the intended learning objective is achieved. In general, the more difficult the skill or the more complex the concept, the less complex the text might be. Third, teachers might adhere to a gradual release of responsibility to students, by starting with more accessible texts and working up to more complex texts. In this way, students will be able to develop as strategic, independent readers who are able to successfully struggle through and learn from the increasingly complex texts that they read.

Cultural Context and Relevance

Vygotsky's theory on social and cultural context asserts that "any function in the child's cultural development appears twice... First it appears on the social plane, and then on the psychological plane… Social relations or relations among people genetically underlie all high functions and their relationship" (Vygotsky, 1981, p.163). Vygotsky suggests that young children learn and internalize higher order skills such as reading and writing through engaging interactions and relationships with adults.

In conjunction with Vygotsky's ideas on cultural context, Bodrova and Leong stated that "children construct their own understandings," and that these are restructured with age and experience, but that "cultural context determines the very type of cognitive processes that emerge" (2007, p. 30). In other words, knowledge is derived from an individual's pre-existing knowledge and external experiences. In addition to this, Gonzalez, Moll, and Amanti (2005), noted that the culture that children are raised in provides them with a set of cultural tools and practices which impacts how they think and acquire knowledge. These tools are important for supporting students in acquiring culturally important concepts which are essential for building comprehension.

Developing Critical Reading Skills Through Social Interaction

According to various theorists, reasoning is a "process of argumentation" that may be both dialogical and metacognitive in nature (Anderson et al., 2001, p. 2). It is dialogical and democratic because thinkers must be able to hold multiple, competing points of view of an unresolved issue in their mind (Almasi et al., 2001, p. 118 and Anderson et al., 2001, p. 2). Moreover, reasoning is metacognitive (Hofer & Pintrich, 1997), because thinkers must be able to reflect on their own thoughts, that is, think about their thinking (Anderson et al., 2001, p. 2).

Vygotsky and Rogoff propose that reasoning is learned through social interaction. According to Vygotsky, "the higher functions of child thought first appear in the collective life of children in the form of argumentation and only then develop into reflection for the individual child" (1981, as cited in Anderson et al., 2001, p. 1). That is, reasoning is higher-level critical thinking that, through social interaction, emerges first as argumentation and, then, transmutes into reflection. In a similar vein, Rogoff (1995) describes the process of learning how to reason as "participatory appropriation" (Anderson et al., 2001, p. 2). To him, individuals think critically about an activity through their own participation in it; individuals "appropriate" new ideas through interacting with others. According to social theorists such as Vygotsky and Rogoff, students who wish to build critical reading and thinking skills must engage in purposeful social interaction with one another, including through peer-led, small group discussions.

In practice, teachers' literacy practices should engage students in student-initiated and student-led discourse, including modeling and thinking out loud, prompting, clarifying, challenging, reminding, summarizing and refocusing, encouraging, fostering independence and debriefing (Anderson et al.,

1998). Such student-initiated and student-led discourse allows students to grow as readers who, through social learning, develop critical reading and thinking skills for making meaning from texts.

Curriculum

Research directed at understanding how "children acquire the needed skills to become good readers has indicated that high-quality teacher instruction may figure prominently" (Mihai, Butera, & Friesen, 2017, p. 325). Evidence on literacy in early childhood education suggests that teachers should use high-quality curricula and practices that are evidence-based in order to ensure that all children receive "core or universal instruction" (Diamond, Justice, Siegler, & Snyder, 2013, p. 13). In addition to this, research by Dickinson, Darrow, Ngo, and D'Souza (2009) found that one way to increase a teachers' emphasis on children's literacy skills is to provide them with a good curriculum. Therefore, when adopting a curriculum, it is crucial to select one that is high-quality and evidence-based.

Expeditionary Learning (EL) Education

The Expeditionary Learning Education K-5 Language Arts curriculum is a comprehensive, standards-based core literacy program that engages teachers and students through compelling, real-world content (EL Education, 2020). Depending on the grade level, it offers two or three hours of literacy instruction per day. Across all grade levels, one hour is dedicated to whole group instruction. Considered the heart of the curriculum, these module lessons utilize rich and authentic texts, allowing for students to build important content knowledge based on a compelling topic related to science, social studies, or literature. Over the course of a full school year, each grade-level curriculum covers a total of four modules, each of which is approximately eight weeks of instruction that have been broken down into three units.

A second hour is dedicated to small group instruction. For grades K-2, the Lab block allows for students to engage in the additional practice and exploration of topics from module lessons. For grades 3-5, the Additional Language and Literacy (ALL) Block provides students with the explicit instruction and differentiated practice of grammar, usage, mechanics, punctuation, and spelling.

In addition to modules and small group instruction, the Language Arts curriculum offers an additional third hour of literacy instruction. For grades K-2, the Reading Foundations Skills Block provides structured phonics instruction. Grounded in the Phase Theory of Dr. Linnea Ehri, the Skills Block is designed to ensure that, by the end of grade 2, students acquire the reading foundations skills necessary for navigating grade-level texts with independence. It comprises 15-20 minutes of whole group instruction and 40-45 minutes of differentiated small group instruction, including independent work time. For grades 3-5, the Life Science module provides a third hour of instruction that, lasting eight to nine weeks, serves as an additional optional companion that is intended to enhance Module 2.

All together, the various components of the EL Education K-5 Language Arts curriculum combine to form a core literacy program that is comprehensive. That is, every literacy strand and standard of the Common Core State Standards has been explicitly addressed and interwoven throughout the instructional scope and sequence as well as the embedded assessments. In its most recent iteration, the EL Education K-5 Language Arts curriculum has worked to structure more equitable and inclusive learning opportunities for all students. More specifically, it now provides additional support for both English language learners (ELLs) and for Universal Design Learning (UDL). For ELLs, it provides Levels of Support on differentiating instruction for students at varying stages of language proficiency. For UDL, it provides recommendations for enhancing the flexibility with which information is presented, the ways that students respond, and the ways that students are engaged.

Core Knowledge Language Arts (CKLA)

The Core Knowledge Curriculum (CKC) is a comprehensive curriculum that covers multiple content domains (i.e. language arts, history, geography, science, music, and visual arts). The foundational premise for CKC is "closing the reading gap by addressing the knowledge gap" (Amplify Core Knowledge Language Arts, n.d., p. 3). The curriculum is strategically designed to support children who enter elementary school with insufficient background knowledge by building up their foundational knowledge (Core Knowledge Foundation, 2014). Core Knowledge Curriculum is artfully developed to

expose students repeatedly across content domains and grade levels to rich information and knowledge that will allow students to develop a deeper understanding of core concepts that have been identified by the Core Knowledge Foundation as foundational for future learning (Core Knowledge Foundation, 2014).

Core Knowledge Language Arts (CKLA) is a stand-alone literacy curriculum from CKC that is designed to cultivate students' literacy through daily exposure to rich read-alouds that are structured to promote comprehension and vocabulary development (McGinty & Bevilacqua, 2016). Additionally, like CKC, Core Knowledge Language Arts incorporates topics from multiple domains such as history, science, geography and literature in order to develop student's foundational knowledge (McGinty & Bevilacqua, 2016.) Additionally, CKLA was developed based on the Simple View of Reading, a seminal reading theory proposed by Hoover & Gough (1990) suggesting that a reading curriculum should support both decoding development and comprehension development.

For students in kindergarten through grade three, CKLA advocates for a balanced approach to reading by providing equal instructional time for decoding and comprehension (McGinty & Bevilacqua, 2016). The curriculum is divided into two sixty-minute learning blocks: (a) Listening and Learning (L&L) strand which fosters students background knowledge acquisition through lessons that incorporate read-alouds and listening comprehension activities and (b) Skills strand that provides lessons in phonics, spelling and writing instruction (McGinty & Bevilacqua, 2016).

The Listening and Learning strand was developed off of two lines of research: (a) language rich classroom environments (Hogan, Adlof, & Alonzo, 2014; Vellutino, Tunmer, Jaccard, & Chen, 2007) and (b) vocabulary, comprehension and knowledge development must be included in reading instruction (Cervetti & Hiebert, 2015; Neuman, Pinkham & Kaefer, 2015). CKLA utilizes interactive read-alouds, which McGinty and Bevilacqua (2016) noted as an effective approach to developing reading-related language. The curriculum also puts an emphasis on questioning and open-ended discussions while also incorporating both oral and written language (McGinty & Bevilacqua, 2016). In addition to this, CKLA focuses on deepening students' foundational knowledge by utilizing a knowledge-oriented approach in their interactive read-alouds that develops both vocabulary and listening comprehension skills. Topics of study are revisited within and across grade levels, so students have multiple opportunities to strengthen their knowledge base and engage in higher-level and meaningful interactions with texts (McGinty & Bevilacqua, 2016).

The Skills strand was developed off of three lines of research that promote early reading; (a) phonics instruction (August et al., 2005; Brady, 2011; Vaughn & Roberts 2007); (b) students should become fluent and automatic readers (Pikulski & Chard, 2005; Willingham, 2009); (c) progress monitoring and differentiated instruction is needed to meet individual learning needs (Fletcher & Vaughn, 2009; Fuchs, Fuchs, & Compton, 2012). The CKLA skills strand provides students with a systematic approach to phonics that incorporates word patterns and high frequency words (McGinty & Bevilacqua, 2016). It also combines word-level instruction within engaging reading and writing activities to promote fluent readers and writers by reinforcing letter-sound targets and sound-spelling (McGinty & Bevilacqua, 2016). In addition to this, extended learning opportunities are provided through small group or independent activities that support grammar, writing and comprehension skills. The skill strand provides assessments for teachers to utilize to engage in progress monitoring as well as additional instructional supports to promote student learning at all instructional levels (McGinty & Bevilacqua, 2016).

In grades four and five, CKLA focuses on developing students skills in reading, writing, knowledge and vocabulary across eight to nine content-focused units (i.e. The Middle Ages, Geology, Treasure Island, and Native Americans) (Core Knowledge Foundation, 2017, p. 6). Instead of continuing literacy instruction in a two-strand approach, CKLA recommends 90 minutes per day for literacy instruction which includes a mixture of "read-alouds; whole-group, small-group, and partner reading; close reading; literal, inferential, and evaluative comprehension questions; vocabulary; grammar; writing; morphology and spelling (10–15 words per week); and unit assessments (Core Knowledge Foundation, 2017, p. 6)." This provides students with an embedded mixture of the two strand approach. Additionally since the content topics are also organized to spiral across years, students are able to access their learned knowledge from previous unit topics in K-3 to support their learning acquisition when they revisit topics in grades four and five (McGinty & Bevilacqua, 2016). As a result, CKLA goal is to build the foundational background knowledge for students to use to support high-order learning, which highlights their goal of "closing the reading gap by addressing the knowledge gap" (Amplify Core Knowledge Language Arts, n.d., p.3).

Curricular Implementation

Before we can assess the effectiveness of a curriculum, we must first understand whether it was implemented with fidelity. Research by Duerden and Witt (2012, p. 1) on fidelity of curriculum implementation acknowledged that "without understanding the degree to which a program was

implemented as originally planned… it becomes difficult to suggest linkages between outcomes and programs." In a study of an early-literacy intervention program, Guo et al. (2016) found that fidelity of implementation (how well the teachers effectively used the literacy intervention components) was the only variable to directly predict a student's performance. Therefore, in order to assess the effectiveness of a curriculum, it is crucial that we understand the fidelity of its implementation.

Research by Gersten et al. (2005) identified three factors to measure when assessing the fidelity of implementation: (a) implementation of crucial program components; (b) adequate time for implementation; (c) completion of crucial program components. Taking these three factors into consideration when evaluating the impact of a curriculum on student outcomes will provide key information for understanding what teachers may or may not have done and how it could impact intended outcomes. In addition to this, Gearing et al. (2010) found that individuals' level of buy-in into a program may predict

how effective they are at implementation. Similar findings by Schechter et al. (2017) noted that the level of engagement by teachers implementing a blended reading program positively impacted the amount students could accomplish. Essentially, a teacher's level of buy-in to a new curriculum can directionally impact their level of engagement and fidelity of implementation. Therefore, if teachers are excited about and engaged with the new curriculum we could expect higher levels of implementation fidelity which has the potential to impact student achievement.

It is important to understand the fidelity of implementation when measuring the outcomes of a new curriculum. However, one must also take into consideration the research by Fullan (2001) that found that many successful schools often experience a dip in test scores during the first year of implementation of a new program often referred to as the "implementation dip." This may be a result of teachers needing to learn new skills and strategies to implement a new system which takes time and can be stressful if not fully supported. Fullan (2001) suggests that in order to minimize the dip,

school leaders need to be prepared to provide a variety of support to their teachers. This conclusion is also supported by the research of Hord and Huling-Austin (1986), which found that during the implementation of a new program most school leaders engage primarily in provisional support such as ordering materials and organizing schedules followed by training support, usually in the form of workshop professional development, but were less likely to provide consultation and reinforcement support or evaluation and monitoring support to their teachers which promote higher levels of implementation. Therefore when implementing a new curriculum it is important to provide teachers with a wide variety of supports such as professional development, technical, materials, and curriculum in order to promote not only fidelity of implementation but also minimize the implementation dip.

Professional Development

The goal of professional development (PD) is to strengthen teacher effectiveness with the aim of increasing student achievement. Much literature has shown the positive effects of professional development on teacher and student outcomes (Garet et al., 2001; Penuel et al., 2007). Darling-Hammond et al. (2009, p. 9) found that, "Sustained and intensive professional learning for teachers is related to student-achievement gains," but some forms of PD- including the "occasional, one-shot workshops"- are poorly delivered and misaligned with the needs of the teachers they serve.

Professional development that is effective should positively correlate with teachers' implementation of acquired skills. In other words, when PD is having the intended effect, teachers change their instructional practices as a result of a PD program (Saunders, 2014). As Darling-Hammond, Hyler, and Gardner (2017) point out, many PD initiatives have been unsuccessful in changing teacher practices. In their meta-analysis, Darling-Hammond and her team identified 35 studies which demonstrated positive links between PD experiences and implementation of taught skills. Therefore it is crucial when introducing a new curriculum for teachers to implement in their classrooms that they are provided with effective professional development and learning opportunities in order to increase fidelity and ultimately impact student outcomes.

There is much literature on the qualities of PD that promote higher implementation of taught skills. Research by Garet et al. (2001) found that the duration, collective participation, focused content, active learning and coherence of professional development have a directional correlation on teacher and student outcomes. This is also highlighted in research done by Darling-Hammond, Hyler, and

Gardner (2017) which states that effective professional development comprises four integral aspects: (a) PD should be intensive, ongoing and connected to practice, (b) PD should focus on student learning and address the teaching of specific curriculum content, (c) PD should align with school improvement priorities and goals, and (d) PD should build strong working relationships among teachers. Moreover, Bretzmann (2015) summarizes six unifying factors for good professional development: (a) constant progress, (b) honoring professionals, (c) ongoing, (d) individualized, (e) collaborative, and (f) energizing. What emerges from the research is that there exist commonalities among effective professional development practices. Furthermore, "when professional development is customized rather than prepackaged, takes place over an extended period of time, and uses a range of research-based approaches, it can have a major impact on student achievement, motivation, and engagement (Kennedy, 2010, p. 386)."

Collaboration

One characteristic of PD that has been identified by many researchers in the field of education as an effective strategy is collaboration (Bretzmann et al., 2015; Burbank & Kauchak, 2003; Darling-Hammond et al., 2009; Garet et al., 2001; Penuel et al., 2007; Smylie, 1995; Tom, 1985). In 2003, Burbank and Kauchak stated, "Unlike many traditional means of professional development, collaborative methods provide teachers with opportunities to interact professionally on topics that are relevant and applicable in their classrooms" (p. 501). Teacher collaboration in its various forms has shown to be effective in promoting dialogue between teachers (Allen & Calhoun, 1998; Burbank & Kauchak, 2001). Collaboration promotes greater levels of engagement among teachers due to the intentional interactions and dialogue fostered during collaborative professional development. As Ross, Rolheiser, and Hogaboam-Gray (1999) noted, collaboration increases teacher control in professional development and allows them to personalize educational goals and expectations. Additionally, Butler et al. (2004) concluded that collaboration nurtures learning communities where teachers can experiment and reflect on teaching. Professional development and training provided to teachers for implementing a new curriculum should be collaborative to increase engagement and dialogue among teachers.

Ongoing

Another component of effective professional development is that it is ongoing. Saunders (2014) found that teacher learning correlated with "the extended duration of the [PD] program which provided time to build skills and knowledge" (p. 175). This ongoing nature of PD promotes individual development

through reflection and inquiry. Trotter (2006), Darling-Hammond & McLaughlin (1995), Ingvarson, Meiers, & Beavis (2005), Joyce and Showers (1995), and Lieberman & Pointer Mace (2008) found that, in addition to reflection, effective PD includes opportunities for feedback as well (Saunders, 2014). This feedback loop relates specifically to the unique contexts and particular practices relevant to each teacher. This perspective is supported by a growing consensus that to change a teachers' practices, teachers need professional development that allows for multiple cycles of presentation and assimilation of, and reflection on, knowledge (Blumenfeld et al., 1991 and Kubitskey, 2006 as cited in Penuel et al., 2007, p. 929). The research suggests that teachers need a clear and consistent focus that is relevant to their own contexts, such that their learning makes sense and effectively contributes to their growth and practice as teachers. Therefore, when implementing a new curriculum, teachers should be provided with ongoing professional development in order to promote increased acquisition of skills needed for high levels of engagement with the curriculum.

Satisfaction

Teacher satisfaction appears to be shaped by many factors. Teachers with more choice report much higher levels of satisfaction with professional development. Those who choose all or most of their professional learning opportunities are more than twice as satisfied with professional development as those with fewer options (Bill & Melinda Gates Foundation, 2014, p. 10). In addition, teachers whose schools have strong collaboration report dramatically higher satisfaction with day-to-day work (Bill & Melinda Gates Foundation, 2014, p. 8). Moreover, there is some evidence that "networks of teachers involved in change can help sustain motivation" (Lieberman & McLaughlin, 1992 as cited in Garet et al., 2001). In short, teacher satisfaction has been shown to positively correlate with PD that incorporates choice and collaboration. Therefore it is important to consider teacher satisfaction when implementing a new curriculum. Providing teachers with choice on what kinds of professional development they need to support their implementation as well as fostering collaborative relationships with other teachers in or across schools may increase the effectiveness of PD and promote better engagement with the curriculum.

Individualization

Individualized professional development is able to meet teachers at their individual starting points, with consideration for their specific needs, interests, and learning styles. According to Garet et al. (2001, p. 921), PD that is able to provide individualization, such as through mentoring or coaching, "may be more responsive to how teachers learn, and may have more influence on changing teaching

practice," and, further, "may be more responsive to teachers' needs and goals." Moreover, coaching has been shown to improve teachers' abilities to adopt and implement new teaching practices (Joyce & Showers, 1996).

The benefits of individualization are supported not only by research specific to PD, but also by research on adult development. According to the National Research Council (1999), teacher learning best occurs in "learner-centered" environments that build upon teacher learners' "strengths, interests, and needs" (p. 192). Similarly, Trotter (2006, p. 12) describes two key findings: (a) adults need to plan their own educational paths based on their interests and their classrooms, and (b) the aim of adult education should be to promote individual development by encouraging reflection and inquiry. Professional development that has been individualized for teachers may be effective in promoting increased engagement with curriculum and higher levels of implementation.

Active Learning

Active learning is a fundamental method used to ensure effective professional development experiences for educators (Carpenter & Linton, 2016; Darling-Hammond, Hyler, & Gardner, 2017; Garet et al., 2001; Greenleaf et al., 2011; Trotter, 2006). Garet et al. emphasizes the importance of teachers becoming "engaged in meaningful discussion, planning and practice" when participating in professional development activities (2001, p. 925). Just as students demand more variation in learning methodology, so do teachers.

Darling-Hammond, Hyler, and Gardner identify active learning as engaging "educators using authentic artifacts, interactive activities and other strategies to provide deeply embedded, highly contextualized professional learning" (2017, p. 7). They also describe active learning as an umbrella term which includes several other components of effective professional development including collaboration, feedback, reflection and modeling (Trotter, 2006).

Greenleaf et al. (2011, p. 665) concur with Darling-Hammond's (2017) duality of purpose by describing active learning as a collaborative process where teachers engage in "collective participation and discourse around problems germane to practice." The goal is to ensure deep learning in a contextualized environment so that problems of practice might be identified and addressed by adopting new classroom strategies. Carpenter and Linton (2016) emphasizes the active learning component of edcamps, known as "unconference" professional development, which allows choice as a primary motivator for participants, who are expected to participate in lively discussions given that prepared presentations are discouraged. Active learning has the potential to engage the individual teacher in a process of growth and development specific to their context, which is important to take into consideration when designing professional development for the adoption of a new curriculum.

School Supports

There is a great deal of information on how to teach children to read and write but the challenge we face is putting this information to practice at the school-level. Simply prescribing a curriculum will not ensure that evidence-based practices and high-quality instruction will occur in every classroom. Research by Fullan, Hill and Crevola (2006) indicated that we need precision in teaching, rather than the prescription of standardized curriculum. This precision occurs when teachers have the necessary skills and knowledge to make data-informed decisions to meet students instructional needs (Fisher & Frey, 2007). In order for teachers to strengthen their precision in teaching, they will need to access and utilize a variety of school supports.

School Organization

According to Danielson (2002, p.43), "School organization refers to how schools arrange the resources of time, space, and personnel for maximum effect on student learning." The way a school is organized should reflect its commitment to the learning and success for all students. The organization of a school should communicate to students and parents that learning is important. In addition to this, a supportive school organization should "offer students the optimal degree of challenge, stretching them while at the same time ensuring that they can succeed if they exert the necessary effort" (Danielson, 2002, p.44). Furthermore, in addition to adopting a mindset for success, schools also need to be flexible with resource allocation and deployment and intentional with their support of teacher collaboration and professional learning.

Teacher Learning Environments

There is evidence which shows that when teachers share common goals and beliefs about student achievement they can create an effective teacher learning environment within their school. These effective teacher learning environments are often called professional learning communities or PLCs. In 2004, Dufour created a framework for professional learning communities that focused on three main components: (a) ensure student learning, (b) build a culture of collaboration within the school, and (c) emphasize outcomes. Essentially, Dufour's framework guides teachers to collaborate their efforts with a focus on student learning.

Often the main goal of school leaders for developing and maintaining professional learning communities in their school is to create and support a culture of learning for teachers which can translate into a culture of learning for students (Wells & Feun, 2013). Research by McLaughlin and Talbert (2006) identified three stages in the process of developing effective teacher learning environments: (a) the beginning stage is where the school's main objective is to set up the structure and support teacher buy-in; (b) the intermediate stage has a structured process for the teacher learning environment but is divided by those who are invested and those who are not; (c) the advanced stage is when the school has developed a culture that supports student learning and the teachers have a common learning language that is focused on curriculum and student achievement. McLaughlin and Talbert (2006) also noted that it is crucial for schools to move beyond the second stage in order to prevent stagnacy in the teacher learning environment.

Louis and Kruse (1995) found certain aspects of school design that promote professional learning communities within schools. These components of school design focused on the intentional development of conditions to promote connections between teachers. Often these effective conditions begin at the structural level where issues of time, school size, physical barriers, teacher coordination,

communication, and membership need to be addressed in order to allow for effective conditions to develop (Louis & Kruse, 1995).

Much research has shown that professional learning communities or environments can be an effective way to promote teacher learning. This notion is further supported by Ingersoll and Strong (2011), who highlighted that both positive community and cohesion among teachers was important for a school's success. In addition to this, Spillane and Louis also believed that "a strong relationship among teachers within a school can have a significant effect on conversations about school improvement, classroom practice, and student achievement" (2002, p.93).

Networked Improvement Communities (NICs)

Collaborative learning communities such as networked improvement communities (NICs) can play an important role in supporting teacher learning.   Bryk et al. (2015) assert that schools can learn to improve or, in other words, "get better at getting better" through networked improvement communities (NICs), which are intentionally designed social organizations within which participants have distinct roles, responsibilities, and norms for membership. Schools can network with one another to identify, adapt, and scale up promising interventions in education (p. 144-145). According to Bryk et al. (2015, p. 144-145), such large networks are "powerful engines for innovation"; they accelerate social learning. This is important because, at least in the context of American education reform, there exists an "extraordinary" and "largely untapped" capacity to improve, including reservoirs of knowledge (i.e. "bright spots" or "positive deviants") that are, unfortunately, trapped in "separate silos." Importantly, Bryk et al. (2015) clarify that effective NICs share the following characteristics:

- Focused on a well-specified common aim

- Guided by a deep understanding of the problem, the system that produces it, and a shared working theory to improve it

- Disciplined by the methods of improvement research to develop, test, and refine interventions

- Organized to accelerate the diffusion of these interventions out into the field and support their effective integration into varied educational contexts (p. 144)

School Leadership

There is much evidence that shows that effective school leadership is crucial for both school improvement and student achievement. Sebastian and Allensworth (2012) highlighted that when school leaders focus on the mission and goals of their school, they can develop collaboration and trust in their teachers and ultimately support instruction. Research by Marzano, Waters, and McNulty (2001) which examined four theories of school leadership: (a) transformational/transactional, (b) total quality management, (c) situational, and (d) instructional leadership; found that in order for school leaders to promote teacher learning and reform, they need to focus on three categories: school level, teacher level and student level. The focus at the school level is typically on school policy, initiatives, operating procedures, curriculum, goal development, feedback, community involvement and professionalism. At the teacher level, emphasis is put on "instructional strategies and classroom management" and at the student level the focus is on home environment, building background knowledge and motivation (Marzano, Waters, & McNulty, 2001, p. 82).

Teachers

Teachers play an important role in children's literacy acquisition. Several studies on effective teachers of literacy (e.g., Pressley, Wharton-McDonald, Raphael, Bogner, & Roehrig, 2002; Taylor, Pearson, Peterson, & Rodriguez, 2003; Wray, Medwell, Poulson, & Fox, 2002) have identified qualities of teachers who are successful in increasing students' literacy performance. These teachers tend to have "excellent classroom management skills, implement a balanced literacy framework, take a metacognitive approach to instruction, emphasize higher order thinking skills, teach basic skills in meaningful contexts, and use a range of formative assessment tools" (Kennedy, 2010, p. 384).

Literacy Coaches

A school resource designed to support literacy instruction in the classroom are literacy coaches. Research by Denton, Swanson, and Mathes (2007) found that students who received instruction from teachers who were coached in literacy performed better on measures of phonological awareness, word reading, decoding, comprehension, and spelling. This was aligned with Kinnucan-Welsch, Rosemary, and Grogran's (2006) findings that teachers who were coached became more familiar with the literacy concepts being taught. In addition to this, a study by Cantrell and Hughes (2008) found that coaching bolstered teachers' effectiveness. The research highlights the potential effectiveness that literacy coaching can have on impacting teacher instruction in the classroom.

Several studies have also highlighted the teachers perspective of literacy coaches. One study found that teachers reported receiving more specific and constructive feedback from literacy coaches (Alverman et al., 2005). Alverman et al. also indicated that teachers believed that the literacy coaches were helpful during demonstration lessons and interpreting assessment data (2005). Another study found that teachers perceived their literacy coaches as knowledgeable (Marsh et al., 2005). Literacy coaches can be an effective resource in supporting literacy instruction in the classroom.

Reading Specialists

Unlike literacy coaches who support literacy instruction in school without formal preparation or training, reading specialists require graduate coursework to receive a reading specialist certification (Quatroche & Wepner, 2008). Often reading specialists serve as literacy leaders in their schools and have the responsibility of supporting the literacy performance of all students, but especially those who struggle in reading (International Reading Association, 2000).

Currently, the standards of reading specialists call for a leadership role within the school because they are expected to ensure that quality teaching for reading and literacy takes place in every classroom (Pipes, 2004). According to the International Reading Association, the role of literacy coach appears under the current standards for reading specialist/coach (2004). The description for reading specialist/coach includes: "be a resource to teachers, paraprofessionals, administrators, and the community; collaborate and work cooperatively with other professionals; provide professional development; and advocate for students (Quatroche & Wepner, 2008, p.100)." Reading specialists often identify their role in the school as being a resource to teachers to support students in reading and literacy (Bean et al., 2002).

Teacher Mentors

Professional learning that is collaborative has shown to be highly effective (Bretzmann et al., 2003; Darling-Hammond et al., 2009; Garet et al., 2001; Penuel et al., 2007; Smylie, 1995; Tom, 1985). A common type of teacher collaboration that supports individual learning is mentoring. Research by Ingersoll and Strong (2011) has found evidence that mentoring can impact teacher learning. However, effective mentoring can be challenging to implement (Fletcher & Barrett, 2004). Fortunately Good, et al. (2006), indicated that novice teachers could successfully learn from mentors as long as they viewed mentoring as a type of collective learning. In addition to this, Hobson et al. (2009) found that mentoring could promote confidence and probleming solving in beginner teachers as well. Furthermore, Fletcher and Barrett (2004) noted that it is important to support collaborative teacher learning for new teachers because they are in the process of learning what to teach, not how to teach.

Resources and Materials

Resources and materials play important roles in curriculum implementation. In the 1990's the National Science Foundation (NSF) began pouring millions of dollars into the development of instructional materials that were based on the recommendations of the National Council of Teachers of Mathematics (NCTM) Standards because they realized that "teachers could not implement the recommendations of Standards without curriculum models (Hirsch, 2007, p. ix)." A study by Harris, Penuel, D'Angelo, DeBarger, Gallagher, Kennedy, Cheng, and Krajcik (2015) found that "project-based curriculum materials that incorporate science practices along with disciplinary content

can help students achieve next generation science learning outcomes (p. 1362)." Having instructional materials that support the curriculum are crucial for student learning.

Cuban suggests that curriculum is not only what teachers do but also what they use to present instructional content (1992). However, we must take into consideration how the curricular materials and resources are utilized. As Schoenfeld (2006) commented, "One can imagine curricular materials that, when used in the way intended by the designers, result in significant increases in student performance, but, when used by teachers not invested or trained in the curriculum, result in significant decreases in student performance" (p. 17). This is in line with Remillard's perspective that teachers must engage dynamically with curriculum materials to ensure participation by both teacher and text (2005). In addition to this, it is important that teachers not only engage with curricular materials but that they have sufficient and adequate access to instructional materials that are either prescribed by the curriculum or that are supplemental to enhance student learning.

Appendix B: Documents Reviewed

District	CKLA	EL Education
● Hamilton County Schools: Restructuring Elementary Literacy Instruction	● Hamilton County Schools CKLA Pilot Implementation Plan	● Hamilton County Schools EL Pilot Implementation Plan
● Hamilton County Schools School Profiles	● Summer In-Service Training - CKLA K-2: Agenda and Objectives	● Summer In-Service Training - EL K-5: Introduction to the EL Education K-5 Language Arts Curriculum Institute Agenda
● Hamilton County Schools Benchmark and TNReady Results (February 2020)	● Summer In-Service Training - CKLA 3-5: Session Objectives and Agenda Overview	
● Contact List for Hamilton County Schools Pilot Teachers	● Contact List for Core Knowledge Language Arts Pilot Schools	● Contact List for 2019 EL Education Pilot Schools
● Contact List for Pilot Schools Observation Days		

Appendix C: Pilot Teachers' Implementation Survey

These survey questions are about the trainings, supports, and perceptions toward the curricular implementation of the pilot curriculum at your school site during the 2019-2020 school year. Your participation is voluntary and all responses will remain anonymous. Your participation will help inform a research study conducted by Vanderbilt University doctoral students. Thank you so much!

Part A: Teacher Perceptions on Implementation

1. How many years of experience do you have as a classroom teacher?
   - ❏ 0-1 year
   - ❏ 2-3 years
   - ❏ 4-6 years
   - ❏ 7 or more years

2. How confident do you feel in your ability to teach literacy skills to students?
   - ❏ I have no confidence
   - ❏ I have low confidence
   - ❏ I have some confidence
   - ❏ I have confidence
   - ❏ I have high confidence

3. I believe the type of literacy curriculum that promotes student reading success is ___.
   - ❏ Unstructured
   - ❏ Somewhat structured
   - ❏ Structured
   - ❏ Very structured

4. Please elaborate below:

5. What experience do you have with implementing the pilot curriculum?
   - ❏ No experience

❏ Some experience
❏ Enough experience to feel confident
❏ Enough experience to train others

6. I am comfortable with implementing the pilot curriculum.
❏ Strongly disagree
❏ Disagree
❏ Somewhat disagree
❏ Neither agree nor disagree
❏ Somewhat agree
❏ Agree
❏ Strongly agree

7. I feel enthusiastic about the implementation of the pilot curriculum at the elementary tier.
❏ Strongly disagree
❏ Disagree
❏ Somewhat disagree
❏ Neither agree nor disagree
❏ Somewhat agree
❏ Agree
❏ Strongly agree

8. Overall, what percentage of your lessons incorporates material from the pilot curriculum?
❏ 0-24%
❏ 25-49%
❏ 50-74%
❏ 75-100%

9. Which components of the pilot curriculum are you implementing the most? Please elaborate below:

10. What percentage of your direct instruction incorporates material from the pilot curriculum?
❏ 0-24%
❏ 25-49%

❏ 50-74%
❏ 75-100%

11. What percentage of your models or examples utilizes material from the pilot curriculum?
   ❏ 0-24%
   ❏ 25-49%
   ❏ 50-74%
   ❏ 75-100%

12. What percentage of students' independent work is designed based on material from the pilot curriculum?
   ❏ 0-24%
   ❏ 25-49%
   ❏ 50-74%
   ❏ 75-100%

13. How often do you use material from the pilot curriculum for direct instruction?
   ❏ Never
   ❏ 1-2 days per week
   ❏ 3-4 days per week
   ❏ Daily

14. How often do you use material from the pilot curriculum as models or examples for your students?
   ❏ Never
   ❏ 1-2 days per week
   ❏ 3-4 days per week
   ❏ Daily

15. How often do you use material from the pilot curriculum to design your students' independent work?
   ❏ Never
   ❏ 1-2 days per week
   ❏ 3-4 days per week
   ❏ Daily

16. How often do you use material from the pilot curriculum for homework or home learning?
    - ❏ Never
    - ❏ 1-2 days per week
    - ❏ 3-4 days per week
    - ❏ Daily

17. The pilot curriculum should be expanded districtwide.
    - ❏ Strongly disagree
    - ❏ Disagree
    - ❏ Somewhat disagree
    - ❏ Neither agree nor disagree
    - ❏ Somewhat agree
    - ❏ Agree
    - ❏ Strongly agree

18. I prefer my pilot curriculum over my prior literacy instruction.
    - ❏ Strongly disagree
    - ❏ Disagree
    - ❏ Somewhat disagree
    - ❏ Neither agree nor disagree
    - ❏ Somewhat agree
    - ❏ Agree
    - ❏ Strongly agree

19. Please explain why you do or do not prefer your pilot curriculum to your prior literacy instruction:

20. In my opinion, the pilot curriculum has a positive impact on students' love for reading.
    - ❏ Strongly disagree
    - ❏ Disagree
    - ❏ Somewhat disagree
    - ❏ Neither agree nor disagree
    - ❏ Somewhat agree
    - ❏ Agree

❏ Strongly agree

21. In my opinion, the pilot curriculum has a positive impact on students' literacy achievement.
   ❏ Strongly disagree
   ❏ Disagree
   ❏ Somewhat disagree
   ❏ Neither agree nor disagree
   ❏ Somewhat agree
   ❏ Agree
   ❏ Strongly agree

22. Based on my expertise, I believe that the pilot curriculum is _____ at increasing students' literacy achievement, as compared to prior literacy instruction.
   ❏ Much less effective
   ❏ Less effective
   ❏ Just as effective
   ❏ More effective
   ❏ Much more effective

23. Which subgroups benefit from the implementation of the pilot curriculum, as measured by assessment scores? Check all that apply.
   ❏ Economically Disadvantaged
   ❏ English Language Learner
   ❏ Exceptional Education
   ❏ General Education

24. Which subgroups benefit from the implementation of the pilot curriculum, as measured by assessment scores? Check all that apply.
   ❏ African American
   ❏ Asian/Pacific Islander
   ❏ Hispanic/Latinx
   ❏ White
   ❏ Other

25. In my classroom, my pilot curriculum has (a) ___ impact on students who are reading **below** grade level.
- ❏ Very negative impact
- ❏ Negative impact
- ❏ Slightly negative impact
- ❏ No impact
- ❏ Slightly positive impact
- ❏ Very positive impact

26. In my classroom, my pilot curriculum has (a) ___ impact on students who are reading **at** grade level.
- ❏ Very negative impact
- ❏ Negative impact
- ❏ Slightly negative impact
- ❏ No impact
- ❏ Slightly positive impact
- ❏ Very positive impact

27. In my classroom, my pilot curriculum has (a) ___ impact on students who are reading **above** grade level.
- ❏ Very negative impact
- ❏ Negative impact
- ❏ Slightly negative impact
- ❏ No impact
- ❏ Slightly positive impact
- ❏ Very positive impact

28. Which subgroup benefits the most from a comprehensive literacy program?
- ❏ Economically Disadvantaged
- ❏ English Language Learner
- ❏ Exceptional Education
- ❏ General Education

29. Please provide any additional comments about the pilot curriculum that you think is pertinent for your district to understand:

30. Are there any instructional strategies that you are currently using as a result of implementing the pilot curriculum that you were not utilizing prior? If so, please elaborate:

Part B: Teachers' Trainings, Supports, and Satisfaction

31. How satisfied are you with the in-service training you have received for the pilot curriculum?
   - ❏ Extremely dissatisfied
   - ❏ Moderately dissatisfied
   - ❏ Slightly dissatisfied
   - ❏ Neither satisfied nor dissatisfied
   - ❏ Slightly satisfied
   - ❏ Moderately satisfied
   - ❏ Extremely satisfied

32. Please elaborate below:

33. How equipped do you feel in implementing the pilot curriculum?
   - ❏ Not at all
   - ❏ Somewhat equipped
   - ❏ Adequately equipped
   - ❏ Very equipped

34. Please elaborate below:

35. Check all that apply. I have received training on how to implement the pilot curriculum through the following types of professional learning:
- ❏ District training
- ❏ School-wide training
- ❏ Grade-specific training
- ❏ Coaching/mentoring
- ❏ Self-taught
- ❏ None of the above

36. Describe your satisfaction with **district-level** training and support on the pilot curriculum.
- ❏ Extremely dissatisfied
- ❏ Moderately dissatisfied
- ❏ Slightly dissatisfied
- ❏ Neither satisfied nor dissatisfied
- ❏ Slightly satisfied
- ❏ Moderately satisfied
- ❏ Extremely satisfied

37. Describe your satisfaction with **school-led** training and support on the pilot curriculum.
- ❏ Extremely dissatisfied
- ❏ Moderately dissatisfied
- ❏ Slightly dissatisfied
- ❏ Neither satisfied nor dissatisfied
- ❏ Slightly satisfied
- ❏ Moderately satisfied
- ❏ Extremely satisfied

38. How frequently are you receiving ongoing support for implementing the pilot curriculum?
- ❏ None
- ❏ Just during in-service training(s)
- ❏ Monthly
- ❏ Bi-weekly
- ❏ Weekly
- ❏ Daily

39. What existing school- or district-level supports help you implement the pilot curriculum?

40. What additional school- or district-level supports would help you implement the pilot curriculum?

41. How has the amount of time you spend **searching for** instructional materials changed, as a result of implementing the pilot curriculum?
- ❏ Decreased to a great extent
- ❏ Decreased to some extent
- ❏ No change
- ❏ Increased to some extent
- ❏ Increased to a great extent

42. How has the amount of time you spend **creating** instructional materials changed, as a result of implementing the pilot curriculum?
- ❏ Decreased to a great extent
- ❏ Decreased to some extent
- ❏ No change
- ❏ Increased to some extent
- ❏ Increased to a great extent

43. How has the amount of time you spend **preparing** instructional materials changed, as a result of implementing the pilot curriculum?
- ❏ Decreased to a great extent
- ❏ Decreased to some extent
- ❏ No change
- ❏ Increased to some extent
- ❏ Increased to a great extent

44. How much time do you spend **searching for** instructional materials, with the implementation of the pilot curriculum?

❏ 0-1 hour per week
❏ 1-2 hours per week
❏ 2-3 hours per week
❏ 4-5 hours per week
❏ 6 or more hours per week

45. How much time do you spend **creating** instructional materials, with the implementation of the pilot curriculum?
❏ 0-1 hour per week
❏ 1-2 hours per week
❏ 2-3 hours per week
❏ 4-5 hours per week
❏ 6 or more hours per week

46. How much time do you spend **preparing** instructional materials, with the implementation of the pilot curriculum?
❏ 0-1 hour per week
❏ 1-2 hours per week
❏ 2-3 hours per week
❏ 4-5 hours per week
❏ 6 or more hours per week

47. What challenges have you come across during your implementation of the pilot curriculum in your classroom?

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Thank you so much for your time!

Appendix D: Pilot Administrators' Implementation Survey

These survey questions are about the school-wide trainings, supports, and perceptions regarding the curricular implementation of the pilot curriculum at your school site during the 2019-2020 school year. Your participation is voluntary and all responses will remain anonymous. Your participation will help inform a research study conducted by Vanderbilt University doctoral students. Thank you so much!

1. The pilot curriculum has a positive impact on students' literacy achievement at your school.
   - ❏ Strongly disagree
   - ❏ Disagree
   - ❏ Somewhat disagree
   - ❏ Neither agree nor disagree
   - ❏ Somewhat agree
   - ❏ Agree
   - ❏ Strongly agree

2. Do you prefer the pilot curriculum over previous literacy instruction at your school?
   - ❏ Yes
   - ❏ No
   - ❏ Maybe

3. Please elaborate below:

4. How equipped do you feel in implementing the pilot curriculum at your school?
   - ❏ Not at all
   - ❏ Somewhat equipped
   - ❏ Adequately equipped
   - ❏ Very equipped

5. Is your school equipped with the resources to support teachers in the implementation of the pilot curriculum?
   - ❏ Not at all

❏ Somewhat equipped
❏ Equipped
❏ Very equipped

6. How satisfied are you with the implementation of the pilot curriculum at your school?
   ❏ Extremely dissatisfied
   ❏ Moderately dissatisfied
   ❏ Slightly dissatisfied
   ❏ Neither satisfied nor dissatisfied
   ❏ Slightly satisfied
   ❏ Moderately satisfied
   ❏ Extremely satisfied

7. What challenges have you come across during the implementation of the pilot curriculum at your school?

8. The pilot curriculum should be expanded districtwide.
   ❏ Strongly disagree
   ❏ Disagree
   ❏ Somewhat disagree
   ❏ Neither agree nor disagree
   ❏ Somewhat agree
   ❏ Agree
   ❏ Strongly agree

9. How often are your teachers implementing the pilot curriculum?
   ❏ Never
   ❏ Rarely
   ❏ Sometimes
   ❏ Very often
   ❏ Always

10. From your perspective, which components of the pilot curriculum are implemented the most? Please elaborate below:

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11. From your perspective, which components of the pilot curriculum do you think require more extensive training? Please elaborate below:

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12. Your teachers prefer the pilot curriculum over what was done before.
- ❏ Strongly disagree
- ❏ Disagree
- ❏ Somewhat disagree
- ❏ Neither agree nor disagree
- ❏ Somewhat agree
- ❏ Agree
- ❏ Strongly agree

13. Please elaborate below:

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14. Describe your teachers' satisfaction with the in-service training they received on how to implement the pilot curriculum.
- ❏ Extremely dissatisfied
- ❏ Moderately dissatisfied
- ❏ Slightly dissatisfied
- ❏ Neither satisfied nor dissatisfied
- ❏ Slightly satisfied
- ❏ Moderately satisfied
- ❏ Extremely satisfied

15. Please elaborate below:

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16. How equipped are your teachers in implementing the pilot curriculum?
- ❏ Not at all
- ❏ Somewhat equipped
- ❏ Adequately equipped
- ❏ Very equipped

17. Please elaborate below:

18. What percentage of your teaching staff receives **district-level** training on the pilot curriculum?
- ❏ 0-24%
- ❏ 25-49%
- ❏ 50-74%
- ❏ 75-100%

19. What percentage of your **pilot** teachers receives **district-level** training on the pilot curriculum?
- ❏ 0-24%
- ❏ 25-49%
- ❏ 50-74%
- ❏ 75-100%

20. How often do your **pilot** teachers receive **district-level** training on the pilot curriculum?
- ❏ Never
- ❏ Just during in-service training(s)
- ❏ Monthly
- ❏ Bi-weekly

21. What percentage of your teaching staff receives **school-led** training on the pilot curriculum?
- ❏ 0-24%
- ❏ 25-49%
- ❏ 50-74%
- ❏ 75-100%

22. What percentage of your **pilot** teachers receives **school-led** training on the pilot curriculum?
  - ❏ 0-24%
  - ❏ 25-49%
  - ❏ 50-74%
  - ❏ 75-100%

23. How often do your **pilot** classroom teachers receive **school-led** training on the pilot curriculum?
  - ❏ Never
  - ❏ Just during in-service training(s)
  - ❏ Monthly
  - ❏ Bi-weekly
  - ❏ Weekly

24. What percentage of your teaching staff receives **grade-specific** training on the pilot curriculum?
  - ❏ 0-24%
  - ❏ 25-49%
  - ❏ 50-74%
  - ❏ 75-100%

25. What percentage of your **pilot** teachers receive **grade-specific** training on the pilot curriculum?
  - ❏ 0-24%
  - ❏ 25-49%
  - ❏ 50-74%
  - ❏ 75-100%

26. How often do your **pilot** teachers receive **grade-specific** training on the pilot curriculum?
  - ❏ Never
  - ❏ Just during in-service training(s)
  - ❏ Monthly
  - ❏ Bi-weekly
  - ❏ Weekly
  - ❏ A couple times a week

27. What percentage of your teaching staff receives **coaching/mentoring** on the pilot curriculum?

❏ 0-24%
❏ 25-49%
❏ 50-74%
❏ 75-100%

28. What percentage of your **pilot** teachers receives **coaching/mentoring** on the pilot curriculum?
❏ 0-24%
❏ 25-49%
❏ 50-74%
❏ 75-100%

29. How often do your **pilot** teachers receive **coaching/mentoring** on the pilot curriculum?
❏ Never
❏ Monthly
❏ Bi-weekly
❏ Weekly
❏ A couple times a week
❏ Daily

30. How satisfied are your teachers with **district-level** training on the pilot curriculum?
❏ Extremely dissatisfied
❏ Moderately dissatisfied
❏ Slightly dissatisfied
❏ Neither satisfied nor dissatisfied
❏ Slightly satisfied
❏ Moderately satisfied
❏ Extremely satisfied

31. How satisfied are your teachers with **school-based** training on the pilot curriculum?
❏ Extremely dissatisfied
❏ Moderately dissatisfied
❏ Slightly dissatisfied
❏ Neither satisfied nor dissatisfied
❏ Slightly satisfied

❏ Moderately satisfied
❏ Extremely satisfied
❏ Not applicable

32. How satisfied are your teachers with **grade-specific** training on the pilot curriculum?
❏ Extremely dissatisfied
❏ Moderately dissatisfied
❏ Slightly dissatisfied
❏ Neither satisfied nor dissatisfied
❏ Slightly satisfied
❏ Moderately satisfied
❏ Extremely satisfied
❏ Not applicable

33. How satisfied are your teachers with **coaching/mentoring** on the pilot curriculum?
❏ Extremely dissatisfied
❏ Moderately dissatisfied
❏ Slightly dissatisfied
❏ Neither satisfied nor dissatisfied
❏ Slightly satisfied
❏ Moderately satisfied
❏ Extremely satisfied
❏ Not applicable

34. From your perspective, what **existing** school- or district-level supports have helped your teachers implement the pilot curriculum?

35. From your perspective, what **additional** school- or district-level supports would help your teachers implement the pilot curriculum?

36. What do you think has been the **most** important factor that has facilitated the implementation of the pilot curriculum at your school?

Thank you so much for your time!

Appendix E: Elementary Teachers' Literacy Practices Survey

These survey questions are intended to capture the literacy practices of teachers at your school site during the 2019-2020 school year. Your participation is voluntary and all responses will remain anonymous. Your participation will help inform a research study conducted by Vanderbilt University doctoral students. Thank you so much!

Part I: General

1. What grade level do you teach? Check all that apply.
   - ❏ K
   - ❏ 1st
   - ❏ 2nd
   - ❏ 3rd
   - ❏ 4th
   - ❏ 5th

2. How many years of experience do you have as a classroom teacher?
   - ❏ 0-1 year
   - ❏ 2-3 years
   - ❏ 4-6 years
   - ❏ 7 or more years

3. How confident do you feel in your ability to teach literacy skills to students?
   - ❏ I have no confidence
   - ❏ I have low confidence
   - ❏ I have some confidence
   - ❏ I have confidence
   - ❏ I have high confidence

4. I believe the type of literacy curriculum that promotes student reading success is ___.
   - ❏ Unstructured
   - ❏ Somewhat structured
   - ❏ Structured

❏ Very structured

5. I believe that _____ are effective at developing students' literacy skills. Check all that apply.
   ❏ Teacher-centered, direct instruction methods
   ❏ Project-based learning opportunities
   ❏ Interdisciplinary learning opportunities
   ❏ Inquiry learning opportunities

6. I believe the end goal of reading practice is to achieve fluent, automatic reading.
   ❏ Strongly disagree
   ❏ Disagree
   ❏ Somewhat disagree
   ❏ Neither agree or disagree
   ❏ Somewhat agree
   ❏ Agree
   ❏ Strongly agree

7. Describe your experience with the Core Knowledge Language Arts curriculum.
   ❏ No experience
   ❏ Some experience
   ❏ Enough experience to feel confident
   ❏ Enough experience to train others

8. Describe experience with the EL Education curriculum.
   ❏ No experience
   ❏ Some experience
   ❏ Enough experience to feel confident
   ❏ Enough experience to train others

Part II: Phonemic Awareness

9. Do you provide explicit instruction on phonemic awareness?
   ❏ Not at all
   ❏ Very little

❏ Somewhat
❏ Yes, on a consistent basis
❏ Yes, to a great extent

10. How often do you do so?
❏ Never
❏ 1-2 days per week
❏ 3-4 days per week
❏ Daily

11. If applicable, please list the different types of explicit instruction for phonemic awareness that you use:

Part III: Phonics

12. Phonics instruction should be systematic.
❏ Strongly disagree
❏ Disagree
❏ Somewhat disagree
❏ Neither agree nor disagree
❏ Somewhat agree
❏ Agree
❏ Strongly agree

13. Do you incorporate systematic phonics instruction into your teaching?
❏ Not at all
❏ Very little
❏ Somewhat
❏ Yes, on a consistent basis
❏ Yes, to a great extent

14. How frequently does this occur?
❏ Never

❏ 1-2 days per week
❏ 3-4 days per week
❏ Daily

15. Describe your general approach to phonics instruction.
   ❏ Synthetic phonics: Students are taught to decode words based on the smallest sound unit (i.e. phonemes).
   ❏ Analytic phonics: Students are taught to decode words based on larger sound units, such as word patterns or word families (e.g., -an, -at, -up).

16. How do your students practice the phonics or "sound-spellings" that they have been taught?
Check all that apply.
   ❏ Writing
   ❏ Spelling
   ❏ Word-level reading
   ❏ Word sorts

17. How much time do your students spend on writing?
   ❏ Never
   ❏ Fewer than 15 minutes per day
   ❏ 15 minutes per day
   ❏ More than 15 minutes per day

18. How much time do your students spend on spelling?
   ❏ Never
   ❏ Fewer than 15 minutes per day
   ❏ 15 minutes per day
   ❏ More than 15 minutes per day

19. How much time do your students spend on word-level reading?
   ❏ Never
   ❏ Fewer than 15 minutes per day
   ❏ 15 minutes per day
   ❏ More than 15 minutes per day

20. How much time do your students spend on word sorts?
❏ Never
❏ Fewer than 15 minutes per day
❏ 15 minutes per day
❏ More than 15 minutes per day

21. Describe the proportion of time spent on decoding and comprehension in your literacy instruction.
❏ Only decoding
❏ More decoding than comprehension
❏ A little more decoding than comprehension
❏ Equal decoding and comprehension
❏ A little more comprehension than decoding
❏ More comprehension than decoding
❏ Only comprehension

Part IV: Fluency

22. Do you incorporate fluency instruction into your teaching?
❏ Not at all
❏ Very little
❏ Somewhat
❏ Yes, on a consistent basis
❏ Yes, to a great extent

23. How frequently does this occur?
❏ Never
❏ 1-2 days per week
❏ 3-4 days per week
❏ Daily

24. Describe the fluency practice in your classroom. Check all that apply.
❏ Decodable readers
❏ Spelling lists

❏ Fluency packets
❏ Other: ____

Part V: Vocabulary

25. The classroom environment should be language rich.
   ❏ Strongly disagree
   ❏ Disagree
   ❏ Somewhat disagree
   ❏ Neither agree nor disagree
   ❏ Somewhat agree
   ❏ Agree
   ❏ Strongly agree

26. Do you incorporate vocabulary instruction into your teaching?
   ❏ Not at all
   ❏ Very little
   ❏ Somewhat
   ❏ Yes, on a consistent basis
   ❏ Yes, to a great extent

27. How frequently does this occur?
   ❏ Never
   ❏ 1-2 days per week
   ❏ 3-4 days per week
   ❏ Daily

28. Describe your general approach to vocabulary instruction. Check all that apply.
   ❏ Implicit vocabulary learning
   ❏ Explicit vocabulary learning

Part VI: Reading Comprehension
29. The interconnectivity of vocabulary, comprehension, and knowledge development cannot be overlooked during reading instruction.

- ❏ Strongly disagree
- ❏ Disagree
- ❏ Somewhat disagree
- ❏ Neither agree nor disagree
- ❏ Somewhat agree
- ❏ Agree
- ❏ Strongly agree

30. To what degree do you incorporate the use of reading comprehension strategies in your teaching?
- ❏ Not at all
- ❏ Very little
- ❏ Somewhat
- ❏ To a great extent

31. How frequently does this occur?
- ❏ Never
- ❏ 1-2 days per week
- ❏ 3-4 days per week
- ❏ Daily

32. Describe the reading comprehension practices in your classroom. Check all that apply.
- ❏ Interactive Read-Aloud
- ❏ Lessons that deepen students' knowledge base across multiple topics (e.g. literature, science, American History, World History, etc.)
- ❏ Learning expeditions that have an audience beyond the classroom
- ❏ Lessons that help students develop inquiry skills
- ❏ Lessons that help students develop research skills
- ❏ Lessons that help students develop habits of scholarship that motivate them to persist with their work until it is of high quality

Part VII: Student Knowledge and Learning

33. At your school, is there vertical alignment across grade levels that deepens students' knowledge base?
- ❏ Not at all

❏ Very little
❏ Somewhat
❏ Yes, to an adequate extent
❏ Yes, to a great extent

34. Students in my **class** develop knowledge in the following topic(s). Check all that apply.
❏ Literature
❏ Science
❏ American History
❏ World History

35. Students in my **class** do not develop knowledge in the following topic(s). Check all that apply.
❏ Literature
❏ Science
❏ American History
❏ World History

36. Students at my **school** develop knowledge in the following topic(s). Check all that apply.
❏ Literature
❏ Science
❏ American History
❏ World History

37. Students at my **school** do not develop knowledge in the following topic(s). Check all that apply.
❏ Literature
❏ Science
❏ American History
❏ World History

38. I believe that students acquire literacy skills through learning expeditions that have an authentic audience beyond the classroom.
❏ Strongly disagree
❏ Disagree
❏ Somewhat disagree

❏ Neither agree nor disagree
❏ Somewhat agree
❏ Agree
❏ Strongly agree

39. I guide my students to acquire literacy skills through learning expeditions that have an authentic audience beyond the classroom.
❏ Not at all
❏ Very little
❏ Somewhat
❏ To an adequate extent
❏ To a great extent

40. I believe that learning with a purpose helps students develop their literacy skills.
❏ Strongly disagree
❏ Disagree
❏ Somewhat disagree
❏ Neither agree nor disagree
❏ Somewhat agree
❏ Agree
❏ Strongly agree

41. I guide my students to develop literacy skills through learning that has a purpose.
❏ Not at all
❏ Very little
❏ Somewhat
❏ To a great extent

Part VIII: School-Wide Practices

42. How do teachers at your school support students at their level of instruction? Check all that apply.
❏ Assessments
❏ Differentiated instruction
❏ Progress monitoring

43. How well do teachers at your school utilize ongoing assessments to track students' literacy performance?
- ❏ Very poorly
- ❏ Poorly
- ❏ Adequately
- ❏ Well
- ❏ Very well

44. How well do teachers at your school differentiate literacy instruction based on students' learning needs?
- ❏ Very poorly
- ❏ Poorly
- ❏ Adequately
- ❏ Well
- ❏ Very well

45. How well do teachers at your school monitor students' literacy development?
- ❏ Poor
- ❏ Very poor
- ❏ Adequately
- ❏ Good
- ❏ Very good

Appendix F: Pilot Teachers' Interview Protocol

Part 1: Teacher Perceptions and Satisfaction

1. How many years of experience do you have as a classroom teacher?

2. How long have you taught in Hamilton County Schools?

3. Why do you think your school chose to pilot the pilot curriculum?

4. Is there anything you like about the pilot curriculum?

5. Do you prefer or not prefer the pilot curriculum over your previous reading instruction?

6. In your opinion, does the pilot curriculum improve the literacy achievement of the general student population?

7. In your opinion, is there a socioeconomic group that benefits the most from the pilot curriculum?

8. Do you believe that the pilot curriculum can significantly narrow the achievement gap that exists among ethnic groups? Please elaborate.

9. Do you believe that the pilot curriculum can significantly narrow the achievement gap that exists among students from different levels of socio-economic status? Please elaborate.

10. Do you believe that the pilot curriculum can significantly improve the academic achievement of students with disabilities? Please elaborate.

11. Do you believe that the pilot curriculum can significantly improve the academic achievement of English language learners? Please elaborate.

Part 2: Curricular Implementation

12. Do you feel prepared to implement the pilot curriculum?

13. Approximately what percentage of your daily Reading and Language Arts period is spent using the pilot curriculum curriculum?

14. What components of the pilot curriculum do you implement the most? Why?

15. What components of the pilot curriculum do you *not* implement? Why?

16. Are there any instructional strategies that you are currently using now that you were not before, as a result of implementing the pilot curriculum?

17. How do you incorporate pilot curricular materials in the classroom (e.g. create tasks or activities; provide models or examples for students; assign independent work; assign homework, etc.)?

18. Do you feel other teachers are prepared to implement the pilot curriculum?

19. To what degree are other teachers implementing the pilot curriculum?

20. Are you spending less time searching for and creating literacy materials, with the adoption of the pilot curriculum?

21. What challenges have you come across during your implementation of the pilot curriculum in your classroom?

Part 3: Trainings and Supports

22. How satisfied were you with the in-service training for the pilot curriculum?

23. How equipped do you feel in implementing the pilot curriculum?

24. What current district-level supports help you implement the pilot curriculum?

25. What current district-level supports do you wish you had for implementing the pilot curriculum?

26. What current school-level supports help you implement Core Knowledge Language Arts?

27. What current school-level supports do you wish you had for implementing the pilot curriculum?

28. Who do you go to for support with the pilot curriculum?

29. Do you have anything else to add about the pilot curriculum that you think is pertinent for your district to understand?

30. If your pilot curriculum were to expand district wide, what trainings, supports, and materials are necessary for successful implementation?

Appendix G: Pilot Administrators' Interview Protocol

Part 1: Administrator Perceptions and Satisfaction

1. How many years of experience do you have as an administrator?

2. How long have you been with Hamilton County Schools?

3. Why did your school choose to pilot the Core Knowledge Language Arts or EL Education curriculum?

4. Is there anything you like about your pilot curriculum?

5. What do you think your teachers' perceptions are on the pilot curriculum?

6. Do you think your teachers are satisfied with the pilot curriculum?

7. In your opinion, do you think the pilot curriculum will have an impact on literacy achievement at your school?

Part 2: Curricular Implementation

8. Do you feel that you are prepared as an administrator to implement your pilot curriculum?

9. Do you feel that your teachers are prepared to implement the pilot curriculum?

10. What components of the pilot curriculum do your teachers implement the most?

11. What components of the pilot curriculum do your teachers *not* implement?

12. Do you feel prepared to give quality feedback to your teachers on the pilot curriculum?

13. What is the biggest change, if any, that you have noticed among your teachers and their literacy practices?

14. Do you think that teachers are spending less time searching for and creating literacy materials, with the adoption of Core Knowledge Language Arts?

15. What challenges have you come across during your implementation of the pilot curriculum in your school?

Part 3: Trainings and Supports

16. How satisfied were you with the in-service training for the pilot curriculum?

17. Do you feel your school was equipped to implement the pilot curriculum?

18. What current district-level supports are being utilized at your school to implement the pilot curriculum?

19. What current district-level supports do you wish your school had for implementing the pilot curriculum?

20. What systems and resources do you have at your school that support the implementation of the pilot curriculum?

21. What systems and resources do you wish you had to support the implementation of the pilot curriculum?

22. Who do you go to for support with the pilot curriculum?

23. Who do your teachers go to for support with the pilot curriculum?

24. Do you have anything else to add about the pilot curriculum that you think is pertinent for your district to understand?

25. If your pilot curriculum were to expand district wide, what trainings, supports, and materials are necessary for successful implementation?

Appendix H: Qualitative Interview Matrix

Position: Teacher or Principal
Curriculum: CKLA or EL Education

Concept	THEMES & EVIDENCE					
	Theme	Key Quotes	Theme	Key Quotes	Documents	Observations
Perceptions and Satisfaction						
Curricular Implementation						
Trainings and Supports						

Appendix I: Quantitative Analysis

Table I1
One-Way ANOVA of CKLA Teachers' Frequency of Ongoing Supports by Curricular Implementation

Source	SS	dF	MS	F	Prob > F
Within groups	20.646	5	4.129	1.61	0.175
Between groups	131.073	51	2.570		
Total	151.719	56	2.709		

Table I2
One-Way ANOVA of EL Education Teachers' Frequency of Ongoing Supports by Curricular Implementation

Source	SS	dF	MS	F	Prob > F
Within groups	6.822	4	1.706	0.69	0.605
Between groups	89.275	36	2.480		
Total	96.098	40	2.402		

Table I3
One-Way ANOVA of CKLA Administrators' Frequency of Ongoing Supports by Curricular Implementation

Source	SS	dF	MS	F	Prob > F
Within groups	.15	2	.075	0.70	0.528
Between groups	.75	7	.107		
Total	.9	9	.1		

Table I4
One-Way ANOVA of EL Education Administrators' Frequency of Ongoing Supports by Curricular Implementation

Source	SS	dF	MS	F	Prob > F
Within groups	.433	3	.144	3.18	0.067
Between groups	.5	11	.045		
Total	.933	14	.067		

Appendix J: Quantitative Analysis

Table J1
One-Way ANOVA of CKLA Teachers' Satisfaction with Ongoing Supports by Curricular Implementation

Source	SS	dF	MS	F	Prob > F
Within groups	33.866	14	2.419	0.76	0.699
Between groups	115.056	36	3.168		
Total	147.922	50	2.958		

*Notes: n=61*p<0.1; **p<0.05; ***p<0.001*

Table J2
One-Way ANOVA of CKLA Administrators' Perceptions of Teachers' Satisfaction with Ongoing Supports by Curricular Implementation

Source	SS	dF	MS	F	Prob > F
Within groups	.9	8	.113	-	-
Between groups	0	1	0		
Total	.9	9	.1		

*Notes: n=10; *p<0.1; **p<0.05; ***p<0.001*

Table J3
One-Way ANOVA of EL Education Administrators' Perceptions of Teachers' Satisfaction with Ongoing Supports by Curricular Implementation

Source	SS	dF	MS	F	Prob > F
Within groups	.429	8	.054	0.54	0.794
Between groups	.5	5	.1		
Total	.929	13	.071		

*Notes: n=15; *p<0.1; **p<0.05; ***p<0.001*