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Professional Learning Community Members' Experiences with Implementation of Core Knowledge Language Arts Curriculum

by

Jillian Boshkoski

Presented to the Graduate and Research Committee

of Lehigh University

in Candidacy for the Degree

of Doctor of Philosophy

in

Teaching, Learning and Technology

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Certificate of Approval

Approved and recommended for acceptance as a dissertation in partial fulfillment for the degree of Doctor of Philosophy.

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Abstract

Many states across the nation are requiring schools and universities to adopt programs and practices that align to the body of research known as the Science of Reading. For meaningful change to occur, schools must go beyond the decision to adopt research-backed programs and act strategically to ensure successful implementation. Implementation science (IS) offers frameworks that have been increasingly applied in school settings to improve implementation efforts for behavioral, health, speech and language and special education interventions in recent years. However, IS frameworks are less often applied to the implementation of Tier 1 core academic curriculum. To date, no research has examined the use of IS frameworks and strategic implementation training to build capacity for teacher leaders to support implementation of academic curriculum through participation in a Professional Learning Community (PLC). Using participant data obtained through interviews, artifacts, surveys, and field notes, I applied the EPIS contextual framework to examine (a) PLC members' feelings of success to support implementation of Core Knowledge language Arts and its supplemental components; and (b) factors that hindered or facilitated PLC members' success to support implementation. Participants felt successful establishing communication systems and less successful moving from identifying barriers to problem solving. Three themes emerged as factors that facilitated PLC members' feelings of success including PLC composition, PLC processes and stakeholder engagement in communication systems. Three themes emerged as factors that hindered PLC members' feelings of success to support implementation including minimal additional training, lack of a dedicated expert and limited protected time. This study provides considerations and guidance for how school leaders, teacher preparation institutions

and researchers can use implementation science frameworks and strategies to train and prepare teacher leaders for the scaling up of evidence-based literacy programs in schools.

Chapter 1: Introduction

Despite decades of research that have provided evidence for best practices in reading instruction, intervention and assessment, student reading comprehension scores in the United States have remained at below proficient levels for most students, with only 31% of students currently reading at or above proficient levels (NAEP, 2024). In efforts to improve reading outcomes, more than forty states have passed laws requiring schools and universities to implement practices and programs that align with the body of research about teaching reading known as the Science of Reading (Schwartz, 2024). However, sustained use of these practices and programs in schools is unlikely without strategic support, and various stakeholders have voiced concerns about how such laws mandating their use will be enacted and implemented in schools (Gaias et al., 2023; Schwartz & Will, 2023; Woulfin & Gabriel, 2022).

Implementation of new reading initiatives can be complicated due to the complex nature of reading. Reading is multi-faceted and comprises a number of components that are critical for successful reading comprehension, including phonological awareness, alphabetic principle, phonics knowledge, decoding skills, sight recognition of words, background knowledge, vocabulary, language structure, verbal reasoning and literacy knowledge (Castles et al., 2018; Hoover & Tunmer, 2018; National Reading Panel, 2000; Scarborough, 2001). Given the complexity of reading, many teachers struggle to provide comprehensive evidence-based instruction (Castles et al., 2018; Hudson et al., 2021). In an attempt to improve reading instruction, standardized curricula have been developed to effectively support the different components of reading, such as Success for All, a K-5 reading program that focuses on cooperative learning to build students foundational and comprehension skills (Borman et al., 2007; Cheung et al., 2021; Success for All Foundation, 2020) and Journeys, a comprehensive

K-6 language arts curriculum that uses teacher read-aloud, vocabulary, phonics, comprehension, and fluency activities (Houghton Mifflin Harcourt, 2017; Resendez & Azin, 2013). However, a foundational skill that is often overlooked in the development of such reading curricula is the development of student background knowledge, or the knowledge that a reader brings to the text. Researchers have long agreed that both students' academic and cultural knowledge affect comprehension, and studies have found that content knowledge building has positive effects on students' comprehension (Cabell & Hwang, 2020; Cervetti et al., 2016).

Across the nation, there has been growing interest in evidence-based programs to support language development and comprehension using content-rich reading instruction (Cabell et al., 2025). Unlike curricula that emphasize strategies and skills (e.g., teaching how to make inferences, discern the main idea, use phonics principles to teach letter-sound correspondence), content-rich instruction within a knowledge-building curriculum integrates content area instruction and literacy instruction using systematically sequenced texts around thematic topics (e.g., ancient civilizations, animal classification, colonial America), to promote both the oral language and knowledge essential to future reading success (Cabell et al., 2025; Coleman & Concannon, 2022; Hwang et al., 2023; Smith et al., 2021). Amplify Education Inc.'s Core Knowledge Language Arts (2025) is one example of a Tier 1 (i.e., used at the classroom-level with all students), comprehensive, knowledge-building curriculum that has shown promising evidence for improving students reading achievement, content area knowledge, vocabulary and language (Cabell et al., 2025; Grissmer et al., 2023; Hwang et al., 2023). The increasing awareness of the importance of scientifically backed literacy instruction among policy makers and practitioners has prompted many school districts to replace or supplement existing programs with new curricula, training, and intervention programs.

However, the decision to adopt a new curriculum or program alone does not guarantee improved outcomes for students.

For programs to be successful, teachers should implement them as intended (Durlak & DuPre, 2008). Yet, there are many factors that can impact teacher practice and how teachers use programs. In the last few years, a growing number of researchers have begun to study the use of evidence-based practices in schools by applying theories, frameworks and models from the field of implementation science (IS) (Locke et al., 2019; Lyon et al., 2019; Lyon & Bruns, 2019; Odom et al., 2022). Implementation science examines the uptake of new practices and programs as a multi-phase process and considers a number of core components, or constructs, that can impact implementation (Aarons et al., 2011; Fixsen et al., 2009). Through an IS lens, researchers have identified factors at the innovation (i.e., practice or program), organizational (i.e., school or district) and individual (i.e., teacher) levels that impact implementation efforts in schools, such as support from leadership, teacher attitudes and beliefs, time, fit of the program within the setting or with past practice, and availability of resources, such as training, coaching and staff (Cook & Odom, 2013; Lyon et al., 2018; Lyon & Bruns, 2019; Odom et al., 2014). Research that specifically considers the factors related to curriculum implementation has revealed the importance of curriculum quality, variation of teachers' use of the curriculum, leadership, training, stakeholder involvement, teacher capacity for change, teacher self-efficacy and teachers' knowledge of content and pedagogical practices (Cobourn & Woulfin, 2012; Kaufman et al., 2020; Neuman & Danielson, 2021; Woulfin & Gabriel, 2023). Though understanding factors that influence implementation is essential, in order for positive change to occur, it is important to move beyond evaluation alone. With training and support for implementation strategies in real world contexts, researchers can engage stakeholders, such as

teacher leaders, in applying implementation knowledge to improve program implementation outcomes.

Studies cite the importance of engaging multiple stakeholders in implementation efforts through the use of a team-based approach (Kittelman et al., 2022; McCullough et al., 2017; McGuier et al., 2023). In schools, in particular, the establishment of teams to support implementation aligns with the concept of distributed leadership (i.e., leadership that is shared across multiple individuals and roles). This type of shared leadership was recently identified by researchers as a new leadership dimension in the organizational implementation context of schools compared to previously conceptualized dimensions from other contexts (Locke, 2019). Despite the importance of teams, challenges can persist in this approach to implementation including the quality of collaboration, lack of vision and structure, communication breakdowns, and leadership (McGuier et al., 2023).

In prior studies of curriculum implementation, teachers cite the need for structured time for collaboration to address challenges throughout implementation (Obara & Sloan, 2010, Penuel et al., 2007). To improve teacher capacity and structures for supporting implementation, practitioners such as district level leaders (i.e. department heads), literacy leaders (i.e., reading specialists), and those directly implementing the curriculum (i.e., teachers), may benefit from training and the development of professional learning communities (PLCs) to more effectively assess and respond to contextual factors that can impact uptake of new programs (Leppin et al., 2021). As frontline practitioners, these teams of teacher leaders can work together to serve as champions for the program, identify and address contextual barriers, and maintain communication with key stakeholders such as other teachers and district administrators, for improved implementation, and ultimately, student outcomes (Kittelman et al., 2021).

Though team-based implementation support has been associated with positive outcomes in schools for school-wide initiatives such as multi-tiered systems of support and school-wide positive behavior interventions and supports (Kittelman et al., 2021; Mathews et al., 2014), no known studies have explicitly explored teacher leaders' experiences with the application of implementation science frameworks and strategies, such as training and facilitation, for the implementation of core academic programs and curriculum in schools. As such, there is a need for studies of team-based processes and implementation strategies in existing implementation theories, models and frameworks (McGuier et al., 2023), especially in school settings. This qualitative case study examined teacher leaders' experiences with the use of implementation strategies during implementation of the Core Knowledge Language Arts curriculum and associated supplemental programs. Implementation strategies included (a) the development of a professional learning community (PLC); (b) training on implementation science principles; and (c) the development of multilevel stakeholder communication systems to identify determinants, facilitate problem solving and improve communication among stakeholders (i.e., teacher leaders, administrators, and implementing teachers). Through qualitative methods, I was able to better understand PLC members' feelings of success to support implementation of Core Knowledge Language Arts and its supplemental programs, and the degree to which the application of implementation science principles facilitated the success of Core Knowledge Language Arts and its supplemental components' implementation. Study findings are useful to understand how researchers, program designers or district level school leaders can build teacher leaders' capacity for supporting the implementation of new practices and programs in schools through teams, training and facilitation grounded in implementation science.

Chapter 2: Literature Review

Researchers agree that many components are involved in successful reading. Teachers must address skills related to both word recognition and language for effective comprehension to take place. Teachers may rely on high-quality, evidence-based curriculum to help meet the many needs of students and effectively include all of the various necessary components for reading instruction. The use of curriculum can guide the work of educators, support collaboration to foster educator knowledge of content and pedagogy, and promote consistency and as such, has been described as "a foundational pillar of infrastructure for reading reform" (Woulfin & Gabriel, 2020, p. S110). Furthermore, reading curriculum can help align supplementary instruction (i.e. matching the scope, sequence and pacing of supplementary instruction to core instruction) which has been shown to benefit struggling readers in the areas of decoding, fluency and comprehension (Wonder-McDowell, 2011). However, teachers face a number of challenges to implementing a curriculum with fidelity. Therefore, it is crucial that school leaders are knowledgeable about how to use strategic processes that account for the unique contexts of schools and their learners to support curriculum implementation. Teachers must be explicitly supported in implementation, such as through ongoing professional development, an effective communication strategy for clarity and transparency, team-based systems for collaboration across teachers and administrators (i.e. the development of professional learning communities), involved and inspirational leadership, and competent personnel supporting implementation (Gouëdard et al., 2020; Moore et al., 2024; Odom et al., 2022). To improve capacity for providing support to teachers, teacher leaders need to better understand how to leverage implementation science principles to implement strategies for EBP uptake in schools (Moore et al., 2024). The integration of implementation science concepts

during training for leaders can potentially fill knowledge gaps about the use of specific implementation strategies to support teachers in implementing new curriculum for better student outcomes in reading.

Effective Reading Instruction

Reading is complex and involves a number of essential components that must be intact in order for successful reading comprehension to occur. Two prominent theories posit the critical skills of word recognition and language comprehension as necessary for effective reading comprehension (Gough & Tunmer, 1986; Scarborough, 2001). Word recognition refers to the ability to decode words in print, and requires skills related to alphabetic principle, letter recognition, phonological awareness, and sight recognition of familiar words. Language comprehension is made up of the essential components of background knowledge, vocabulary, language structures, verbal reasoning, and literacy knowledge. Background knowledge, or the understandings, experiences, and knowledge a person brings to a text, is fundamental to linguistic comprehension and has consistently been demonstrated to be a crucial element of reading comprehension (Cabell & Hwang, 2020, Cromley & Azevedo, 2007; Smith et al., 2021). Students with a high level of knowledge about a particular topic, such as birds, can comprehend texts related to that topic more effectively compared to texts of similar complexity on a topic that they lack background knowledge (Smith, 2021). Researchers posit that background knowledge, or a lack of it, can account for reading differences (Neuman et al., 2014). Yet, when students are presented with texts which are neutralized through the presentation of novel topics (e.g., a made-up animal known as a “wug” and various subspecies), differences among the two groups’ word reading, comprehension and inferencing skills diminish (Neuman et al., 2014). Though background knowledge plays a larger role in students'

comprehension success in upper grades, even young learners benefit from explicit efforts to build oral language through read-aloud of written language, emphasizing the need for comprehension instruction with even the youngest learners (Baker et al., 2013; Swanson et al., 2011).

Knowledge-Building Curricula

Despite the important role of content-rich instruction that integrates building knowledge through the systematic use of science and social studies content and embedded literacy skill instruction, most districts in the 1990s and early 2000s relied on core literacy curriculum created by curriculum companies that inaccurately translated or ignored the research of how to best build readers' comprehension skills (Dewitz & Graves, 2021). Decades of research identified effective comprehension as the product of instruction that activates and develops knowledge, teaches about text structure, and strategies such as inferencing, asking questions, setting a purpose for reading, visualizing and summarizing. Yet, some programs instead used whole language models that incidentally addressed comprehension under the premise that reading is a natural process learned through immersion in a print-rich environment without regard for systematic instruction (Dewitz & Graves, 2021; Stahl & Miller, 1989). Others focused on teaching isolated skills and strategies using texts around vague themes with little emphasis on developing knowledge (Dewitz & Graves, 2021). For example, one popular reading curriculum (Benchmark Literacy, 2010) misses opportunities to promote students' content knowledge by quickly changing topics of reading passages. For instance, the curriculum introduces a unit focused on the strategies of identifying main ideas and details by discussing what healthy living is and ways to be healthy. It then models the strategy by finding the main idea of a picture representing colonists doing chores at home. The next day, the strategy is reviewed and applied

in context using a short text about the moon. More recently, greater attention is being given to curriculum that focus on content and building background knowledge and their potential impact on skills related to reading comprehension (Cabell & Hwang, 2020; Dewitz & Graves, 2021; Schwartz, 2024; Wexler, 2019). Knowledge building curricula use texts organized around topics related to science or social studies content that grow in complexity and systematically build on ideas from previous lessons (Cabell & Hwang, 2020). This approach aligns with research that supports early, ongoing and gradual support for language and strategy instruction that is brief, but impactful (Castles et al., 2018). Research suggests that curricula that focus on knowledge building and rich content can lead to higher levels of proficient readers and help close the opportunity gap for students living in poverty (Coleman & Concannon, 2022). Further, studies have shown that the use of knowledge-building curriculum can have positive effects on students' acquisition of content specific vocabulary and knowledge (Cabell & Hwang, 2020), as well as comprehension outcomes on standardized measures (Hwang et al., 2023).

One knowledge-building curriculum that has become widely used in recent years is the Core Knowledge Language Arts (hereafter referred to as CKLA) curriculum. The core knowledge approach was conceptualized by E.D. Hirsch in 1987 and contends that reading comprehension success is largely dependent on students' contextual knowledge and vocabulary. The program has undergone a number of iterations and is currently a part of Amplify Education, Inc.'s literacy suite of instructional and assessment materials. CKLA is a year-long core English Language Arts curriculum that teaches children reading, writing and spelling. The program is presented differently depending on grade level. Students in grades K-2 receive instruction through two components: (a) CKLA: Skills Strand; and (b) CKLA: Knowledge Strand. The Skills portion of the program builds students' foundational skills (e.g., phonics, spelling,

grammar and writing) through daily lessons, and the Knowledge portion builds students' background knowledge (e.g., text analysis/comprehension, speaking and listening, language and vocabulary) through additional daily lessons. Grades 3-5 uses an integrated approach that combines skills and knowledge and a greater emphasis on writing (Amplify Education Inc, 2025). Alongside the CKLA curriculum, Amplify Learning, Inc. offers a literacy suite of what they describe as "Science of Reading Programs", including Boost Reading, a supplemental adaptive digital reading curriculum, MClass, an assessment/universal screening and progress monitoring tool, MClass Intervention, a reading intervention program for small groups, and Amplify Tutoring, which is described as "data driven, personalized instruction" (Amplify Education, Inc., 2025).

Though efficacy studies of CKLA are limited, the research to date has shown that CKLA has positive effects on oral language and reading outcomes (Amplify Education Inc., 2019; Cabell et al, 2025). In a randomized- controlled trial of the effects of the CKLA's Knowledge component on kindergarteners' vocabulary, listening comprehension and content knowledge, students in the treatment group performed better on content specific vocabulary, standardized measures of expressive vocabulary, proximal measures of science and social studies knowledge compared to students in the control group who received business as usual instruction (Cabell et al., 2025). These findings indicate that CKLA's integrated approach to content and literacy instruction can simultaneously improve both literacy and content knowledge (Cabell et al., 2025).

An efficacy report by the program publisher found that the use of Amplify CKLA positively predicted improved Grade 5 outcomes compared to non-CKLA user outcomes on the Arizona Merit state test for all CKLA students (+0.26 effect size) as well as Latino students

(+0.28 effect size), and economically disadvantaged students (+0.38 effect size) (Amplify Learning Inc, 2019). Notably, results from a three-year, nationwide evaluation report of the implementation of an early iteration of the Core Knowledge program across twelve schools indicate the importance of implementing the curriculum with fidelity (Stringfield et al., 2000). The cohort of students who received Core Knowledge instruction from grades 3-5 in high implementing schools performed better than comparison groups on norm-referenced reading measures of reading and math, as well as on tests of Core Knowledge skill assessments in Language Arts, Science and Social Studies (Stringfield et al., 2000). Similar findings were found for the cohort of Core Knowledge students from grades 1-3 in high implementing schools for measures of Core Knowledge skill measures, and small but non-significant effects on norm-referenced tests. Yet, when schools did not implement the curriculum with fidelity, fewer positive results were found for Core Knowledge skill measures and no differences were found for norm-referenced measures. As such, there is a need to onboard the curriculum using a strategic implementation process to promote high levels of implementation for sustained use over time in order to see the greatest impact for student reading incomes.

It is important to recognize that the knowledge-building CKLA curriculum differs from the traditional, strategy-based literacy instruction that teachers are used to implementing (Cabell & Hwang, 2020). Teachers may be accustomed to a heavy emphasis on teaching strategies over building oral language and knowledge. Teachers implementing knowledge-building curricula cite low confidence due to the need for deeper content knowledge that they may not feel comfortable teaching (Neuman & Danielson, 2021). They may struggle to enact the curriculum as intended because of differences with traditional approaches, such as an emphasis on oral language comprehension through the use of teacher read alouds and pressure from competing

initiatives that may not align with the approach, such as high-stakes, standardized testing (Neuman & Danielson, 2021; Stringfield et al., 2000). Given these challenges, it is important that schools consider strategic implementation that addresses barriers and facilitators when adopting a knowledge-building curriculum, like CKLA.

Conceptual Framework

Strategic implementation processes and support can affect the likelihood of successful implementation outcomes in schools (Cook et al., 2015; Durlak & DuPre, 2008; Odom et al., 2022; Størksen et al., 2021). For this study, the framework that was used to support and understand teachers' experiences implementing CKLA is grounded in implementation science. Implementation science (IS) refers to the study of methods, strategies and processes that systematically improve the successful uptake of evidence-based practices and innovations for more rapid and effective use (Fixsen et al., 2009). A variety of fields, such as public health, psychology, and agriculture, have applied IS frameworks to develop frameworks, theories, and methods to address research to practice gaps and study implementation in real world contexts (Tucker et al., 2021, King et al., 2019, Tinc et al., 2018).

IS frameworks have been developed and used to identify the factors and processes associated with implementation of evidence-based practices. Studies have demonstrated how the use of a strategic process that considers various contextual factors for implementation can be used in schools to understand more about how, and why, teachers do or do not use specific practices or programs (Cook & Odom, 2013, Murphy et al., 2022, Odom, 2009, Odom et al., 2014, Størkson et al., 2021). Specifically, this study is grounded in the Exploration, Preparation, Implementation, Sustainment (EPIS) framework (Aarons et al., 2011). This framework is being

applied because of its prior use in school settings to evaluate contextual influences on implementation of evidence-based practices (EBPs) (Odom et al., 2022; Stahmer et al., 2018).

The EPIS framework, consistent with other implementation frameworks, purports that implementation is impacted by both constructs, or levels across which implementation occurs, as well as non-linear phases that serve as a guide for the process. The phases of the model include: (a) Exploration, when the intervention fit is assessed; (b) Preparation, when the decision to adopt the intervention has been made and planning begins; (c) Implementation, which includes activities such as training and establishing monitoring and problem-solving systems; and (d) Sustainment, quality practices for continued use (Aarons et al., 2011). Four constructs are identified across the constructs that influence implementation. *Outer context* factors are external to the organization and relate to policies, funding, user/consumer characteristics (e.g., student racial diversity, socioeconomic demographics), or organization characteristics (e.g., classification as Title I school) (Moullin et al., 2019; Odom, 2022). The *inner context* refers to within organization factors at the individual (e.g., teacher, administrator) or organizational (e.g., school, district) level across implementation phases, but in particular, during implementation. These factors include organizational systems or practices, individual characteristics of EBP providers (i.e., teachers), leadership, and quality and fidelity monitoring/support. *Bridging* factors relate to the interaction between the inner and outer contexts and may include partnerships among stakeholders, relations between policy and practice (e.g. government and schools), academic organizations (e.g. researchers), program publishers (e.g. commercial implementation support) and practitioners (e.g. teachers) that can provide support with training or consulting (Moullin et al., 2019). *Innovation* factors relate to

the practice or program itself and include the examination of core components, adaptability and fit as related to the organization or individual's needs (Aarons et al., 2011; Moullin et al., 2019).

Attention to the phases and constructs outlined in the EPIS framework can support both implementation process and evaluation to improve the likelihood that programs and practices will have the intended outcomes. Though IS is relatively new to the field of education, there is evidence that IS frameworks, such as EPIS, can help organizational leaders and researchers use strategic processes to learn more about core implementation components that influence implementation outcomes in schools. Recently, researchers have drawn on understandings from implementation science to develop frameworks to facilitate the use of IS strategies and processes for EBP implementation in schools (Locke, et al., 2019; Locke et al., 2025).

Implementation

Much of the literature around strategic implementation grounded in IS in schools, to this point, has focused primarily on interventions related to behavior (Collins et al., 2024), speech and language (Nicoll, 2024), autism (Boyd et al., 2022), trauma-informed prevention (Moore et al., 2021) and tiered systems of support (Freeman et al., 2015). Studies are limited in regard to the implementation of Tier 1 core curriculum programs in the elementary K-5 setting. One study investigated the use of implementation frameworks to support the tailoring of training, co-creation and initial small-scale implementation of an early childhood education curriculum in randomized control trials (Størksen et al., 2021). Study findings reported positive teacher experiences, and most teachers employed the use of new, playful learning strategies. Significant small effects for the treatment group's child outcomes were found: sum score of all assessments (ES = .10), math (ES = .13) and self-regulation (ES = .11), but not for language and literacy. In a one-year follow-up, small treatment effects were found for all assessments (ES = .13) and

math *(*ES = .11). The researchers noted costly attention to implementation that included substantial training, coaching, practice and substitute teachers likely impacted results of the study and posed questions of how the curriculum could be scaled up.

Studies conducted under the control of researchers are different from how programs and practices are implemented in natural school contexts, which often have fewer resources. Yet, examinations of researcher-guided implementation within implementation science studies can serve as models for how schools can support implementation on their own. The translation of these practices into practical strategies that utilize structures and systems that are commonly used in school settings (e.g., professional learning communities) has yet to be investigated. For schools that are adopting new evidence-based curriculum, teacher leaders may benefit from explicit training in the use of strategies to support district level implementation. Further, it is important that teacher leaders understand what barriers and facilitators for curriculum implementation are known from the extant literature so that they are able to plan in proactive and ongoing ways to identify and address factors that apply to their unique setting. This section will explore what is known about strategic implementation support, including the use of PLCs and a team-based approach, and factors that can impact curriculum implementation outcomes in schools.

Strategic Implementation Support and Training. Two strategies that have been cited to support implementation within school settings are: (a) create a professional learning collaborative and (b) identify and prepare champions (Cooke et al., 2019). A professional learning collaborative, which is more commonly referred to in schools as a professional learning community (PLC), can be used to engage groups of school staff across a school district to promote collaborative learning for the improved implementation of new practices. Members of

PLCs have cited benefits of participating in these types of groups with other individuals across the organization, including learning from diversity, learning through collaboration, gaining confidence, and accountability (Clark et al., 2023). Champions for the use of a new practice or program are individuals who commit to supporting implementation and can help counter resistance within a school. Studies indicate that multiple stakeholders, including teachers who will be delivering the curriculum (i.e., classroom teachers and/or special education teachers) and literacy specialists, should be involved in the curricula adoption and implementation processes (Gouëdard et al., 2018; Locke et al., 2019; Vaughn et al., 2021). Classroom teachers and, in some cases, special education teachers, as front line practitioners who will be implementing curriculum, as well as literacy specialists who serve as district leaders and experts in evidence based practices for literacy are likely candidates for serving on a district wide PLC. Members of a PLC, referred to in the context of this study as teacher leaders, can be provided training to be able to effectively support and serve as champions for implementation of new programs across schools.

This team-based approach for leadership in schools is referred to as distributed leadership. Distributed leadership enacts a shared approach among individuals with varied roles and has been described by school administrators, principals and teachers as important to implementing evidence-based practices (EBP) in schools (Locke et al., 2019). In schools, PLCs are one type of team that focus on problem-solving issues related to interventions through processes such as the analysis of data from various sources to promote implementation of EBPs and practices with fidelity (Mundschenck & Fuchs, 2016). The use of teams, such as PLCs, have been shown to improve implementation outcomes in schools for behavioral interventions and multi-tiered systems of support (McIntosh et al., 2018). Strategies utilized by teams to

support implementation include conducting ongoing training, monitoring of barriers and facilitators for implementation and the use of data for decision making (Kittelman et al., 2021; McIntosh et al., 2018). Studies indicate a need for enhanced support for PLC teams to develop effective collaboration and data sharing processes (Burns et al., 2017; Preast & Burns, 2018). Difficulties that have been cited for team-based implementation include unclear expectations and roles as well as challenges related to communication and collaboration between district leadership and teams (Klingner et al., 2003; McGuier et al., 2023). Additionally, in distributed leadership models, school leaders may expect teachers to take initiative; however, this requires clear guidance and agency (Tian, et al., 2016). Conversely, other factors influence the success of teams. When teams are formed early in the implementation process, they can assist in developing organizational systems (e.g., data systems) (Kittelman et al., 2021). Effective and efficient teams use data-based decision making, processes for communicating with stakeholders at the school and district level for shared decision making, and are able to access necessary resources for teachers, such as training and ongoing support (Kittelman et al., 2021; Reszel et al., 2023). However, teachers participating in PLCs or implementation teams may not have the necessary knowledge or training needed for use of the aforementioned strategies. When used to support curriculum implementation, PLC teams have had mixed results in terms of effectiveness due to variation in school contexts, team focus and purpose for collaboration (Lowell, et al., 2024).

In order to build capacity for implementation, teacher leaders serving as school level champions during implementation may benefit from implementation specific professional development and ongoing support for implementation. In particular, team-based implementation research highlights a need for training related to the systematic assessment of implementation

determinants (i.e. barriers and facilitators) through the use of implementation theories, models or frameworks (Reszel et al, 2023; Walsh et al., 2015).

Categorizing Facilitators/Barriers In Order to Problem Solve. Teams need to know how to identify facilitators and barriers that can influence implementation to be able to address implementation needs and leverage facilitators (Reszel et al., 2023). Recommendations for building team capacity for supporting implementation include the use of theories, models and frameworks to assist in this process (Reszel et al., 2023). The EPIS framework (Aaron et al., 2011) provides a helpful structure for the categorization of facilitators and barriers related to the school context or the curriculum. During implementation, teams can brainstorm and use implementation literature and research related to the innovation (i.e. curriculum) to identify potential barriers and facilitators (Aarons et al., 2011; Moullin et al., 2019). It is important that implementation is then monitored throughout the Implementation phase, as new barriers and facilitators may emerge.

PLC teams, as school leaders for implementation, can develop systems for assessing barriers which has been found to help facilitate implementation (McIntosh et al., 2010; Merle et al., 2022; Rowe et al., 2021). To identify potential barriers to implementation, Fernandez et al., (2022) describe four core processes. First, teams identify barriers through brainstorming based on prior experiences and reviewing the extant literature. Then, teams apply a framework, such as EPIS, to understand implementation findings across studies as well as how and why outcomes are achieved. Third, the team can collect data from different stakeholders through both qualitative and quantitative measures, which can occur before and during implementation. Finally, facilitators and barriers can be prioritized by identifying which are most feasible to change and most important. Per the EPIS framework, this study focuses primarily on the *inner*

context, *innovation* factors and *bridging* factors due to the fact that implementation determinants at those levels will be most feasible to change through the PLC teams work, opposed to those related to the *outer* context (i.e., factors are external to the organization and relate to policies, funding, user/consumer characteristics, or organizational characteristics).

As team members identify potential barriers within the *inner* context, factors related to both the organization (i.e., district and school organizational structures or climate) and individual (i.e., teacher knowledge, attitudes or beliefs) will likely emerge. The use of frameworks, like EPIS, can help teacher leaders understand the interrelatedness of factors and how they affect change (Moullin, et al., 2020). For example, extant literature has cited unclear expectations regarding fidelity of implementation as a cause for tension at the organizational level (Aarons et al., 2012; Pak et al., 2020). Both teachers and administrators may struggle to balance expectations of implementation fidelity with the necessity of some degree of creativity for engagement with the curriculum or appropriate differentiation (Pak et al., 2020). In turn, confusion around expectations of what teachers can and cannot do when implementing curriculum can lead to lower levels of teacher efficacy and increased levels of stress, which are categorized as individual level factors (Pak et al., 2020). When teams are knowledgeable about how context and other factors influence implementation, they can use this information to respond to barriers by looking to facilitators that address such challenges.

To respond to concerns such as a lack of clear expectations for fidelity, PLC teams can look to how structures can be developed within the organizational context (i.e., school) to seek solutions. Teams can work together with administrators to develop *organizational systems for collaboration and communication* which can decrease potential communication breakdowns. This aligns with implementation research that emphasizes the importance of early stakeholder

involvement, including administrators, content experts, such as reading specialists, and those who will be using the curriculum firsthand, teachers (Gouedard. et al., 2020; Pak et al., 2020). In schools, this is usually achieved through distributed leadership. A key aspect of this approach is the sharing of knowledge that extends beyond levels in an organization for collaborative problem solving (Nadeem, 2024). I will explain this further in the section: Communication Systems.

The EPIS framework can further help team members conceptualize and characterize roles of stakeholders to engage across levels (administrators, PLC team members, teachers, other staff members) to address individual (i.e., teacher) factors (Moullin, et al., 2020). For example, PLC team members can work to champion the curriculum. Champions have been found to improve communication by meeting with teachers, clarifying confusion around expectations, developing sub-groups within their home schools to address local issues, and provide updates through technology-based systems (e.g., emails, websites) or lunch and learns (Gotlib et al., 2015). To address barriers related to teacher stress and self-efficacy, collaborative relationships, such as those fostered by champions, can help teachers accept change and promote positive perceptions among teachers (Gotlib et al., 2015). This highlights the need for school leaders who are willing to lead *with* teachers within supportive environments, which are essential to overall organizational culture and climate (Williams et al., 2019).

When assessing barriers, PLC team members might find other concerns related to the *inner* context at the individual level. For example, teacher perceptions related to lack of time and supportive leadership are major barriers to implementation of EBPs in school settings (Merle et al., 2022). For these types of barriers, team members may need to turn to leadership or consider ways to support teachers directly to problem solve. For example, to address

perceptions regarding supportive leadership and time, teachers and administrators cite the importance of open communication on the part of administrators as well as teacher advocacy skills, and recommend the use of strategies for improving practical skills such as how to advocate to leadership for adjusting priorities, engaging in collaboration, problem-solving, knowledge sharing, and facilitating discussions that give teachers more autonomy (Merle et al., 2022). Specifically, PLC team members could provide avenues for teachers to express concerns, through surveys or feedback meetings, that could then be relayed to administrators during PLC team meetings. PLC members can also advocate for administrator acknowledgement, through the communication of barriers, and facilitate problem solving sessions within home buildings (Merle et al., 2022). Concerns about time can indicate a need for administrator support for adaptation to the environment. This can be achieved through adjusting schedules, providing permission for flexibility or prioritizing and, perhaps more so, deprioritizing competing initiatives (Locke et al., 2019; Merle et al., 2022).

At the *inner* context individual level, PLC team members should be aware of barriers related to teachers' lack of knowledge, self-efficacy, or existing beliefs and practices as barriers to implementation and how they can be addressed (Gouëdard et al., 2020). It is important that barriers related to teachers' knowledge are addressed during implementation efforts because studies have found that without efforts to build teacher capacity for change, teachers may reject implementation altogether or respond superficially while continuing to use prior underlying pedagogical approaches (Coburn & Woulfin; 2012). When implementing knowledge-building curriculum, insufficient teacher knowledge of both content and pedagogical practices has been shown to have negative impact on the enactment of the curriculum for higher level engagement (Aarons, 2005; Neuman & Danielson, 2021; Rowe et al., 2021). Identification of knowledge-

based barriers may indicate a need for more *training* or *coaching* (Coburn & Woulfin, 2012). The belief in the value of the EBP by *champions* and enthusiastic advocacy for a program by system level leaders has been shown to improve implementation outcomes, while *data sharing* can help overcome skepticism of practitioners (Aarons et al., 2016; Gotlib et al., 2015).

The PLC team may identify barriers to implementation at the *innovation* level, which means that concerns with the curriculum itself, or its fit within the school or district system, may hinder fidelity of use. Woulfin & Gabriel (2023) cite general issues with curriculum implementation related to materials lacking significant impact, adequacy of the curriculum's quality, and variation in teachers' use of the curriculum as intended, through supplementing or excluding components. A 2019 American Instructional Resources Survey found that most teachers do not use a single curriculum as written, though factors such as *evaluation by leadership* and *training* were connected to use (Kaufman et al., 2020). Without attention to these barriers, it is not uncommon for teachers to independently seek out alternative resources and supplemental materials or altogether forego important components of the curriculum (Pak et al., 2020). Ideally, through the use of *communication systems* for feedback, fidelity data can be shared with PLC implementation teams to identify areas to be addressed through training or potentially adaptation of context or curriculum. While curricular supplementation is highly evident in the literature and may be necessary at times due to a curriculum's lack of alignment with district priorities or student needs (Kaufman et al., 2020; Pak et al., 2020; Woulfin & Gabriel, 2020), implementation leaders, such as PLC teams in collaboration with administrators can identify when *adaptation* is necessary and by what means. Woulfin and Gabriel (2020), for example, cite the provision of *resources* to help educators identify whether or not supplemental materials are evidence-based.

In the context of program implementation, innovation factors may also be related to *bridging* factors, such as training partnerships. Partnerships related to program implementation may include contractual commercial training packages that provide implementation support such as training and coaching during implementation through the program publisher (Hurwitz & Vanacore, 2022; Kazakoff et al., 2018) or through technical training organizations, such as regional educational service entities that serve as liaisons between schools and state departments of education (PaTTAN, 2018). When challenges arise at the innovation level, the PLC team can work together with curriculum representatives from the publisher or other educational agencies to access resources that can support teachers such as training and planning or implementation guides. Specific to knowledge-building curriculum, teachers may also benefit from curriculum agnostic training that goes beyond publisher provided support (Neuman & Danielson, 2021). For example, teachers may need training in pedagogical content knowledge, meaning ways to make the content more accessible or engaging for students, for example using wait time or discussion techniques (Shulman, 1987; Neuman & Danielson, 2021). *Collaborative problem-solving* meetings between PLC team members and administrators could identify *resources* both within and outside the school district that could potentially provide this type of support, such as administrators or teacher leaders, or organizations that provide technical training and support.

Communication Systems. It is important that implementing organizations both reflect on implementation facilitators and barriers and monitor progress feedback (i.e. data regarding quality and fidelity of implementation) to achieve sustainable outcomes (Balbale et al., 2023). Studies cite systems for communication, or feedback loops, as an effective means to provide organizations with evaluative feedback as well as opportunities for the organization to assess and respond to challenges that may arise during the process (Balbale et al., 2023). Within

schools, stakeholders such as teachers and administrators identify strategies related to information sharing with colleagues and opportunities to engage in observation and feedback as valuable to implementation of evidence-based practices (Locke et al., 2019; Moore et al., 2024).

Among the studies that emphasize the importance of communication and feedback, specific structures vary, but some key components have been identified. *Communication systems* for implementation typically involve teams of multiple stakeholders meeting regularly, with feedback provided from leadership to clients or practitioners related to data (i.e. fidelity data, student data), and feedback provided to leaders or coaches related to client or practitioner experiences, resulting in problem solving to develop a plan to address practitioner needs (Aarons et al., 2012; Balbale et al., 2023; Freeman et al., 2015). Information can be obtained through fidelity monitoring processes by administrators to provide feedback related to implementation progress, whereas surveys, focus groups, brainstorming or collaborative meetings might be utilized to gain information about practitioner needs related to implementation (Balbale et al., 2023). Systems for regularly collecting and distributing data have been found to facilitate scaling up of implementations in schools (McIntosh et al., 2010; Horner et al., 2014).

As outlined above, teacher leaders play an integral role in the implementation of new initiatives through distributed leadership and school-based teams, such as professional learning communities. Yet there is little research that examines teacher leaders' perspectives of their experiences as school level leaders and their sense of self-efficacy for supporting school or district wide implementation efforts. Qualitative examinations of teacher leaders' experiences with strategic implementation training, facilitation and participation on a PLC may be able to provide insights about their role and feelings of success in supporting curriculum

implementation. Further research is needed to identify how teams, like PLCs, can build capacity for strategic implementation including identification of barriers and facilitators and protocols for communication among various stakeholders including school and district level leaders across levels to improve teacher leaders' capacity for supporting implementation.

Chapter 3: Method

Study Purpose

My research adds to the field of implementation science research by contributing knowledge about the use of implementation strategies in school settings, with specific regard to the experiences of teacher leaders as a part of a PLC. The purpose of this qualitative study was to examine how teacher leaders' experiences with implementation training that is grounded in the EPIS framework influence their perceptions of success for supporting implementation of a new, knowledge-building curriculum (i.e., CKLA) and its supplemental components. It also examined factors that facilitated or hindered PLC members' perceptions of success for supporting implementation.

Research Questions

The proposed qualitative study aims to address the following questions:

1. In what ways do professional learning community members feel more or less successful to support implementation of CKLA and its supplemental programs?
2. What facilitated or hindered PLC members' perceptions of success to support implementation of CKLA and its supplemental programs?

Setting

The study took place in the Fall semester of the 2025-2026 school year. The study was conducted in a small, rural Eastern Pennsylvania public school district, focusing exclusively on teachers within the district's three elementary schools. One of the elementary schools was identified as a Title I school, which means that the school qualifies for funding due to the number of students living at or below the poverty level. Two of the schools had student populations of about 220 students each, while one school had an enrolled student population of

122. The mean percent enrollment by ethnicity for the district is 95% white and 2.5% of families have incomes below the poverty level.

The district underwent a multi-year long process in which a core team of teachers from across the district, under the guidance of the English Language Arts department head, evaluated a number of English Language Arts curricula for adoption. In January 2025, the team recommended the curriculum Amplify Core Knowledge Language Arts (CKLA), which was approved by district level administration and the school board. The decision to approve the curriculum, as well as the complete literacy suite of intervention and assessment tools provided by Amplify (i.e., Boost Learning, Intervention, and MClass), was made in February of 2025 for initial implementation at the district-wide level for all district elementary schools and students grades K-5 to occur at the beginning of the following school year. The district began preparing for adoption in the remaining months of the 2024-2025 school year with the sharing of digital resources and information provided by the publisher with district elementary teachers. Some members of the initial district-wide team began work to determine fit and alignment of the new curriculum with established school systems, such as the elementary assessment schedule and standardized report card. District administrators and school leaders, such as reading specialists, participated in a three-hour summer training for school level leaders in June 2025. Classroom teachers, special education teachers, and district reading specialists were trained in the curriculum during inservice days at the start of the 2025-2026 school year. All district teachers received the following training from CKLA representatives: (a) one two-hour training on Boost, a digital literacy supplemental program; (b) one full day training on the core program, CKLA; (c) one full day training in MClass, screening and progress monitoring system. Reading

specialists and special education teachers received additional training in MClass Intervention, a Tier 2 intervention program aligned with the core Tier 1 program, CKLA.

A Professional Learning Community (PLC) was formed at the end of the 2024-2025 school year to support the implementation of CKLA and its supplemental components in the 2025-2026 school year, which will be discussed more below.

Participants

The 17 members of the PLC team were invited to participate in the study. Sixteen PLC members, who were various stakeholders from the three district elementary schools, agreed to participate in the study. As shown in Table 1, participants included classroom teacher representatives from primary grades (K-2; $n = 4$) and upper elementary grades (3-5; $n = 4$), as well as one special education teacher, and the special education department head (all participant and school names are pseudonyms). Additionally, reading specialists ($n = 5$) who serve as district and school level leaders in other academic implementation efforts, such as Multi-Tiered Systems of Supports, also participated as members of the implementation team. All PLC members were veteran teachers with at least 10 years of teaching experience. Some of the teachers had previously served on School Wide Positive Behavioral Interventions and Supports teams which follow effective team-based implementation practices in alignment with implementation science and have achieved high levels of implementation with that initiative. The team also included the district ELA department head, who led the curriculum exploration and adoption process. The ELA department head continued to lead work related to curriculum and ELA department tasks as determined by the department head and district administrators, while I was primarily responsible for PLC support related to the training and facilitation of

implementation support through activities outlined below. The ELA department head is referred to as the "PLC head" in the context of the study.

Procedures

In this section, I will begin by describing the Professional Learning Communities mission and activities. I will then explain my role within the PLC to provide training and facilitation to team members. Finally, I will describe the measures I used to examine PLC members' feelings of success to support implementation and understand factors that facilitated or hindered the participants' success to support implementation of CKLA and its supplemental components.

Professional Learning Community (PLC) Activities

The ELA department head and I invited teachers to participate in the PLC at the end of the prior school year (2024-2025). Teachers' participation was voluntary. As defined by the district leadership, the mission of the PLC was to improve communication between classroom teachers who were implementing the Core Knowledge Language Arts curriculum and its supplemental programs and school administrators through the establishment of communication systems. Additionally, team members served as liaisons for teachers across the district via regular meetings with district and school administrators to communicate barriers and engage in collaborative problem solving.

The PLC created a communication system that established procedures for monitoring and sharing implementation barriers and facilitators through informal and formal measures. The specific format was determined by PLC team members. The communication systems that the team established included: (a) a Google Form for implementing teachers to report concerns, questions, and successes; (b) informal conversations (i.e., "check ins") with teachers; (c) PLC

meetings; (d) administrator and PLC team feedback meetings; (e) monthly faculty meeting share outs; and (f) written updates (i.e., faculty share out notes). The Google Form was located in a shared online folder, the CKLA One Stop Shop, for resources related to implementation. The team decided to offer teachers access to the Form as a "help ticket" that teachers could respond to on an "as needed" basis at any time throughout the implementation year. The team reviewed teacher input every 3-4 weeks at PLC meetings and shared relevant information with administrators during feedback loop meetings for problem solving. PLC team members subsequently communicated information with teachers in district schools monthly during faculty meetings. Participants considered sharing out information monthly in a Lunch and Learn but opted for a mode that would be less time intensive for both teachers and PLC members.

PLC team members engaged in monthly meetings with a district level leader involved in the implementation and school principals. The format of the meetings changed throughout the course of the study. During the initial meeting, the PLC head facilitated meetings using a document that we developed together to organize concerns and information related to addressing concerns by context (district, school, CKLA) as a guide to initiate communication around barriers and problem solving. Following the first meeting, the PLC head and I discussed how to facilitate more dialogue during meetings for problem solving. Administrators also requested that an agenda be developed for future meetings. To refine the team's processes for communication, I shared SISEP and NIRN's (2015) Communication Protocol with the PLC head, Jessica. She revised the meeting format, as shown on the template in Appendix A, to include: (1) opportunities to share success and progress (i.e., facilitators); (2) discussions about barriers (e.g., what challenges need to be addressed) and problem solving (i.e., how barriers will be addressed and by whom); and (3) opportunities for administrators to share data regarding

fidelity monitoring (e.g., Look Fors) and planning for next steps (e.g., communication to teachers, lunch and learns, planning for professional development). This structure followed a similar format as the district elementary school School-Wide Positive Behavior Interventions and Supports team meetings and aligned with the steps described in SISEP's Communication protocol (2015).

Team members served as champions for the curriculum in their home schools. Champions are described in implementation research as individuals who are committed to supporting implementation. PLC members' role as champions was to lead implementation in their schools through engagement with teachers and administrators (Gotlib et al., 2015). They oversaw local data collection to monitor and assess implementation determinants and collaborate with other members of the PLC team. They met with the PLC team monthly and with administrators every six weeks to share informal and formal determinant assessment data. Other ways that champions reported supporting implementation included: meeting with teachers, clarifying confusion around expectations, developing sub-groups within their home schools to address local issues, providing updates through technology-based systems (e.g., emails, websites) and monthly faculty meeting share outs, as well as during trainings or lunch and learns.

PLC Training and Support. To support the team in doing this work, I provided training to PLC team members as well as guidance during PLC team meetings or activities throughout the duration of the study. The district allowed me to provide a 1.5-hour professional development session on the first full teacher inservice day of the school year. I joined monthly PLC team meetings and provided assistance for the development and integration of communication systems across school settings and during PLC team meetings.

During the 1.5-hour training, I (a) provided an overview of implementation science and its relevance to implementation in the school settings; (b) shared knowledge of potential facilitators and barriers as framed by the EPIS framework for implementation and how this knowledge can guide problem solving; (c) presented templates and models of communication systems for monitoring implementation determinants; and (d) taught PLC team members about what it means to be a champion for implementation, as outlined in the training slides shown in Appendix B. I used resources that served as models for PLC members (a brainstorming guide as shown in Appendix C and a sample survey as shown in Appendix D for real time identification and analysis facilitator and barrier assessment data) to allow the team to practice identifying and categorizing determinants. I provided PLC members with a problem-solving template (see Appendix E) to prioritize barriers that were both feasible and important and collaborate to identify potential solutions. I also provided a planning template (see Appendix F) for PLC members to work in collaborative groups to plan for communication systems and brainstorm ways to champion the program in their home schools.

Following the training, I attended a minimum of one PLC meeting per month to support the development and use of communication systems for sharing implementation determinants with administrators and their use. As the PLC team continued to meet throughout the study, I provided facilitation embedded during meetings or in other PLC team determined activities (planning for lunch and learns, analyzing determinant data), as needed.

I acknowledge that ideally more time would have been allocated to PLC activities and supports (i.e., additional meeting time, training, and support to teachers). However, I was working within real world constraints and in conjunction with district norms to improve implementation support for the PLC group.

Data Collection Procedures

Following IRB approval, all members of the PLC were invited to participate in the study via email prior to the initial training date, and again, in person, at the start of the initial professional development session (which took place on the first teacher inservice day of the 2025-2026 school year). I described the purpose of the study and explained the study requirements. Sixteen PLC members agreed to participate through completion of an informed consent form (see Appendix G). At that time, participants also completed a demographics questionnaire (see Appendix H).

Throughout the study, I attended PLC meetings in the role of researcher to provide support and document the process and activities of the PLC team. The team took meeting notes, and I conducted observations using a "participant as observer" (Creswell & Poth, 2018) approach, focusing primarily on PLC team members participation through communication and collaboration with district and school level administrators. I collected data on a bi-weekly basis via "champion check-in" surveys (see Appendix I) to understand to what extent participants were engaging in activities to champion the intervention in their home schools. This information was also used to individualize interview questions about PLC team members' use of implementation science strategies.

In the final weeks of the study (November and December), I interviewed each participant using a semi-structured interview protocol (see Appendix J) to understand more about their experiences as a part of the PLC, including how the professional development and support provided helped them feel more or less successful to champion the use of the CKLA curriculum and its supplemental components (i.e., Boost Reading, MClass and MClass Intervention).

Measures

This study utilized qualitative methods for data collection. Data sources included semi-structured teacher interviews, surveys, artifacts, and field notes.

Teacher Interviews

Participants were interviewed once using a semi-structured interview protocol. The purpose of the interview was to understand their feelings of success in supporting district implementation of CKLA (e.g., "How successful did you feel as a member of the PLC? Explain."), and what helped or hindered their feelings of success (e.g., "What supported your success as a member? What did you need to be able to improve your feelings of success?"). I also asked participants to describe the activities they engaged in to determine factors that helped or hindered their feelings of success to use implementation science principles to support implementation (e.g., identifying and analyzing facilitators and barriers as framed by EPIS, multi-level leader collaboration, activities to address facilitators and barriers, how they promoted teacher) involvement, how they championed use of the program). For example, I asked, "To what degree, did you find the communication structure to be effective in relaying concerns from teachers to administrators? What helped the PLC or you individually do that?" I asked follow-up questions that were individualized for each participant during interviews to clarify information or probe for details.

Surveys

Participants completed a demographics questionnaire about their gender, race/ethnicity, age, teaching experience, educational level and certifications held.

Participants were sent a brief champion check-in survey via Google Forms on a bi-weekly basis to examine the extent to which PLC team members are engaging in activities to champion

implementation of CKLA in their home schools. I asked teachers to identify ways that they championed the intervention on an eleven-item list. For example, “In the past two weeks, I have: clarified information regarding implementation for non-PLC member(s) in my school.”

Artifacts

Artifacts were collected to document the activities that the PLC members engaged in to support implementation, including how they (a) planned for implementation; (b) used or developed resources to evaluate and monitor contextual implementation determinants (i.e., facilitators and barriers); and (c) engaged in systems for ongoing communication among stakeholders regarding implementation. Artifacts were collected from the implementation science professional development session (e.g., barrier and facilitator brainstorm table, potential barriers/facilitators survey results used to practice analysis and problem solving, small group work planning notes). Other artifacts included monthly meeting templates and evidence of communication plans (e.g., teacher survey templates, schedules for meeting and communicating implementation determinant data).

Field Notes

I conducted observations and took field notes for five PLC meetings and four feedback loop meetings with district administrators over the duration of the study. PLC meetings occurred for 30-45 minutes monthly over the teachers’ joint planning time, and feedback loop meetings occurred for 30-45 minutes approximately every six weeks over the teachers’ joint planning time. I attended meetings in the role of “participant as observer” (Creswell & Poth, 2018). During meetings, I used an observation protocol (see Appendix K) to take notes using both description and reflection (Creswell & Poth, 2018). I catalogued rich descriptions of how PLC members shared information about their experiences implementing the curriculum, relayed

information from teachers outside of the PLC, responded to input provided by administrators, and provided input for problem-solving and planning. Following the meetings, I added reflections to interpret what I observed.

Data Analysis

Qualitative data sources were used in this study. The interviews were the primary data to address the research questions (i.e., PLC members' perceptions of success and factors that promoted or hindered success). Field notes and champion check-ins also provided pertinent information. All data sources were used to triangulate data and better understand PLC members' experiences supporting implementation.

Specifically, the champion check-ins and interviews provided information about activities participants engaged in to champion the intervention, which were analyzed to construct knowledge about the implementation principles that were used throughout the study. Artifact analysis provided evidence for how teachers incorporated implementation science knowledge, strategies and processes through their work as a PLC team. Field notes provided input of how the team used implementation science principles through their participation in monthly meetings, and their reported work in the interim between meetings. As a whole, data was analyzed for patterns regarding PLC members' experiences, their feelings of success (or lack thereof), and factors that facilitated or hindered their success to support implementation.

Surveys

After I analyzed each data source and developed themes, I analyzed teacher demographic data to understand how teachers' role, experience or education may have impacted their experiences as part of the PLC team and their feelings of success to support implementation. This information helped me understand if one group (e.g., reading specialists)

engaged in activities to champion the intervention more than another group (e.g., classroom teachers). Champion check-in surveys were coded with participant interviews together as a case, using the inductive-deductive approach described below.

Qualitative Data: Teacher Interviews

Prior to coding teacher interviews, I transcribed the interviews verbatim. I then coded them in two cycles using an inductive-deductive approach following guidelines by Saldaña (2021). I first-cycle coded the interviews inductively using In Vivo codes to highlight teachers' priorities and voices and Process codes to identify participant actions for understanding of teachers' experiences (Saldaña, 2021). In Vivo codes are quotes taken directly from the participants, using direct language opposed to the words of the researcher (e.g., "good representation", "we're still learning") (Saldaña, 2021). Process codes, on the other hand, use gerunds (-ing) to label actions communicated by participants (e.g., collaborating with peers) (Saldaña, 2021). I then used deductive theoretical coding to apply categories using the EPIS framework (Aarons et al., 2010) (categories: individual characteristics, organizational characteristics, quality and fidelity monitoring/support, leadership) as well as evidence of strategy use (i.e., monitoring of implementation determinants, problem solving, championing the intervention) in second-cycle pattern coding.

Qualitative Data: Artifacts

I examined artifacts using content analysis. I compared professional development materials (e.g., teacher leaders' survey of potential barriers and facilitators, small group planning notes and materials) to meeting minutes, artifacts related to communication systems (e.g., feedback surveys, structures that the PLC team used to organize information to share with administration and implementing teachers, such as Google Docs or meeting notes) and

champion check-ins (i.e., biweekly Google Form surveys) throughout the initial months of implementation to examine the impact of training on PLC members' experiences with implementation. I also sought to understand how participants applied implementation science principles and strategies in their work through the analysis of artifacts, including their identification of contextual determinants as framed by the EPIS framework, collaboration with other teacher leaders on the team, and communication across leadership levels (e.g., PLC members with district and school administrators) and among stakeholders (e.g., PLC members and teachers). Analysis involved coding artifacts in the same manner of interview transcripts and champion check-ins, using first cycle inductive In-Vivo codes (e.g., “lag time”, “we are still learning”) and Process codes (e.g., collaborating with peers, identifying barriers) and deductive second-cycle pattern coding to assess features of the EPIS framework including process and contextual factors (categories: individual characteristics, organizational characteristics, support, leadership) as well as evidence of strategy use (i.e., formation of PLC team, monitoring of implementation determinants, communication systems, problem solving, championing the intervention).

All Data Sources

I formed conclusions based on all of the data sources and the frameworks described in the literature review. I used axial coding (Table 2), which means that I used categories and subcategories to reassemble and categorize data from the various data sources and the two coding cycles, linking them to understand how they are related (Saldaña, 2021). I began by coding interviews and champion check-ins together as a case. I coded each case in this manner. I then coded field notes. I used triangulation to corroborate evidence across individuals and data sources, specifically, interviews, observations and artifacts to understand more about the work

of the PLC (Creswell & Guetterman, 2019). For example, I used training material artifacts to understand how the initial training supported the activities of the PLC that participants perceived to be successful. I used observation data to corroborate evidence for factors that were reported to hinder or support implementation, such as evidence of PLC leadership guiding the group, limited time and program knowledge, or evidence of problem-solving timeliness. Champion check-in survey data was used to corroborate teacher perceptions about their success as champions to provide support at an independent level shared in interviews. Using cross-case analysis, I developed themes to address my two research questions based on all data sources and participants.

Trustworthiness

I wrote memos throughout the data collection process to note salient ideas and triangulate data as I reviewed surveys, and conducted, transcribed, and coded interviews. I wrote brief memos after the initial training, monthly meetings and interviews to begin to think about codes and potential themes as they emerged; this allowed me to devise and document my process as it was ongoing (Creswell & Poth, 2018). I engaged in member-checking for interviews by providing transcripts to participants to assess whether the information from the interviews was accurate, complete and realistic as well as to clarify any information or potential miscommunication (Creswell & Guetterman, 2019). I engaged in peer-debriefing with my dissertation advisor to ensure trustworthiness and reduce bias. I also used a peer debriefer who is an experienced educator with knowledge of implementation science frameworks and principles to review a sample of transcripts and provide written feedback on codes to reduce bias and strengthen analysis.

Positionality

It is important I acknowledge my positionality in regard to the proposed research. I am a reading specialist in the district where I conducted my research. I have participated on the district wide team that evaluated curricula during the district's review process for a new English Language Arts curriculum. I have conducted past research in the district related to implementation of a technology-based reading intervention. This prior research indicated a number of barriers at the school level that hindered use of the program and suggested a need for explicit implementation support for Tier 2 district literacy programs. My prior research influenced my decision to study the implementation of a new comprehensive Tier 1 program and its associated components. However, I have no role in evaluating teachers. I believe my positionality strengthened my research due to my familiarity with the setting and the adoption process, which allowed me to formulate meaningful questions and probes during interviews.

Chapter 4: Results

Research Question 1: In what ways do professional learning community members feel more or less successful to support implementation of CKLA and its supplemental programs?

I utilized interview data to examine PLC members' feelings of success to support implementation of the core program, Amplify Core Knowledge Language Arts (CKLA). Two themes emerged for research question 1: (1) Success in Creating Communication Systems; and (2) Difficulty Moving from Identifying Barriers to Problem Solving.

Success in Creating Communication Systems

PLC members reported that the team was successful in establishing communication systems to create feedback loops. Feedback loops are the recursive process that the team used to (1) collect data about implementation determinants (i.e., barriers, concerns, successes) from implementing teachers; (2) initiate problem solving and communication with administrators; and (3) provide updates, clarification or answers to stakeholders (i.e., administrators, implementing teachers, special education teachers). The PLC members laid the framework for these systems during the initial 1.5-hour professional development that they participated in on the first day of the school year. The communication systems that the team established included the development of a survey for implementing teachers to use to report implementation determinants, meetings, systems for PLC members to report updates and informal conversations/check-ins with implementing teachers (see Procedures for more detail). Participants described their perceptions of the success of communication systems as overall positive (n = 8) or moderately successful (n = 5). Similarly, most PLC members (n = 12)

indicated that the PLC was effective in monitoring implementation determinants (i.e. barriers and successes) through the use of the communication systems.

PLC members reported that they were successful in providing multiple channels for implementing teachers to provide feedback on the implementation of CKLA and request support. These channels allowed the PLC team to monitor and share implementation barriers and facilitators with stakeholders through feedback loops. For example, the PLC team created a Google Form that implementing teachers could use to ask questions, report concerns, share successes and request additional training. Implementing teachers could also share concerns, questions and successes directly with PLC members in their home buildings or grade level teams. When referencing the communication systems, Eliza (1st grade teacher) explained, "I do feel that we've given the staff a lot of places and ways to get support. So I think those have all been successful." Having different ways for implementing teachers to provide feedback was important because PLC members described varying levels of participation in the different systems, which will be discussed in more detail in the next theme.

Participants described monthly PLC meetings as another successful component of the team's communication system that enabled peer-to-peer collaboration and information sharing. Doris (kindergarten teacher) reported on how collaborating with peers helped her to support implementation, saying, "There's not a lot of room for me to flounder with a question before I can bring something up and we can talk about it as a whole supportive group and maybe make a change this first year, if not, think about how we can do it in the future." Participants explained that meetings helped PLC members understand more about the program and implementation determinants. When discussing concerns or decisions that needed to be made, team members clarified misconceptions for each other to ensure that the team was taking the correct

information to the administrator team when concerns needed to move to the next step for problem solving.

PLC members felt successful in ensuring that district and school level administrators heard the experiences of implementing teachers during PLC and administrator feedback meetings. PLC members met with a district level administrator and all three principals every six weeks to discuss implementation progress, share data, and problem solve. Many barriers required administrator support at the district or school level, so PLC members reported that the opportunity for this multilevel cooperation was essential. Camilla (2nd grade teacher) explained that these meetings were successful because the teachers' perspectives could be shared with administrators. She stated, "We wouldn't want them [administrators] just making all the decisions without really knowing everything. So I'm really glad that we have something that's helping us to kind of keep it in check with them, you know, and remind them of all the barriers that you know maybe we still have to overcome." Lianne (3rd grade teacher) explained that administrators "were understanding and that they also realized that they were a piece of this, of the puzzle." She believed that implementing teachers also held this view, saying that teachers, "have been happy with what's been going on ... especially with being able to relay information to the administrative team." Special Education department head, Macy, pointed out that feedback meetings not only kept administrators "involved," but also "unified," stating, "it's creating that consistency amongst the school district."

Finally, PLC members felt that they were successful in closing the feedback loop by communicating information back to implementing teachers. PLC members shared implementation updates and decisions made regarding the fit of CKLA with district norms and structures during monthly faculty meeting share outs, through documents in a shared online

folder, “One Stop Shop,” and in discussions with grade level or department teams. Reading specialist, Anne, described how teachers could access shared documents that were created and distributed by the PLC for implementation updates and answers to questions. Whitney (reading specialist) explained that the team communicated information in a way that could truly be heard by teachers, explaining, “people need to hear it more than once. They need to see it, not in an email, just hear it and process it and ask questions within the moment.” Doris (kindergarten teacher) described how the team was successful in communicating with teachers about adaptations that were made to fit CKLA resources with the school context, saying it was helpful “just alerting everyone to this is what we decided. This is how it needs to be. Specifically, an example would be the writing rubric and how we had to figure that out for ourselves and make it fit.”

Difficulty Moving from Identifying Barriers to Problem Solving

Despite participants’ perception that the team was able to successfully monitor barriers and successes and communicate these to administrators, most participants (n = 13) described challenges related to problem solving. PLC members acknowledged that most barriers and problems were addressed by the team and administrators’ shared leadership by the conclusion of the study; however, they felt that arriving at solutions was at times challenging and that the process for providing answers or support took too long. Evidence from PLC and feedback meetings indicated that some barriers were addressed quickly, including questions about the district’s training plan/coaching through CKLA, how to administer online assessments, concerns about time for inputting grades, and questions about required assessments. Barriers that took longer to address or were unresolved upon completion of the study in December, were primarily related to adapting the program to the district’s needs and existing structures,

including pacing and the assessment schedule, modifying writing rubrics for standards based reporting, systems for reporting unit assessment scores to parents and aligning assessment reporting systems to the district's standards based reporting system. Additionally, most team members (*n* = 10) described feeling less successful in personally supporting implementing teachers. They didn't feel that they were able to answer questions related to upcoming lessons, provide training or lead grade-level teams in implementation related tasks.

Many participants (*n* = 10) reported that the process the PLC team and administrators engaged in to communicate, problem solve and arrive at solutions took too long. Whitney (reading specialist) stated, "I know that there are some issues the teachers are concerned with that maybe haven't been acted on in a timely manner." Camilla (2nd grade teacher) shared this concern, saying, "There's just a lot of things that are not done yet that I think we've been waiting for and hoping to be done sooner." Specifically, PLC members referenced challenges around preparing the district's data management system for inputting grades, and concerns about assessments. A few PLC members suggested that some of these problems "were beyond" the role of the PLC, or they felt it was unclear whose responsibility it was to ultimately make decisions or initiate next steps. In addition to challenges addressing concerns, some participants mentioned that barriers continued to emerge as implementing teachers moved through the curriculum. As such, PLC members felt that it was difficult to anticipate and address concerns, because they also lacked knowledge of what was to come and they were "living it" alongside implementing teachers.

Most participants (*n* = 10) indicated moderate or negative perceptions of individual success when referring to providing support to colleagues or participating in PLC related tasks. All but one classroom teacher (*n* = 5) indicated moderate to negative feelings of individual

success, such as Camilla (2nd grade teacher), who described her success as “middle of the road.” Denise (4th grade teacher) rated her success as “a C+,” saying, “I’m not really leading anyone.” Eliza (1st grade teacher) explained how she felt less successful to help her colleagues when they encountered challenges, saying, “I still feel like I'm flying through day by day. You know what I mean? So I feel like it's hard for me to know how to help, even support my own grade level colleagues, let alone any other grade level.” All of the reading specialists reported that they hosted lunch-and-learns or training but also reported challenges providing support to teachers to overcome barriers. Sabrina, (reading specialist) explained that she struggled to provide classroom teachers support because she isn’t teaching the program, “I'm listening and I'm sharing information, but I feel like I could be more useful.” Like Sabrina, the rest of the reading specialists explained that they felt that they could be more successful to provide support if they had additional resources, such as time to provide the support, or time to learn about the curriculum. The champion check-in data, which is where PLC members logged the activities that they engaged in to champion CKLA, showed that PLC members engaged infrequently in supporting teachers by providing training or by developing subgroups or teams.

Less than half of participants (n = 7) reported providing support beyond informal conversations or check-ins about implementation determinants. These teachers described providing support for teachers by working through concerns with the curriculum, providing lunch and learns, working with existing teams in their building or forming sub-groups/teams to support implementation. All but one of these participants (n = 6) were PLC members who currently served in a teacher leader role beyond the PLC in some capacity (i.e., department heads or reading specialists).

Research Question 2: What facilitated or hindered PLC members' perceptions of success to support implementation of CKLA and its supplemental programs?

To understand more about what supported or hindered PLC members' perceptions of success, I examined interview transcriptions, meeting observation notes, communication system templates, training artifacts and training resources. As will be described below, five themes emerged: three for supporting success and three for hindering success.

Strategies and Factors that Supported Success

In participants' accounts of factors that supported their feelings of success, three themes recurred throughout the analysis: PLC composition, PLC processes, and stakeholder engagement with communication systems.

PLC Composition. A common view amongst participants was that the diverse composition of the PLC enabled the team's success in fulfilling its mission. The composition of the team ensured that teacher perspectives across grades and roles were represented on the team, while the inclusion of multiple teachers from each building helped to distribute the workload of being on the PLC. All of the participants (n = 14) expressed that the inclusion of representatives from all grades (i.e., K-5), schools, and roles (e.g., classroom teachers, reading specialists, special education teachers, and department heads) facilitated the team's success in supporting implementation. Additionally, some participants mentioned that there were benefits to including members with varying levels of familiarity with the program.

Participants described the value that the PLC's diverse composition brought to the team. For example, PLC members explained that implementing teachers' perspectives and concerns were accurately captured and communicated due to the broad range of roles (i.e., classroom teachers from grades K-5, reading specialists, special education teachers, and department heads)

of the members of the PLC team. Summer (5th grade teacher) explained that "every grade has a different perspective, and they're all real concerns." Some participants wondered at times that the group was possibly too large, which could make opportunities for everyone to participate challenging. Other participants noted that the opportunity for multiple participants representing the same role or grade level contributed to the likelihood that system level concerns were being addressed. Had the group been less diverse, teachers felt it would become harder to disentangle which concerns needed to be addressed at a broader, organizational level from those at an individual level.

By having representatives from each district elementary school on the PLC, participants described feelings of success for continuing the PLC's work in their home buildings. Ashley (special education teacher) explained that this was helpful because "[teachers] had at least one person [in their home building] that they could go to with their questions." Participants expressed that it was also beneficial to have other PLC members in their home building because it helped distribute the workload of PLC related tasks. For example, Naomi (reading specialist) explained that she collaborated with another colleague in her role as a data collector because it decreased the burden of another task on top of the heavy lift of learning a new teaching program. Eliza (1st grade teacher) likewise stated, "I was really grateful when I saw how many people were on the team because I feel like more people could help. I didn't feel so much pressure." Having multiple PLC members in each building gave members someone else to clarify information with if they were unclear on something. This ensured that implementing teachers received accurate information. Additionally, participants described the collaboration with other PLC members as helpful to their own personal success in implementing the curriculum because it helped them reflect on their own practices and share ideas.

In regard to teachers' roles and the composition of the team, Macy, (special education department head) explained that the inclusion of special education as a part of this type of district wide team was important because adopting a new Tier 1 curriculum affected all teachers in the district, not just classroom teachers. She explained how the inclusion of special education representatives in this initiative was a positive change in the district because general education and special education had "always been treated as these, like separate entities" in the past. Following the initial PLC training, Macy decided that one way she could champion the program was by establishing a special education sub-group. During PLC meetings and feedback meetings, Macy and the other special education teacher on the team, Ashley, were able to share perspectives, needs and concerns that differed from classroom teachers and reading specialists.

In addition to classroom teachers, the PLC was composed of district-level and school-level teacher leaders, namely the ELA and special education department heads as well as reading specialists. Teacher leaders contributed to success by facilitating efficient meetings, establishing organizational systems (i.e., agenda, notes), designing surveys, and setting clear goals and expectations for the team's work. Though it may not have been a part of their primary job responsibility, these teacher leaders took on leadership roles within the PLC and across schools in the district. The majority of participants described the inclusion of strong leaders as essential to the functioning of the team. PLC members referred to the PLC head, Jessica, primarily as a team leader. They also cited the support that I provided to the team as the implementation science expert as helpful to guiding the mission of the team. A few participants noted that PLC leadership helped to advocate for answers through communication that occurred outside of the monthly meetings among the PLC head, myself and a district level administrator.

Reading specialists and Macy, the special education department head, were described as another "tier" of leadership who could extend the work of the PLC. Implementing teachers often looked to them for support because of their expertise in reading or their position as an established leader in the schools. Whitney (reading specialist) described how she worked closely with the principal and a small committee in her home school to initiate problem solving around increasing student engagement during read alouds, a concern that was shared during a check-in with her school's implementing teachers. Ashley (special education teacher) cited the value in the special education sub-group that Macy established as a dedicated time for special education teachers to connect and collaborate. Macy also took the initiative to bridge support from outside of the district (i.e., a special education teacher from another local district implementing CKLA) to serve as a resource for teachers during some of their meetings. She described this as an incentive for teachers to participate and build buy-in because they were able to get direct information from someone with a similar perspective and more knowledge of the program.

The PLC also included members who participated in a district-wide team that was involved with selecting the curriculum and members who did not. PLC members who participated in selecting CKLA explained that they were aware of the differences and benefits of a knowledge-building program compared to a traditional strategy-based approach as a result of their work in reviewing potential curricula for adoption. Participants reported that this helped them champion the program, because they could explain how knowledge building aligns with the Science of Reading. PLC members also felt it was helpful to have new members who were not previously engaged with curriculum selection to present alternative viewpoints and new perspectives from members who already had buy-in from being a part of the selection process.

Some participants expressed the surprising benefit of the including PLC members who were considered to be "naysayers" on the team. Jessica (PLC head) stated that it was important that you "bring [the naysayers] along so that they can help be the influencers too," though this could also be a challenge at times. A number of participants noted that they have been able to witness growth in staff members who may not have initially been positive about the program, which provided affirmations to participants of the success of the team. Anne (reading specialist) stated, "I've seen growth, even within the committee members that were the naysayers, which is a wonderful thing. It kind of validates all the hard work that we've been doing." Additionally, the participants that were perceived by team members as tending to provide a more critical view tended to speak up more at meetings than other participants. At times, this could derail the focus away from problem solving, yet in other cases the definitive perspective of the naysayers helped move the team toward decision-making when input was needed. Naysayers were also more likely to serve as advocates for teachers during meetings because they were more apt to speak up about issues that were reported as taking too long to address. Finally, these participants provided discrepant views or insight about potential barriers to decisions that may have been less popular with other naysayers across the district.

PLC Processes. PLC members described two organizational processes that the team engaged in as contributing to participants' perceptions of the PLC's success to support implementation. These processes included: (a) establishing and assigning roles for participants within the PLC and (b) maintaining accurate notes to record agenda items, monitor implementation determinants (i.e. facilitators and barriers for implementation), and document decision making.

Roles. During the initial training in August, PLC members brainstormed potential roles to assist in keeping PLC tasks running smoothly. At the October PLC meeting, teachers signed up for roles including: facilitator (to develop agenda items for meetings); note takers (to take notes during meetings); data checkers (to monitor the feedback form in advance of the PLC meeting and consolidate the information into the meeting notes); timekeepers (to keep the agenda items to time and brings meeting back to topic focus); and summarizers (to summarize information for dissemination to administrators or faculty).

Participants expressed that assigning members roles allowed for greater efficiency, organization and team member engagement when meeting time was limited. Jennifer (reading specialist) explained that it was helpful to have a summarizer who could "highlight what's important and what's been accomplished, what needs to be accomplished, what [the team needs] to do moving forward." A few participants described how the timekeeper was particularly helpful, given the "number of tasks" the team had to address during meetings. Summer (5th grade teacher) similarly referenced the amount of information covered in meetings, and explained that prior to having note takers, "it was a little tricky to catch up" with everything that was being discussed. Jessica (PLC head), who was responsible for facilitating many of the PLC processes independently prior to delegating roles, remarked that having individuals take on roles was "so incredibly helpful." She added that she thought it was important to encourage individuals to utilize their strengths, or even strategically place individuals into roles to facilitate effective processes.

While PLC members noted that role designation within the PLC was helpful to the team's success, some participants described a lack of role clarity when referencing stakeholders outside of the PLC (i.e., implementing teachers/grade level teams, principals, district level

administrators). For example, Sabrina (reading specialist) and Eliza (1st grade teacher) both proposed the need for a more formal structure (i.e. regular grade level meetings) for including grade or department level teams as a layer of support for communication and problem solving. Additionally, at times it was unclear who would complete next steps during feedback loops with district level administrators or principals or follow up on pending questions, and by when. The lack of clarity around roles for problem solving will be discussed more in the section, Factors that Hindered Success.

Maintaining notes and documentation. PLC members largely agreed that the team's notes and various documents enabled successful communication and data collection for monitoring implementation determinants, items yet to be addressed, and resolved items. Jessica (PLC head) created agendas for each PLC meeting and notetakers documented discussions about resolved items or any pending barriers, concerns and suggestions. She used PLC meeting notes to develop agendas for PLC feedback loop meetings with administrators (see Appendix A). Feedback loop meeting notes used a format that included three distinct areas to guide discussions: (1) Communicate progress and celebrate success; (2) Report Barriers; and (3) Administrator Share: Data and Next Steps. Following feedback loop meetings, PLC summarizers highlighted the key points onto a document that PLC members used to share out updates at building level faculty meetings. These documents were saved each month in the CKLA online "One Stop Shop," that teachers could access and refer back to at any time. Naomi, like many of the other participants cited this process when describing the successes of the team: "I think coming together to prioritize what we're going to discuss at faculty meetings, that we present at the faculty meetings, and then to have a summary page about that has been helpful."

PLC members explained that they found the documentation of information to be valuable throughout the initial implementation. When referring to the various note taking systems, Eliza (1st grade teacher) explained, “I do think that all of our data that we're keeping and those questions and stuff is great. I mean, it's great to be able to look back and look at what things have been addressed, what things we're still working on, and I think we're doing a good job of keeping track of. There's just so much you know, that we have to do. It's overwhelming.” Like Eliza, some participants described the amount of work that the district had yet to do as a significant task, but they explained that the strong organization of information by leadership and team members to maintain comprehensive notes helped PLC members and teachers see that there was progress. Whitney (reading specialist) referred to the meeting notes and documents, commenting, “there is a significantly large, comprehensive document with areas to address and concerns that have been resolved. So it's organized in a way that helps, I think, us all, to feel like we're participating.” Documentation was also organized and shared in a way that facilitated communication of discussion points and decision making for stakeholders beyond those that were included in the PLC (i.e., non-PLC member teachers) which will be addressed in the next theme.

Stakeholder Engagement in Communication Systems. Multiple stakeholders were engaged in PLC established communication systems, which was important to the success of the team. Implementing teachers reached out to PLC members and used PLC-created systems to share concerns, questions, and successes. PLC members provided input about implementation during meetings, helped to adapt resources, and shared information during faculty meetings. Administrators attended PLC feedback loop meetings, which enabled their awareness of implementation determinants in schools. With all stakeholders participating in communication

systems, PLC members, administrators and teachers had more access to knowledge about CKLA and its fit in the district. Because of this multilevel communication, district and school level leaders were able to be involved in providing support for implementing teachers.

Implementing teachers engaged in the PLC communication systems to share concerns, barriers and successes through technology-based and face-to-face opportunities. For example, they accessed a PLC developed Google Form questionnaire that allowed the PLC to acquire and disseminate teacher concerns, barriers and successes to all stakeholders. The use of technology-based tools lifted some of the burden from PLC members to monitor determinants or clarify information through frequent, impromptu conversations. However, not all teachers used the form and some preferred to engage face-to-face, either through one-on-one check-ins with PLC members or small group discussions to discuss implementation. Allowing for various modes was important and Naomi (reading specialist) explained how teachers seemed to appreciate the network of support that the PLC offered. She commented, “I think they felt like, ‘Okay, I have someone in the building I can ask a question about and maybe that person won’t have the answer, but I know that she's going to go back to the team and say, this is a challenge.’ So, I think it made them feel like you know, that… someone would actually hold on to their request or need and try to follow up.” Macy (special education department head) described how all of the special education teachers were eager to join her special education subgroup. She explained, “People are willingly coming to this on their own. I know some people are using it as a PGO [Professional Growth Objective], but not all of them are, so some are just coming because they want to, which has been to me, like, that's just nice to see us starting to unify instead of being like three separate islands.” Jessica (PLC head) mentioned that collecting data using these various modes helped for “reporting” implementation determinants and to “guide” the team. She

explained, “You can't move forward without knowing how comfortable people are or what they need, where they're coming from.”

The willingness of PLC members to attend monthly meetings allowed teachers across the district to review implementation data, share concerns and successes, brainstorm teacher tips, develop surveys, adapt materials and discuss recommendations or needs from the teacher perspective to share with administrators. For example, when implementing teachers initially had many questions about delivering and scoring writing assessments, they sought advice and support from the PLC. The team worked together, with the support of administrators, to adapt the rubrics and revise the grading scale to better align with the district’s existing grading system. By sharing the responsibility for these tasks across schools and grade levels, the team was able to meet the needs of implementing teachers better than if a single leader attempted to do it on their own. The input of the PLC was essential.

Administrators engaged in feedback meetings, which brought stakeholders together to keep everyone on the same page. These meetings kept administrators involved in the process and allowed PLC members to exert some level of influence on decision making, initiate problem solving and share successes. As Sabrina (reading specialist), said, “They're showing up and they're hearing these things, and it does seem that like the things that are big issues, like are getting addressed ... so I would say it's pretty effective.” Whitney (reading specialist) described this type of multilevel, district-wide meeting as a new, but supportive, experience, saying, “I love that we're meeting with them. That's something we haven't done in the past, so that we can get those answers and then provide that feedback to our faculty.” Administrators heard the PLC team’s input and made decisions aligned with teachers’ needs, such as removing grade reporting requirements or procuring materials. PLC members reported that being a part of these meetings

also helped them understand decisions that were being made, which in turn, could help them provide accurate information about implementation updates or expectations for their coworkers. For example, Doris (kindergarten teacher) said, “From the moment we started, everything I heard that helped me be more confident, not only a more confident member of the group, but a more confident educator in implementation has really, really helped me to champion.” Jessica (PLC head) highlighted the benefit of having meetings was that they held “people accountable” including both administrators and teachers for problem solving, while also suggesting that there were challenges, saying, “I think we're seeing progress and celebrating and sharing progress every month. But it's not without growing pains, and it's not without a lot of angst.” Most other participants shared the conflicting view that feedback meetings did seem to help with identifying and addressing barriers, yet, that process of closing the feedback loop through problem solving was considered to be slower than teachers would have preferred. Sabrina (reading specialist) summed it up, saying, “I think it needs to be better, but I think we have been pretty successful, and things have been resolved.”

Factors that Hindered Success

Three themes emerged as barriers to participants' feelings of success to support implementation: minimal additional training, lack of a dedicated expert, and limited protected time.

Minimal Additional Training. Minimal additional training for PLC members was a barrier for participants’ perceptions of success to provide support or problem solve. Because most PLC members did not receive training for CKLA beyond what the rest of the teachers received, they did not feel that they had the capacity to provide support or resources for their colleagues. In addition to a lack of knowledge about CKLA, a few teachers noted insufficient

knowledge about providing implementation support and attributed this to feeling less confident and successful.

Many participants expressed that they didn't feel that they were successful in providing tangible support and resources to support their colleagues because, for the most part, everyone had the same level of training, knowledge and experience with the program. PLC members were invited to two brief training opportunities, a three-hour CKLA Program Overview for Leaders, and the 1.5-hour training that I provided to prepare champions using implementation science principles. Almost one third (n = 6) of PLC members attended the leader training. All PLC members (n = 16) attended the 1.5-hour implementation training and planning session that formally initiated and outlined the PLC team's work. This was the extent of additional training that the district or researcher offered PLC members on top of the standard training plan for all implementing teachers (see Procedures for more information on the district training plan and implementation training).

Without any more knowledge or experience than classroom teachers, it was challenging for PLC members to provide support for addressing barriers. Eliza (1st grade teacher) explained, "I think we all had high hopes for, you know, being this big support system, but I think that, unfortunately, we're all still learning so much that it's overwhelming to be able to really have a full grasp on everything that entails CKLA." When discussing what hindered her feelings of success to provide support to her colleagues, Ashley (special education teacher) similarly explained, "we're learning with everybody, so sometimes their frustrations are our frustrations." The lack of program knowledge was especially challenging for participants who were often seen as teacher leaders within the district due to their roles (i.e. reading specialists, department heads). These participants expressed that classroom teachers would come to them with

questions about the Tier 1 core academic program, and though they wanted to support teachers, they felt that they had less knowledge of the curriculum than the teachers that were seeking help because they did not actually teach the program.

PLC members reported mixed perceptions about the initial 1.5-hour introduction to implementation science principles and strategies professional development and planning session that they attended on the first day of teacher inservice. When asked about the initial training, some participants had little recollection of what was covered. Other participants described the value in the dedicated time set aside to establish the mission, member roles and expectations. A few of the PLC members felt that they would have benefitted from more feedback and clarity as to individual expectations regarding their participation in this type of PLC as champions for the program. Sabrina (reading specialist) expressed, "I wish we could have like, more of those [implementation focused professional development], like I said, in person, because I think having everyone in the same room does form like, has that sense of like, community and unity." Jessica (PLC head) commented on the PLC being a new experience for teachers, "Teachers were familiar with working as teams, but now working in a slightly different role as a professional learning community, which doesn't just learn, but informs and shares. It's different. It was a different process for them, perhaps than they've done in the past."

Lack of a Dedicated Expert. In addition to PLC members' reported need for a strong foundation of knowledge for CKLA and implementation, half of the participants noted that the lack of a dedicated expert within the district was a barrier to the team's success. Denise (4th grade teacher) explained, "Basically, everyone's lost. There's really not an expert. There's no expert among us. So we're all learning through treading water, while we're unpacking this with students." With limited direct access to someone who was knowledgeable about both CKLA

and the context of the district, problem solving was reported to be slow for issues related to program fit. When the team was unclear on how to solve a problem, administrators would reach out to a CKLA representative or other districts with more experience using the program for input. When this occurred, PLC members could wait a month or more to receive a response which delayed problem solving.

Some participants reported that communication breakdowns occurred when it was unclear who could provide answers to problems. While district and school level leaders were supportive, involved and attended feedback meetings, they couldn't always provide the answers that teachers needed. When referring to questions that teachers had during implementation, Jessica (PLC head) stated, "We can collate all the data, but we're relying on somebody else to provide the solutions and the time and the resources, and they [administrators] don't have it either." Some participants reported that despite administrators' or PLC leaders' best efforts to support the team, they sometimes misunderstood the context of the problems being shared due to limited knowledge of the program or the context. Additionally, Anne explained that without clear differentiation of roles between administrators, the PLC head, PLC members and implementing teachers, it was not initially clear who was responsible for making decisions or answering questions when problems arose.

Limited Protected Time. About half of the participants reported that limited time for learning about the curriculum, supporting teachers, and completing tasks related to implementation hindered the team's success in supporting implementation. Participants remarked that PLC members all had full teaching loads which limited their time to learn about the program or provide support for teachers. Summer (5th grade teacher) explained, "I think as a team, we are running 100 miles an hour to do something that needs a lot more road." Naomi

(reading specialist) emphasized the need for more dedicated time for the PLC to complete tasks associated with supporting implementation, saying, “I do think that it's almost like when you take on, you know, an implementation of a large, vigorous program, and you still have full teaching responsibilities, it almost feels like there should be some extra time built in there, whether weekly or monthly, to work specifically on the PLC.” Jessica (PLC head) felt that the amount of support required for the team to function more effectively may have been better suited for a staff member dedicated to “[providing] a specific skill set and knowledge in an area of literacy, but also in that physical sense that they permanently work in our district and can help with whatever, whenever, wherever.”

The limited time allocated for meeting and collaboration also hindered perceptions of success. The fast pace of the monthly meetings, due to the amount of information covered in a short amount of time, caused confusion and some of the team members mentioned that they struggled to keep up. To improve efficiency of PLC meetings, some participants suggested that PLC meetings could have utilized “break out” meetings of smaller groups with similar concerns (typically by grade levels, for example, grades K-2 and grades K-3) whenever possible. Sabrina (reading specialist) pointed out that feedback meetings with administrators also felt rushed due to the limited time and a full agenda which left little time for discussion or problem solving. Because of this, she explained that decision making sometimes happened outside of the meeting and without the PLC team opposed to as a collaborative process. This left the team waiting for responses from administrators after they had time to discuss as a formal leadership team. She noted that it may have been helpful to share the upcoming agendas with all stakeholders further in advance of the meeting in order to allow for more opportunities to collaboratively problem solve during meetings.

A few participants expressed that a lack of time for collaboration amongst grade level teams, specialists, or special education teachers contributed to the number of concerns and issues that were reported to the team, suggesting that problems could have been solved with regular grade level team meetings. However, perceptions were mixed on the idea of more meetings for teachers. All staff in the district had a dedicated thirty-minute joint planning time building into their daily schedule. Some participants expressed that teachers could be utilizing this time as an additional opportunity for regular peer-to-peer support (regular grade level meetings were not mandated). Others noted that the time needed for teachers to deliver a new curriculum in addition to the various competing professional demands required of them, left little opportunity for another scheduled meeting.

Finally, PLC members also indicated that there was little time to prepare for implementation prior to the initial roll out of the curriculum. The program was approved a few months prior to teachers' summer break, and teachers were invited to participate in the PLC in the last week of school before the break. As such, PLC members had limited time to problem solve and brainstorm strategies for overcoming potential barriers prior to the initial implementation training for the PLC. Two PLC work days were allotted to prepare for implementation over the summer, which included a half day of leader implementation training hosted by CKLA. However, many PLC members were unavailable on these days, and less than half of the PLC members attended (n = 6). Anne (reading specialist) described challenges related to clarity around the roles of the PLC and administrators when it came to problem solving, she commented, "the different stages of who does what position and what are the expectations, those are big hurdles that really should have been hammered out in the summer before we got to this point." A few participants also reported that they had little time to prepare

for supporting teachers with tasks specific to CKLA because teachers did not receive the physical curricular materials until a week before the beginning of the school year.

Chapter 5: Discussion

This qualitative study explored the experiences of PLC members' feelings of success to support implementation of CKLA and the factors that facilitated or hindered their success. This study contributes to the limited research base on the strategic implementation of Tier 1 core academic programs in schools using implementation science (IS) frameworks. The majority of research on implementation in schools that is grounded in IS frameworks to date has been primarily applied to behavioral, health, speech and language, early childhood education and special education interventions. With many states mandating the use of programs and practices that align to the Science of Reading, it is important that school leaders understand how to effectively support implementation of new reading programs to improve teacher experiences, and in turn, student outcomes. As such, research on the use of implementation science to improve successful implementation of evidence-based practices (EBPs) and programs for core academic programs is needed. From my analysis of teacher interviews, meeting observations, Champion Check-Ins, and artifacts, two overarching findings emerge: (1) effective championing requires multiple voices and (2) problem solving requires resources.

Effective Championing Requires Hearing Multiple Voices

PLC members were able to champion CKLA because all stakeholders were engaged in communication systems. Implementation research cites participation in a professional learning collaborative (commonly referred to as a Professional Learning Community, or PLC, in schools) and preparing champions as strategies that have been attributed to improving the success of implementation (Cook, et al., 2019; Locke et al., 2018; Mundschenk & Fuchs, 2016). In this study, both strategies were used to enable stakeholder involvement across levels, which assisted champions in monitoring implementation determinants and enhancing communication

around implementation of a Tier 1 academic program in schools. PLC members felt that they were able to successfully amplify the voices of implementing teachers and other stakeholders involved in the implementation of CKLA. This finding aligns with prior studies that purport that PLCs can enable teachers to become active participants in supporting change and 'buy-in' by helping to facilitate the uptake of new evidence-based practices or programs in school (Mundschenk and Fuchs, 2016).

A diverse PLC team not only ensured that all voices were heard but also improved PLC members' own capacity for implementing and providing support for the adoption of CKLA. Other studies have similarly found that collaboration and the camaraderie of being a part of a team can improve PLC members' capacity for novel teaching practices during times of change (Clark et al., 2023). In the current study, PLC members in differing roles had unique assets that they could contribute to the implementation. Teacher role, background and attitude are considered *individual level* factors that can impact implementation success (Lyon & Bruns, 2019). For example, participants who were already seen as leaders in the district seemed to be more comfortable taking the lead for offering more formal types of support. Vaughn et al. (2021) similarly found that teacher leaders such as literacy specialists provide expertise in literacy instruction to offer program-agnostic expertise that can support advocacy and decision making. PLC members in classroom teacher positions, as well as the "naysayers," were able to provide the perspective and concerns of those who were actually using the program, which allowed the team to work through barriers related to the *innovation factor*, program fit, at the *inner context* classroom level. This perspective is important, given that adaptation and resources are essential for implementation due to the varied needs of teachers, students and schools as unique contexts (Vaughn et al., 2021; Weiss, et al., 2023). Additionally, multiple PLC members

from each school helped distribute the work load among teachers of collecting implementation determinant data and communicating with stakeholders. This type of shared leadership within each school was critical because participants were already burdened by the heavy lift of implementing a new curriculum. This finding adds to the literature that emphasizes the need for a team-based approach to helping manage implementation efforts in schools (Kittelman et al., 2021; Mundschenk & Fuchs, 2016).

Researchers have found administrator support crucial to PLC success. The research to date has identified support in terms of accessing materials, setting expectations for PLC meetings and protocols, developing a shared vision, or establishing professional development (Hudson, 2023; Thessin, 2015). In this traditional approach, administrators are involved but not embedded in the complete process of implementation. When PLCs are designed to support system-wide change for complex interventions like CKLA, the current study demonstrates the importance of direct administrator participation for multilevel collaboration. Building intentional opportunities for regular communication and collaborative problem solving had a positive impact on members' perceptions of success and their capacity for enacting the mission of the PLC. Participants described a number of ways that administrators “heard” teachers’ concerns and responded through their regular participation in feedback meetings. Locke et al. (2018) found that supportive leadership that enables EBP use through engagement and the provision of tangible resources is particularly salient in school settings due to the limited means available in schools. Yet, Locke et al. note that while this support and prioritization of evidence-based practices is important, it is also necessary to deprioritize other initiatives to provide time and resources to support implementation of the prioritized initiative. This deprioritization was seen in the current study through leadership’s decision to remove typical assessment reporting

requirements for the first trimester of the school year, while the district and teachers worked through the steep learning curve of implementation.

Feedback loops enabled administrator engagement and contributed to PLC members' feelings of success to support implementation. These processes kept administrators involved in the implementation and helped them to make decisions with teacher input in mind. Contrary to Hudson's (2024) finding that ineffective PLCs may subsist at the surface level due to disinterested leaders, PLC members in this study described administrators who were involved, showing up and invested in learning the program. This study's finding reflects those of Merle (2022) who also found that implementation strategies that encourage communication, collaboration and teacher advocacy are perceived to be feasible, acceptable and impactful ways to improve teacher self-efficacy for using EBPs. While participants in the current study noted that leadership was supportive, Merle suggests that these strategies can also help to overcome a lack of supportive leadership. Yet, contrary to participants' perception that feedback loop processes were helpful to enabling success, there were also challenges. Participants reported that some questions and tasks related to adapting the program (i.e. revising writing rubrics in a timely manner) or context (i.e., modifying and aligning grading systems and assessment schedules to CKLA) took longer to resolve which inhibited timely closure of feedback loops. It is imperative that schools plan for adaptation and the resources (i.e., time, staff) required to adapt practices to fit into a school's existing systems (Tschida & Drahota, 2023; Weiss et al., 2023). The current study demonstrates the potential for team-based strategies for preparing champions and establishing systems for multilevel collaboration including forming a team with diverse members, establishing clear roles within the PLC, creating structures for maintaining notes and documentation of decision making. This finding is encouraging considering that PLC

features related to collaborative leadership processes correlate with student achievement (Burns et al., 2017).

PLC members reported that multilevel systems for collaboration enabled their feelings of success to improve their own capacity for implementation. Most PLC members reported better understanding of the implementation and program expectations at district and school levels. Additionally, by participating in discussions during PLC meetings, teachers were able to reflect on their own practices. Prior studies of curriculum implementation cite lack of transparent communication across stakeholders and less clarity around expectations for fidelity as barriers to implementation (Aarons et al., 2012; Moore et al., 2024; Pak et al., 2020). Conversely, when PLC members engage in collaborative reflection, as they did in the current study, teacher change and better student outcomes are more likely (Hudson, 2024). The findings of the current study suggest that, though it was minimal, district-provided dedicated time and facilitation for preparing champions and establishing multilevel communication systems in a team-based approach may have helped to improve teachers' feelings of success to engage stakeholders. Building relational skills, such as providing support for forming an implementation team and strategies to engage stakeholders, is considered a core component of professional development for implementation capacity building (Reszel et al., 2023).

Problem Solving Requires Resources

PLC members indicated challenges related to *inner context* level factor, lack of resources, for problem solving, despite the support of leadership, the team, and implementation training. Studies suggest that strategic implementation training may improve implementation leadership and climate, which are two factors that have been associated with higher fidelity of EBP use (Stahmer et al., 2023). However, recent implementation studies for interventions in

schools provided higher levels of support for school leaders and teams than were present in the current study. Other studies cite more intensive support including: multiweek-long needs assessments, multiday implementation leadership training and plan development, weekly individual and monthly group coaching, implementation strategy development, and follow up training (Dickson et al, 2024; Locke et al., 2024). Due to district constraints, including limited available training time, the implementation timeline and district norms, PLC members did not have sufficient training and time for implementation planning, preparation and work.

Study participants expressed limited knowledge of both CKLA and how to participate in a PLC to support implementation, suggesting a need for more professional development opportunities. Studies have found that PLC success is dependent on a supportive administrative environment that facilitates ongoing professional development for members and enables PD time for time for teachers to collaborate and engage deeply with curriculum materials (Hudson, 2024; Lyon & Bruns, 2019; Riggins & Knowles, 2020; Sims & Penny, 2014; Thessin, 2015). In some cases of team-based implementation support, champions internal to an organization were seen as both an expert in the innovation and a motivator for change (McCullough et al., 2017). However, participants in this study felt more comfortable motivating peers to remain positive and supporting buy-in of CKLA, and they felt less comfortable providing expertise. PLC members did not have the time and program knowledge to feel confident in their ability to help their colleagues overcome barriers and provide tangible support. Real world studies of implementation show that leaders of low implementation sites that are not knowledgeable about the intervention and its use in the field are unable to offer realistic support (Jaramillo et al., 2023). Prior studies cite collaborative models as necessary for sustained implementation and emphasize the need for strategic planning and multi-level leadership training to improve use of

EBPs and team-based support for implementation (Aarons et al, 2016; Odom et al., 2022; Stahmer et al., 2023; Thierry et al., 2023).

Challenges to implementation also stemmed from the lack of access to a dedicated expert in CKLA that could provide the necessary support to the team, district and building level leaders, and teachers. PLC members indicated that the district training plan and coaching for implementing teachers was helpful, but their means for learning more about the program to support their colleagues in their home schools was limited. By funneling concerns and questions through a number of channels such as the PLC, administrators, a CKLA representative and then back to teachers, communication was at times inefficient. This system kept stakeholders within the district involved and informed, but the lack of immediate access to a CKLA expert slowed the problem-solving process and inhibited PLC members' perceptions of success for providing support. Similarly, team-based research indicates that a lack of strong ties across networks can cause communication breakdowns (McGuier et al., 2023). In contrast, Macy provided an example of how external networks could be used to provide direct support for implementing teachers. By inviting a special education teacher from another district implementing CKLA to special education sub-group meetings, special education teachers received direct access to a knowledgeable resource. This finding contributes to research that cites the impact of *bridging factors* (i.e., the linkages between the inner context and outer context) on implementation. When networks are strong with communication across inner and outer contexts, leaders can make informed decisions using feedback from those using the program on the frontlines (i.e., teachers) (Jaramillo et al., 2023). It is important to note that *outer context* factors, such as funding and curriculum implementation support package contracts can also potentially affect

PLCs access to expertise. Constraints related to funding are particularly salient in rural contexts where funding inequities can contribute to fewer resources (Tieken & Montgomery, 2021).

Though the focus of this study was the Implementation phase of the EPIS framework, participants reported that there was limited time for training and planning prior to the initial implementation, during the Preparation phase. The intent of the oft-overlooked Preparation phase is to assess barriers and facilitators and develop plans for how to leverage facilitators to address barriers (Moullin et al., 2019). A few teachers described the potential for maximizing planning time for implementation work over the summer, yet attendance was low for summer planning and training opportunities. Tschida and Drahota (2023) similarly found lower adherence and dosage to the Preparation stage and suggest there may be a need for greater emphasis on the importance of planning and preparation when using implementation strategies as well as the allocation of resources such as time, funding and staff for the Preparation phase.

While the shared leadership in this study indicated an opportunity to empower teachers, it is also noteworthy that some participants expressed that some PLC tasks may have been better suited for someone in a dedicated position for supporting implementation, such as a literacy coach or implementation coach. These findings indicate a potential tension between the role of the teacher as a leader and overburdening teachers. Though distributed leadership is consistent with the calls of implementation science to enhance multilevel communication and collaboration, Tian et al.'s (2016) review of distributed leadership in schools suggests that researchers should consider teacher agency to ensure that the relationship is reciprocal and supportive for both teachers and administrators. Additionally, distributed leadership research has suggested challenges related to the "shifts in power, authority and control" present in this type of leadership, which can cause concern for those feeling the "weight of responsibility" for

school performance (Harris, 2013 p. 551). The findings of the current study further suggest that the roles, power dynamics and capabilities of both teachers and administrators in multi-level implementation teams may require more attention to enable teacher leaders' capacity and comfort for addressing barriers and providing support to colleagues in distributed leadership models.

Limitations and Future Research Directions

Study limitations require mention for future research directions and generalizability. First, the study sample was small and drawn from only one rural school district that was in its initial stages of implementation of Core Knowledge Language Arts. Participants self-selected to participate in the PLC as well as in the study. Participants' willingness to join the PLC and participate in the study indicate that there was teacher buy-in for supporting implementation. However, some districts may appoint or require teachers to participate in this type of PLC. PLC members who are required to participate may view the work of the PLC differently from those of the current study due to lower levels of buy-in or motivation to provide feedback or support. Additionally, urban or suburban schools may differ from small, rural schools in regard to availability of resources, such as the staff available to provide support for implementation. Future research could include a more diverse sample that includes teachers from schools and districts of varying urbanicity as well as teachers that were randomly selected to participate in a PLC, given that variation in aspects of implementation climate, culture and resources of schools can affect implementation outcomes and experiences. Second, the study only included the experiences and perspectives of teachers participating in the PLC. The voices of other stakeholders involved in the implementation, such as administrators and implementing teachers, were missing. Future studies should include administrator and non-PLC implementing teacher

participants to better understand the impact of implementation teams, such as district wide PLCs, on all stakeholders' experiences with implementation. Third, the study focused on PLC members' perceptions of support and successful implementation but did not include other measures that would indicate implementation success, such as quality and fidelity monitoring data. Future research that examines the use of a PLC as a support for implementation could include implementation fidelity outcomes, such as performance-based data that can be used to measure the extent to which teachers are implementing the program as intended. This information would allow researchers to determine whether or not the use of implementation strategies can improve the uptake of Tier 1 core academic programs with fidelity. Fourth, the study concluded in December with initial implementation beginning in August, and as such, the implementation was still early in the Implementation phase during the conclusion of the study. This provides a limited view of the perceived success for implementation, as full implementation can take multiple years (Saldana et al., 2012). Future studies could follow the implementation throughout the process to observe how perceptions may change as districts move beyond the initial phase.

Finally, while some tools and frameworks are being developed to improve the use of implementation frameworks in school settings, additional research and resources are needed to improve dissemination of explicit guidance for school leaders throughout the implementation process (Komesidou & Hogan, 2023; Tschida & Drahota, 2023). The EPIS framework provides a useful guide to categorize implementation determinants (see Figure 1) throughout the various stages of implementation. However, explicit guidance, tools and structures would be beneficial to improve processes for problem-solving because teacher leader participants may lack knowledge of how to provide implementation support, as well as the resources to do so.

Through the implementation, there were challenges related to how to provide direct support to teachers and engage in collaborative, multi-level problem solving. It is important that research gleaned through implementation and efficacy studies in school settings provide practical recommendations and tools to help translate evidence into practice to improve the use of team-based systems for support (McGuier et al., 2023). Furthermore, the inclusion of team-based strategies, tools and interventions may strengthen IS frameworks, like EPIS, to improve usability and support team-based problem solving.

Implications for Practice

Implementation science frameworks and strategies can provide guidance for schools to provide support for teachers implementing Tier 1 academic interventions like comprehensive reading curricula. The EPIS implementation science framework purports that implementation should occur through four phases: Exploration, Preparation, Implementation and Sustainment (Aarons et al., 2011). Implementation strategies can be integrated throughout each phase to potentially improve implementation outcomes in schools.

During the Exploration stage, districts assess the fit of the intervention and make the decision to adopt. A multilevel approach should be taken to analyze the setting, considering the district goals and needs, school level factors (i.e., schedules, staff, resources) and administrator and teacher level factors (i.e., attitudes and beliefs, knowledge, implementation climate, culture and leadership) (Aarons et al., 2012). Following the Exploration phase, and prior to implementing evidence-based programs and practices, school leaders (i.e., administrators and teacher leaders) should plan adequate time for the Preparation phase. During the Preparation phase, multilevel stakeholder groups can plan for the resources needed to monitor and address potential barriers during Implementation. Additionally, school leaders should establish a diverse

group of stakeholders to form a district wide professional learning collaborative (PLC) dedicated to collaborative implementation support. PLCs can be used to improve teachers' capacity and drive change when combined with adequate support from leadership and school structures that enable collaborative reflective practice (Hudson, 2024; Riggins and Knowles, 2020; Thessin, 2015).

During the Preparation phase, teams can assess potential barriers to implementation and map strategies to proactively address challenges that may arise during implementation. These strategies can help guide the mission of the team. Various stakeholders should be involved when PLCs establish structures for collaboration, training and communication so that clear roles can be established (McGuier et al., 2023). In addition to a training plan, it is important that teams spend adequate time developing both adaptation plans (i.e., reviewing materials, evaluating possible adaptations and completing planning worksheets) and implementation plans to proactively set goals to support the fit of the program with district structures and needs throughout the Implementation phase (Tschida & Drohota, 2023). School leaders should consider the potential burden that participation in the PLC can have on teacher leaders during Implementation and ensure opportunities for teacher agency in planning for and supporting implementation (Tian et al., 2016). In Preparation and throughout Implementation, schools should provide adequate time and training for teacher leaders and administrators to learn about programs and how to best support implementation through strategic planning. Stakeholders can also work together to identify how existing structures within schools can be leveraged to overcome potential barriers, such as time, or deprioritize competing initiatives.

With adequate training and time, PLC members can serve as champions for new practices or programs during Implementation. For example, PLC members can provide training

for implementing staff, facilitate multilevel communication, develop subgroups in their home buildings, offer varied modes of communication to share data about implementation determinants, and share data with other relevant stakeholders (e.g., district level administrators, principals and teachers) through the use of feedback loops. It is important to provide support for teams to establish systems for monitoring implementation barriers and facilitators on an ongoing basis, understanding that they may need to revisit activities from the Exploration or Preparation stage when barriers emerge (McGuier et al., 2023). In order to allow for efficient problem solving and avoid potential communication breakdowns, PLCs would benefit from direct access to individuals with curricular expertise. One potential means for improving access to expertise could be curriculum representatives that can provide technical support directly to PLC members. Additionally, districts can utilize personnel on staff with dedicated time and the knowledge of the curriculum and its fit within the district, schools and classrooms to implement a "train-the-trainer" model (Strickland-Cohen et al., 2018). Because addressing barriers can be challenging for implementation focused PLCs, school leaders might consider the use of problem-solving and decision-making tools that have been explored with traditional grade level PLCs and teams in other settings. For example, the iterative Plan-Do-Study-Act improvement cycle provides a framework for teams to strategically use data to identify a potential change, test the change with a small group, study the effectiveness, and act decisively to adopt, adapt or abandon the change (Bugnitz & Sandberg, 2025; McCullough et al., 2017). Finally, once the intervention is being implemented with fidelity, teams should continue to monitor implementation during the Sustainment phase to ensure that outcomes are being maintained over time.

Conclusion

This qualitative study demonstrates how implementation strategies and support can impact teacher leaders' feelings of success to implement Tier 1 academic programs as members of a PLC. Implementation science frameworks, such as the EPIS framework, outline the process of strategic implementation as well as various contextual factors that can impact successful uptake of new programs and practices. Study findings suggest that even with constrained resources, such as limited time, training and access to a dedicated expert to support problem solving, implementation support can be provided within the confines of real-world school settings to improve communication across stakeholder levels for improved clarity of expectations and teacher capacity for implementation. Additional research is needed to examine how to address barriers within multilevel teams for efficient collaborative problem solving and improve PLC members' capacity for providing support to colleagues through shared leadership, given the limited resources available in schools.

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Table 1

Participant Characteristics

Participant	Gender	Age	Race	Years teaching experience	Primary role	Grade(s) taught	School	Role in PLC
Sabrina	Female	35	White	14	Reading specialist	K-5	Valley	Data checker
Denise	Female	61	White	10	General education classroom teacher	4	Cross	Summarizer
Whitney	Female	45	White	22	Reading specialist	K-5	Valley	Note taker
Naomi	Female	53	White	25	Reading specialist	K-5	Northern	Data checker
Eliza	Female	55	White	31	General education classroom teacher	1	Cross	Time keeper
Summer	Female	50	White	26	General education classroom teacher	5	Northern	Time keeper
Lianne	Female	46	White	22	General education classroom teacher	3	Cross	Note taker
Doris	Female	52	White	26	General education classroom teacher	K	Valley	Data checker
Ashley	Female	57	White	32	Special Education Teacher	K-5	Cross	No role
Jennifer	Female	56	White	25	Reading specialist	K-5	Cross	Summarizer
Macy	Female	42	White	20	Special Education Teacher	K-5	All	No role
Jessica	Female	46	White	22	ELA department head	K-5	All	Facilitator
Anne	Female	55	White	23	Reading specialist	K-5	Northern	Data checker
Camilla	Female	51	White	26	General education classroom teacher	2	Cross	Summarizer
Beth*	Female	42	White	15	General education classroom teacher	5	Valley	Summarizer
Sara*	Female	37	White	15	General education classroom teacher	K	Northern	Note taker

Note. Beth and Sara participated in the PLC activities and completed Champion Check-In surveys. They did not respond to requests to participate in interviews.

Table 2

Codebook

First cycle code names	Code description	Examples/Key Quotes	Second cycle code names/categories	Themes
RQ 1: Feelings of PLC Success				
Communicating with stakeholders	Refers to feelings of success related to communication with implementing teachers or administrators	"alerting everyone to this is what we decided. This is how it needs to be" (Doris – CTK)	**EPIS Inner Context: Organizational Systems – District level** More success -Multilevel communication systems -Systems for monitoring determinants Less success -Systems for addressing barriers	More success: Creating communication systems -championing through communication Less success: Moving from identifying barriers to problem solving -problem solving lag time -providing direct support
Monitoring barriers and success	Refers to PLC members describing success related to monitoring teacher concerns, barriers and successes	"[Adminstrators] absolutely know the barriers and the PLC, you know, is that mouthpiece." (Interview, Jennifer - RS)		
"Support" Communication based	Refers to PLC members providing support to teachers or administrators, including: accessing resources, advocating for teachers, and being the "go-to" person for teachers	"The teachers felt that they really could question…and know that it wasn't falling on deaf ears, that we were going to try to work this out and to support them." (Interview, Anne, RS)		
Problem Solving "Lag Time"	Refers to wait time for solving problems, providing support or answering questions.	Denise – CT4, shared: "Still have rubrics 'in progress' and we need answers to these questions because assessments are done." (Observation notes, 10/7/25) "I don't know that our questions are always being addressed, either, in a timely manner (Interview, Ashley, SE)		
Feelings of individual success: Championing				
"I believe in it"	Refers to belief in the practice/program as enabling championing behaviors	"we really believe in this program. We really believe in what we saw, what we've heard from other teachers who have been teaching this program for a couple of years. We really believe in, it's our mission to put the best possible teaching and the best possible product in front of our kids" (Interview, Lianne – CT3)	**Implementation Science Strategies: Championing** **EPIS Inner Context: Individual level** Capacity for providing support	

Table 2 - continued

First cycle code names	Code description	Examples/Key Quotes	Second cycle code names/categories	Themes
"You're not alone"	Refers to activities participants engaged in to champion and support implementation through communication	"the biggest thing that we kept, like, sharing with people to know, like, you're not alone." (Interview, Sabrina-RS)		
"We are still learning"	Refers to lack of knowledge about the program hindering their feelings of success to/champion support implementation by problem solving or addressing barriers individually	"you want to support but yet sometimes you don't know how," (Interview, Ashley – SE)		
RQ 2: Supports PLC Success: Stakeholder Engagement				
Google Form	Refers to the PLC developed survey that PLC members and teachers used to share concerns, questions, barriers and successes as supporting the success of implementation.	PLC head, Jessica, then addressed the question from the Google Form: To what extent can we use non-CKLA materials? • The answer from admin is to use only CKLA materials… (Observation notes, 9/19/2025)	**EPIS Inner Context: Organizational systems** – District level	Factors that supported success: EPIS Inner Context: Organizational systems • Stakeholder engagement • Team processes • Team composition Implementation strategies • Form a PLC team
Faculty Meeting Share Outs	Refers to PLC members sharing updates at Faculty Meetings on a regular basis as supporting the success of the implementation.	"faculty meeting share outs are a great way to communicate to all staff on what's happening and what questions have been answered" (Interview, Whitney-RS)		
Meetings	Refers to the mention of participation in PLC meetings and activities as facilitating success of the implementation.	"team meetings are nice because you get to hear what other people are experiencing, and then you can kind of reflect on that" (Interview, Summer-CT5)		
Feedback Loops	Refers to PLC members', implementing teachers' and administrators' engagement in the process of sharing information to discuss problems and successes as supporting implementation.	"feedback loop meetings have been really helpful just to keep admin involved and also unified, because each building is kind of its own animal, so at least it's creating that consistency amongst the school district" (Interview, Macy-SE)		

Table 2 - continued

First cycle code names	Code description	Examples/Key Quotes	Second cycle code names/categories	Themes
Supports PLC Success: Team processes				
"Notes" and "Agendas"	Refers to the mention of using agendas and notes to help support the teams' work in supporting implementation.	"it is in the document, like it's every question we have is pretty much there. The response is there from admin. The response is there from CKLA." (Interview, Ashley - SE)	**EPIS Inner Context – Organizational systems and processes**	
Roles	Refers to the identification of roles within the PLC as contributing to success for supporting implementation.	"To have that job so I can go back and highlight what's important and what's been accomplished, what needs to be accomplished, what we need to do moving forward. So yes, I would say having a role is definitely helpful." (Interview, Jennifer - RS)	**Implementation Science Strategy:** Develop PLC team	
Supports PLC success: Team composition				
"Good Representation"	Refers to who is on the team, why they are on the team, and buy-in as enabling participants feelings of success.	"we had so many people willing to be part of this to make it successful and diverse, to make sure every area was covered." (Interview, Anne - RS)	**EPIS Inner Context – Organizational systems and processes; Leadership**	
Leadership (Team or Administrator)	Refers to either team leadership or administrative leadership related to feelings of success in supporting implementation.	"the leaders that I see in this group that just have, you know, helped us to form that path, put us on the right direction." (Interview, Lianne – CT3) "Thank you so much for hearing and seeing us." – Observation notes, Feedback Meet 10/21/25, Denise - CT4)	**Implementation Science Strategy:** Develop PLC team	
Collaborating with Peers	Refers to participants referencing collaborating with peers as enabling success for team members in supporting implementation.	"this feels much more communicative, communal, supportive. It feels like more of a group or a tribe than just 'Here are the manuals.'" (Interview, Doris - CTK)		

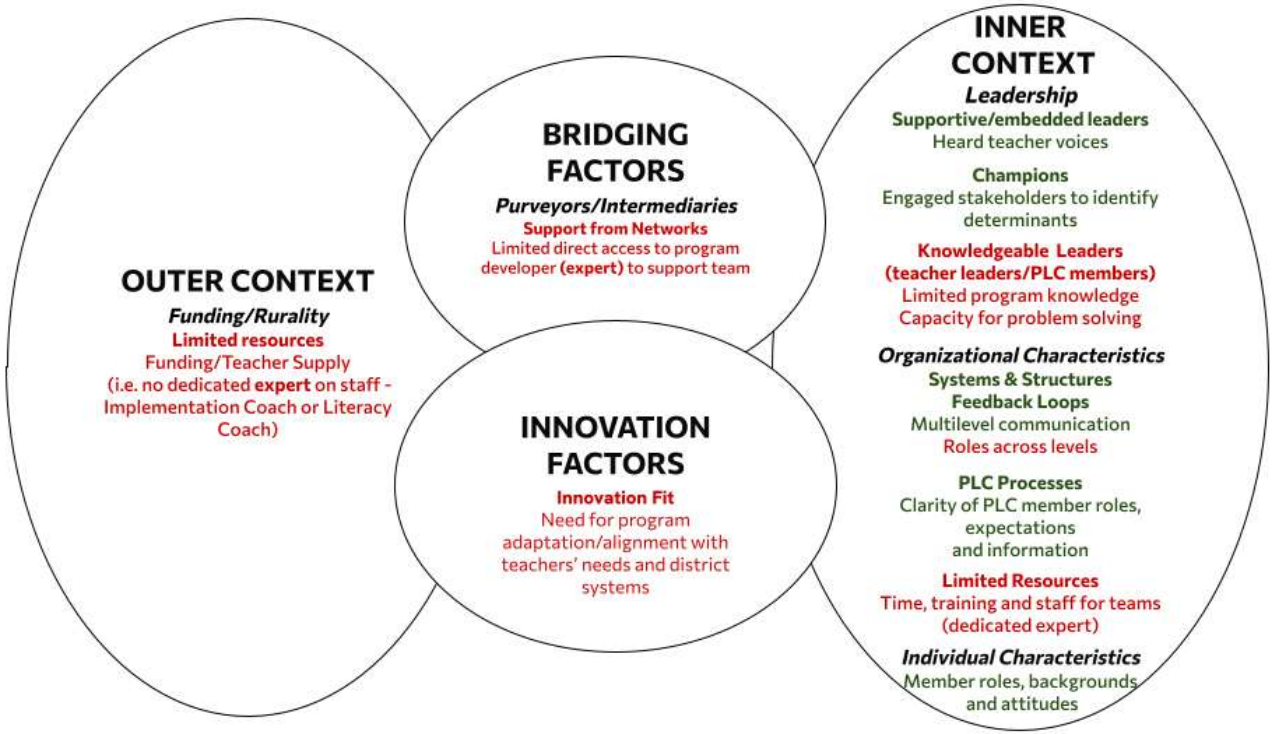
Table 2 - continued

First cycle code names	Code description	Examples/Key Quotes	Second cycle code names/categories	Themes
RQ 3: Hinders PLC Success				
Lack of PLC resources: "No expert"	Refers to lack of access to an expert (i.e., staff that has dedicated role such as a coach or a CKLA representative) as hindering participants feelings of success to support implementation.	"it's really difficult to, honestly, to take such a large and rigorous ELA curriculum on without one specific leader in the process who actually has the time to really understand the curriculum, and to be a point person." (Interview, Naomi - RS) "There's really not an expert. There's no expert among us." (Interview, Denise -CT4)	**EPIS Inner Context: Resources** – Time, training, staff **EPIS Inner Context: Individual level -** Knowledge **Bridging Factors:** Access to publisher **Innovation Factors: Need for adaptation to fit context** (pacing, grading/ reporting)	Factors that hinder success: EPIS Inner Context factors: Time, training, staff, knowledge • Lack of a dedicated expert • Minimal CKLA knowledge/ training needed • Limited time Bridging factors • Lack of a dedicated expert (team access to publisher support) Innovation factors • Need for adaptation and fit to contextual systems and processes
Lack of PLC resources: Knowledge "We are still learning"	Refers to participants' lack of knowledge about the program hindering their feelings of success to/champion support implementation.	"we're all still learning so much that it's overwhelming to be able to really have a full grasp on everything that entails CKLA" (Interview, Eliza – CT1)		
Lack of PLC resources "time"	Refers to participants struggling to keep up, in meetings, with team resources or monitoring concerns due to the fast pace and lack of time to meet, communicate, learn about the program and organize.	PLC Head: Another concern is - Rubric samples, we need them ASAP. Printing out the rubric - marking them up, need a visual. We understand the need for a visual - was requested by teachers. Need to find time or who will get this done. (Observation notes, PLC Meet, 10/7/2025)		

Note. CT(K-5) = Classroom teacher and grade level, RS = Reading specialist, SE = Special education teacher.

Figure 1.

Exploration Preparation Implementation Sustainment (EPIS) Framework Implementation Determinants



Note. Red = Implementation Barrier, Green = Implementation Facilitator. Adapted from "Advancing a conceptual model of evidence-based practice implementation in public service sectors." by Aarons, G. A., Hurlburt, M., & Horwitz, S. M., 2011, *Administration and Policy in Mental Health and Mental Health Services Research*, *38*(1), 4–23. https://doi.org/10.1007/s10488-010-0327-7

Appendix A

CKLA Implementation PLC Admin Feedback Loop Template

AGENDA:

1. **PLC communicate progress & success**
2. **Open discussion on reported barriers**
3. **Admin share data**

Communicate progress & celebrate success	**Report Barriers:** **Who & when should address these?**	**Admin Share** **(data and next steps)**

Areas to Address:

Organizational Level Concerns (District)		
Topic		
Answer needed by:	**Question/Concern:**	**Answer:**
Building/Classroom Level Concerns		
Teacher Level Concerns		
Intervention (CKLA) Concerns		
Concerns about Training/Coaching from MClass		

Thoughts for potential future work:

Thoughts for administrator review and consideration 2026-2027 School Year:

*This table was repeated, to include "Resolved Issues, To Be Revisited Periodically."

Appendix B

Training Slides

CKLA Implementation
PLC Training

08/18/2025



PLC Team Training

Before we begin...

If interested in participating in study,
Please review the consent form and complete the demographic survey (email or paper copy).

If not, please review the study activities for non-participants.

Questions?
Reach out to me (jlb419@lehigh.edu) or Dr. Brook Sawyer (brooksawyer@lehigh.edu)

Today's Agenda

1. PLC Mission
2. Implementation Overview
3. A Framework: EPIS
4. Strategies
5. -Communication Systems
6. -Champions

PLC Team Training

What is a PLC?

- A group of educators
  - Motivated by :
    - Continuous improvement
    - Collective responsibility
    - Mutual goal alignment
  - Collaborative professional learning to increase educator effectiveness and to improve student outcomes
  - Sharing and critically interrogating their practice
- A high level of collegial trust
- A supportive school environment

PLC Team Training

The mission of the PLC is to **improve communication** between classroom teachers who are implementing CKLA and its supplemental programs and school administrators through the establishment of communication systems.

Team members will serve as **liaisons** for teachers across the district via regular meetings with district and school administrators to **communicate barriers** and engage in **collaborative problem solving.**

PLC Team Training

How do we do it?

Implementation Made Simple

The intervention or practice is **THE THING.**

Implementation research looks at how to best help people DO THE THING.

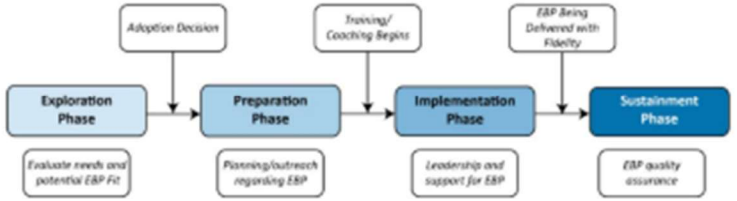
Implementation strategies are the **things we do** to help people DO THE THING.

Implementation outcomes are **HOW MUCH** and **HOW WELL** they DO THE THING.

(Curran, 2020

PLC Team Training

Implementation Research: EPIS Framework



(www.episframework.com)

PLC Team Training

Monitoring Implementation

Activity #1: Brainstorm - Identifying Barriers and Facilitators

Barriers to ELA Curriculum Implementation

Facilitators for ELA Curriculum Implementation

PLC Team Training

EPIS Framework



(www.episframework.com)

EPIS Framework:

Inner context factors related to curriculum implementation



Strategies/Facilitators:

- Involve multiple stakeholders
- Develop communication systems
  - Assess determinants
  - Collaborate across levels
- Champions for the curriculum
- Clear expectations for fidelity
  - Identify when/how flexibility or creativity is needed
- Supportive leadership
  - Adapt environment or permission for flexibility
- Teacher advocacy
- Content specific training

EPIS Framework:

Innovation factors related to curriculum implementation



Strategies/Facilitators:

- Monitor qualify and fidelity of implementation to identify potential concerns with curriculum
- Identify gaps: standards, student needs/differentiation
- Align programs across settings (i.e., reading specialist and special education programs align with scope/sequence/skills of CKLA)
- Identify when adaptation may be necessary, and what materials to use
- Teach teachers to identify what is considered evidence based practice/program

EPIS Framework:

Bridging Factors related to curriculum implementation



Strategies/Facilitators:

- Utilize publisher contacts and materials
- Utilize "in house" support when not accessible/relevant
- Request support from BucksIU or PaTTAN
- Training beyond curriculum if needed
  - Pedagogical practices vs. curriculum specific

Activity #2: Survey - Implementation Determinants as Informed by EPIS

On the PD Resources Google Doc,
Please take a few minutes to complete the Implementation Determinants Survey

Google Forms Survey Link

Activity #2: Analyze Data

1. What are the barriers?
2. Any brainstorm barriers that were not on our list? Any on the list that did not show up from the research?
3. Which barriers might need to be addressed by the team?
4. How can we overcome those barriers?

Group 1: Organizational Factors

Group 2: Individual Factors

Group 3: Innovation and Bridging Factors



Share Out

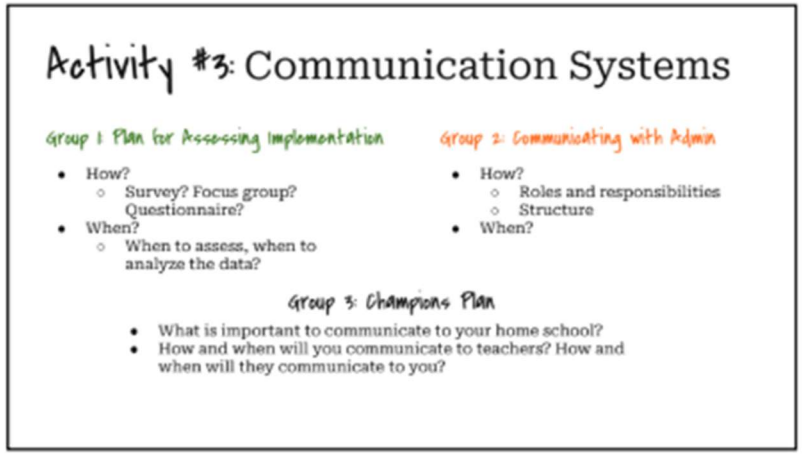
What potential barriers did your team identify?

What might be helpful to address those barriers?

PLC Team Strategies and Activities

Communication	Admin Feedback	Teacher Feedback	Champions
Establish communication systems to facilitate multi level communication -When? How? With whom?	What do we need from administrators? What isn't going well (barriers) that we can address? What is working (facilitators) that we can promote?	Provide feedback/updates to teachers in your homeschools on implementation process.	Serve as CKLA champion in your home schools.


What is a "champion"?
Individuals committed to supporting implementation
Can help counter resistance
Responsibilities:
Track and share data, support access to materials when needed, participate on teams
Facilitators:
Multiple champions to share responsibilities (motivating and training others), personal interest in innovation and knowledge
(Gotlib Conn, 2015; McCullough et al., 2017; Walker et al., 2022)
PLC Team Training


Activity #3: Communication Systems
Group 1: Plan for Assessing Implementation
How?
Survey? Focus group? Questionnaire?
When?
When to assess, when to analyze the data?
Group 2: Communicating with Admin
How?
Roles and responsibilities
Structure
When?
Group 3: Champions Plan
What is important to communicate to your home school?
How and when will you communicate to teachers? How and when will they communicate to you?

Appendix C

Training Resource 1 - Implementation Determinants Brainstorm Template

Activity #1

Think about implementation of other evidence-based practices or programs (prior ELA curriculum, SWPBIS, MTSS, instructional tools - Lexia); what has helped facilitate successful implementation of the program or initiative or been a barrier to successful implementation?

Facilitate Success	Barriers to Success

Appendix D

Training Resource 2 - Implementation Determinants Survey

Barriers and Facilitators

Please complete the survey to identify possible barriers and facilitators to implementing CKLA.

jlb419@lehigh.edu Switch account

Not shared

* Indicates required question

I feel supported when there are challenges with delivering ELA curriculum. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I know what I can and can not do in terms of implementing ELA curriculum with fidelity (what are the "must dos", where I can be creative in my teaching). *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

District leaders are knowledgeable about ELA curriculum. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

There are structures in place for assessing problems and recognizing success in regard to the ELA curriculum. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Teachers have time to collaborate with each other to support ELA curriculum implementation. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Teachers and leaders collaborate to support ELA curriculum implementation. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Progress on curriculum implementation is shared with teachers/staff (e.g., what is going well, what we need to work on). *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

There is ongoing training for the curriculum/ELA instruction. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I know who to go to when I have questions about the ELA curriculum. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I am confident that I can teach the curriculum. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I know how to teach using a knowledge-building approach. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I believe that I have time to implement the curriculum as intended. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I know how to advocate for what I need to be able to deliver the curriculum. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I am knowledgable about the content that I need to cover in the curriculum. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

The curricular materials are of good quality and impact. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

The curriculum meets all students in my classroom's needs (offers differentiation or enrichment). *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

I know where to find evidence-based supplemental materials when the curriculum falls short. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

ELA Tier 1 instruction aligns with Tier 2 and 3 instruction. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Training and support from the curriculum developer is easy to access and appropriate for my needs. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Submit

Page 1 of 1

Clear form

Appendix E

Training Resource 3 - Implementation Determinant Analysis Template
Activity #2

Directions: With your group, analyze your context's (organization, individual, innovation/bridging) data from the survey spreadsheet.

1. Select a few potential barriers and facilitators that showed up in the survey and add them to your section of the table.
2. Compare this with our original brainstorm list (Activity 1). Is anything missing?
3. Add anything from the brainstorm that you think may be important AND fits under your groups context (organization, individual, innovation/bridging)
4. With your group, decide if anything could be prioritized and problem solved with our team. How?

Group 1	Group 2	Group 3
Organizational Barriers 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	**Individual Level Barriers** 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	**Innovation and Bridging Barriers** 1. Supplemental material 2. 3. 4. 5. 6. 7. 8. 9. 10.
Organizational Facilitators 1. 2. 3. 5. 6. 7. 8. 9. 10.	**Individual Level Facilitators** 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.	**Innovation and Bridging Facilitators** 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Highlight any potential barriers you think may be most important to address prior to, or during, CKLA implementation. With your group, brainstorm potential solutions. Look at items that would be potential facilitators (help the implementation process). How could we use this information as a team?

Group 1 Notes (if needed)	Group 2 Notes (if needed)	Group 3 Notes (if needed)
Barriers	Barriers	Barriers
Facilitators	Facilitators	Facilitators

Appendix F

Training Resource 4 - Communication System Planning Template

Activity #3

Directions: With your group, begin planning for communication systems/feedback loops.

****Google Sheets Editing Tip*: To hit "enter" in Sheets, use "enter" + "ctrl"

Group 1 - Assessing Implementation How will the team monitor what is going well and what is not going so well?		Group 2 - Communication with Administrators Sharing about progress from the teachers perspective.		Group 3 - Plan for Champions Sharing with teachers in your home schools.
What will you do and how?	**When will you do it?**	**What will you communicate and how? (Roles and Responsibilities, Structure)**	**When will you do it?**	**What is important to communicate to your home school?** **How and when will you communicate to teachers?** **How and when will they communicate to you?**
Helpful Resources/Ideas Tentative meeting dates with Admin: Tuesday, Sep 30, 2025 Wednesday, Nov 12, 2025 Tuesday, Dec 16, 2025 Tuesday, Jan 20, 2025 Wednesday, Mar 4, 2025 Wednesday, April 15, 2025 Thursday, May 28, 2025 Template for Assessing Implementation Sample Survey (from Activity 2)		**Helpful Resources/Ideas** Tentative meeting dates with Admin: Tuesday, Sep 30, 2025 Wednesday, Nov 12, 2025 Tuesday, Dec 16, 2025 Tuesday, Jan 20, 2025 Wednesday, Mar 4, 2025 Wednesday, April 15, 2025 Thursday, May 28, 2025 **Sample:** Roles and Responsibilities Ideas for PLC **Sample:** Template for Assessing Implementation		**Tip:** Think of SWPBIS communication protocols for staff, could that work for CKLA implementation? What might it look like?
Group 1 Notes (if needed)		**Group 2 Notes (if needed)**		**Group 3 Notes (if needed) -**

Appendix G
(Delivered via Qualtrics.)

LEHIGH UNIVERSITY

Informed Consent to Participate

Professional Learning Community Members' Experiences with Implementation of Core Knowledge Language Arts Curriculum

Dear Participant,

You are invited to be in a research study of teacher leaders' experiences providing support for implementation as a part of a professional learning community (PLC). You were selected as a possible participant because you are a K-5 classroom teacher, reading specialist or special education teacher who will be participating in the implementation PLC group. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by: Jillian Boshkoski; Teaching, Learning and Technology Ph.D. Program; College of Education, Lehigh University, under the direction of Dr. Brook Sawyer, College of Education, Lehigh University

Procedures

If you agree to be in this study, your participation will consist of:

- completion of a short demographic survey (approximately 5 minutes to complete)
- participation in a 1.5 hour professional development session
- participation in monthly PLC team meetings (30 minutes per month)
- associated activities, as determined by PLC team (up to 30 minutes per month)
- 8 bi-weekly (every 2 weeks) check-ins via Google Forms (16 minutes total)
- one interview (approximately 45-60 minutes) about your experiences as a part of the PLC team.
- researcher access to PLC team meeting minutes, professional development materials and resources, and documents related to and used in feedback sessions.

In total, participation will take approximately 6.5 hours.

I will record and transcribe the interview verbatim. The interview may be conducted in-person or via Zoom. If the interview is conducted over Zoom, the meeting will be password-protected to ensure privacy. We will record an audio file of the interview and take notes during the

interview to document your thoughts accurately. These files and notes will be locally stored securely on a password-protected computer (i.e., they will not be stored on any cloud-based storage system) and will not be shared with members outside of the research team. All names of people and organizations will be removed from transcripts. The audio files will be destroyed immediately after transcriptions are complete (within approximately 5 months from the date of the interview).

All data collected in this study will be kept confidential. You will be assigned a code number to protect your anonymity. The interview transcripts will be stored securely on a Lehigh server for a maximum of three years and used only for the purposes of this study. After three years, the interview transcripts will be destroyed. Anonymity will remain if any sort of report is prepared.

Voluntary Nature of the Study

Participation in this study is voluntary. Whether or not you decide to participate does not affect your current or future relations with Lehigh University, your school or school district, or the researcher. At any time during the study, you may choose not to answer questions or participate in any way. You may withdraw from the study at any time.

Compensation

Upon completion of the study, teacher participants will each receive a $5 Amazon gift card for survey completion (demographic and bi-weekly check-ins). Teacher participants will receive an additional $20 Amazon gift card upon completion of the interview.

Have you received payment for participation in any other Lehigh University Research in 2025?

yes
no

Contacts and Questions

The researchers conducting this study:

Jillian Boshkoski (researcher) and Dr. Brook Sawyer (adviser) will be conducting this study. If you have questions, please contact Jillian at 610-657-4750 (email: jlb419@lehigh.edu) or Dr. Sawyer (610-758-3236; email: brooksawyer@lehigh.edu) at Lehigh University's College of Education.

Statement of Consent

I have read the above information. I have had the opportunity to ask questions and have my questions answered.
Please click to enter the survey if you consent to take part in this research.

Appendix H

Demographics Survey

1. Gender Identity: ("X" the one with which you most identify)

    Male
    Female
    Other/Self Identify _____
    Prefer not to answer

2. Age: _____

3. Race ("X" all that apply):

    American Indian or Alaska Native
    Asian
    Black or African-American
    Native Hawaiian or Other Pacific Islander
    White
    Other
    Prefer not to answer

4. Ethnicity ("X" ONLY one with which you MOST CLOSELY identify):

    Hispanic or Latino
    Not Hispanic or Latino
    Unknown or prefer not to answer

5. Number of total years teaching experience _____

6. Highest educational level ("X" one)

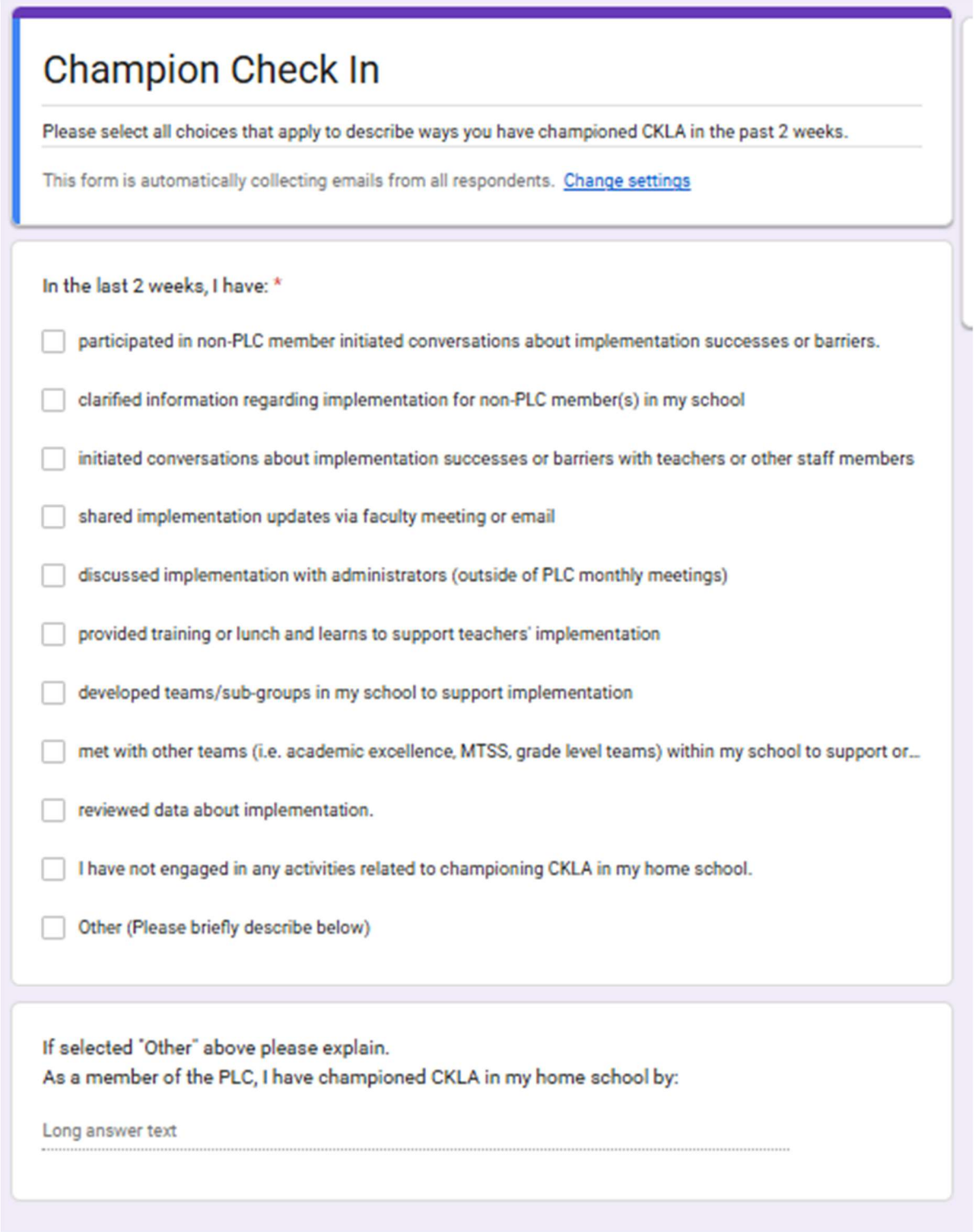
    Bachelor's degree
    Master's degree
    Ed.D/Ph.D

7. Certifications ("X" all that apply)

    Elementary Education
    Special Education
    Reading Specialist
    Other _____

Appendix I

Champion Check-In Survey



Champion Check In

Please select all choices that apply to describe ways you have championed CKLA in the past 2 weeks.

This form is automatically collecting emails from all respondents. Change settings

In the last 2 weeks, I have: *

- [ ] participated in non-PLC member initiated conversations about implementation successes or barriers.
- [ ] clarified information regarding implementation for non-PLC member(s) in my school
- [ ] initiated conversations about implementation successes or barriers with teachers or other staff members
- [ ] shared implementation updates via faculty meeting or email
- [ ] discussed implementation with administrators (outside of PLC monthly meetings)
- [ ] provided training or lunch and learns to support teachers' implementation
- [ ] developed teams/sub-groups in my school to support implementation
- [ ] met with other teams (i.e. academic excellence, MTSS, grade level teams) within my school to support or...
- [ ] reviewed data about implementation.
- [ ] I have not engaged in any activities related to championing CKLA in my home school.
- [ ] Other (Please briefly describe below)

If selected "Other" above please explain.
As a member of the PLC, I have championed CKLA in my home school by:

Long answer text

Appendix J

Semi-Structured Interview Questions

1. Why did you volunteer to be on the PLC?
2. How would you define the mission of the PLC?
3. How successful was the PLC in fulfilling its mission? Explain.
    a. What supported the success of the PLC?
    b. What was needed to improve the success of the PLC?
4. How successful did you feel as a member of the PLC? Explain.
    a. What supported your success as a member?
    b. What did you need to improve your feelings of success?
5. Now let's talk about the main activities of the PLC.
    a. To what degree, did you find the communication structure to be effective in relaying concerns from teachers to administrators?
        i. What helped the PLC or you individually do that?
    b. To what degree, did you find the PLC team to be effective in identifying and addressing barriers to implementing the curriculum to this point in the school year?
    c. To what degree, did you see yourself, and other team members as champions for CKLA?
        i. What helped the PLC or you individually do that?
6. Any additional thoughts you would like to share? Is there anything I didn't ask you that you thought I would ask you?

If a participant does not mention professional development after all questions have been asked, ask their thoughts on it.

If a participant does not mention monthly meetings after all questions have been asked, ask their thoughts on it.

Appendix K

Observation Protocol

Date:

Place:

Descriptive Notes	Reflective Notes

Vita

Jillian Boshkoski

Degrees Earned:

2017 Master of Education, Reading, East Stroudsburg University

2005 Bachelor of Science in Education, Elementary Education, Indiana University of Pennsylvania

Teaching Experience:

2019 – 2026 Reading Specialist

2025 - 2026 Adjunct Professor

2024 Teaching Assistant

2018 – 2019 Reading Specialist, Long Term Substitute

2017 – 2018 Literacy Specialist, Long Term Substitute

2009 – 2013 Special Education Teacher

2005 – 2009 Peace Corps, Macedonia

Research Interests:

Implementation Science, Literacy, Computer Assisted Instruction, Evidence-Based Programs and Practices

Conference Presentations

Boshkoski, J. & Sawyer, B. (2025, February 10 - 14). *Exploring Social Validity and Factors Associated with Implementation of Lexia Core5* [Paper Presentation]. International Congress for School Effectiveness and Improvement (ICSEI), Melbourne, Australia.